For communications professionals in the southern Asian region

SOUTHERN ASIAN WIRELESS COMMUNICATIONS

Q1 2020 Volume 13 Number 1

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- Railway stations and an airport get connectivity boosts
- Managing the growing mobile video market in India

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CONTENTS

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EDITORIAL:
Editor: **Robert Shepherd**
Designer: **Sean McNamara**
Sub editor: **Gerry Moynihan**
Contributors: **Martin Jarrold, Kashif Hussain, Caroline Gabriel, Daryl Schoolar, Idranil Chatterjee, Shanks Kulam**

Editorial enquiries:
roberts@kadiumpublishing.com
Tel: +44 (0) 1932 481729
ISSN No: 2052-739X

ADVERTISEMENT SALES:
Sales: **Kathy Moynihan**
kathym@kadiumpublishing.com
+44 (0) 1932 481731

Production & circulation: **Suzanne Thomas**
suzannet@kadiumpublishing.com
Tel: +44 (0) 1932 481728

Publishing director: **Kathy Moynihan**
kathym@kadiumpublishing.com
+44 (0) 1932 481730

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Globe Telecom completes first 5G video call with AIS Thailand

Philippine mobile operator Globe Telecom ramped up its 5G capabilities as it completed the first 5G video call in the country with Bangkok's AIS Thailand.

It lasted more than three minutes and was made after Globe received the technical call from AIS when the mobile operator tested its own 5G network in Bangkok, February 21.

The Thai firm has officially acquired its new 5G spectrum the same day it made the call to Globe.

Leading telcos all over the world have been pivoting to 5G technology in the last few years to keep up with customers' demand for better and elevated mobile experience.

The availability of commercial 5G will enable the development and roll out of digital services to businesses and consumers, according to the Philippine firm.

"This technology will deliver a new era of digital use for AR, VR, Internet of Things (IoT), industrial applications and much more in the Philippines," Alan Garchitorena, globe director for technology enablement & service planning.

Globe launched its 5G fixed wireless access in June last year, making the Philippines the first country in southeast Asia to introduce the technology.

Called Globe At Home Air Fibre 5G, Globe makes use of fixed location wireless radios instead of fibre optic cables, enabling the company to go over the circuitous approval process of deploying a fibre optic cable - a task which proves to be arduous and involves securing multiple permits from local government units.

The call lasted more than three minutes and was made after Globe received the technical call from AIS when the mobile operator tested its own 5G network in Bangkok, February 21

Myanmar sets SIM registration deadline

All mobile phone users in Myanmar have until June 30 to register their SIM cards or face cancellation, following a major government crackdown.

U Myo Swe, director general of the Directorate of Communications, said the government has released the Code of Practice for Mobile Service User Registration to guide telecom operators and shops on registering SIM cards.

"Shops that sell SIM cards are under the [telecom] operators, which need to control them," he added. "Operators must strictly follow registration procedures."

Myanmar recently cancelled nearly 6.5 million unregistered SIM cards and fined the country's four telecom operators US$100,000 (K142m) each for not registering them. An official of Myanmar Post and Telecommunications (MPT), one of the telecom operators, said it is following the agency's orders.

In April last year, the government said all people buying SIM cards must have either a national registration card or other valid ID.

"SIM card registration needs everyone's cooperation," said U Zaw Min Oo, external relations officer of Mytel, another telecom operator.

Ooredoo said it is cooperating with fellow operators to use Smart IDs to ease SIM card registration.

U Tint Naing Tun, head of Ooredoo Myanmar corporate communications, said: "We are helping to create a Smart ID that will check national registration cards for SIM registration."

In April last year, the government said all people buying SIM cards must have either a national registration card or other valid ID

NT ends CDMA network

State-owned Nepal Telecom (NT) is to shut down its CDMA network in the fiscal year beginning July 1, to free up spectrum for 4G services.

Dilli Ram Adhikari, managing director of Nepal Telecom, told myRepublica the firm will start using the CDMA frequencies for LTE service during its fiscal 2020 to 2021.

As a condition for allocating two 10MHz blocks of 800MHz spectrum in February 2019, the Nepal Telecommunications Authority required the market leader to return some of its CDMA spectrum.

NT, with a 53% market share by subscribers, lit the CDMA network in 2006 and – according to data from GSMA Intelligence –had 1.3 million CDMA 2G users at end-December.

The operator launched 4G at the close of 2012 and had 3.6 million LTE subscriptions by end-2019, approximately 16% of its subscriber base.

Afghan regulator hands out quality of service penalties

The Afghanistan Telecoms Regulatory Authority (ATRA) has fined the country's five main operators a total of AFN1.2bn (US$15.7m for falling short of quality of service (QoS) standards.

Afghan Telecom (Aftel), Afghan Wireless Communications Company (AWCC), Etisalat Afghanistan, MTN Afghanistan and Roshan have all been charged by the watchdog, although no timeframe for the fines was disclosed.

Despite the QoS fines, ATRA said the operators' efforts, noting that as of December 2019, they had collectively deployed 7072 sites delivering coverage to 90% of Afghanistan's population via a total investment of AFN183bn.

ATRA also admitted that while the fines were appropriate, the market presents significant challenges for maintaining networks and improving QoS. These include insurgent groups destroying infrastructure and cutting fibre lines as well as the "unlimited use of jammers by government authorities, foreign troops and individuals."

The regulator further noted that Afghanistan's limited fibre backbone and spectrum distribution restrictions also make it hard for operators to achieve higher QoS standards. Nevertheless, it said penalties would be issued to any operators that failed to meet the terms of their licence.

Aftel, AWCC, Etisalat Afghanistan, MTN Afghanistan and Roshan have all been charged by the watchdog, although no timeframe for the fines was disclosed

Maldives-Sri Lanka submarine cable planned

Cable system solutions company Huawei Marine Networks (HMN) has been awarded a contract for a new project: the Maldives Sri Lanka Cable System (MSC).

The company said the system will facilitate a direct connection between the small island nation and the country known as the 'teardrop of India', increasing regional capacity and network diversity.

Planned to be a four fibre pairs system, MSC is equipped with HMN high-output titanium housing repeaters to achieve span length over 130km. It is expected to be ready for service by the end of the year, with a delivery period of under 11 months.

The consortium of investors is made up of Maldives telecom service providers Ooredoo Maldives and Dhivehi Raajjeyge Gulhun (Dhiraagu), as well as Sri Lankan telecom service provider Dialog Axiata.

HMN said the project represents another milestone in the development of the region's commitment to facilitate and promote the benefits of the digital economy for local communities in both the Maldives and Sri Lanka.

Myanmar army and state-owned operators block news sites amid war-enforced internet shutdown

Myanmar army-backed and state-owned mobile network operators have blocked two news websites amid the internet shutdown in the country's war-stricken northern Rakhine state.

Employees at both news outlets told local media that military-backed Mytel and state-owned enterprise Myanmar Posts and Telecommunications (MPT) have blocked the websites of Rakhine-based Development Media Group (DMG) and Narinjara News.

Both media outlets have been reporting on the fighting between Myanmar forces and the rebel Arakan Army (AA) in the region and alleged rights abuses against civilians committed by government troops.

DMG's website was apparently blocked by the two telecom network operators on March 24, but is still accessible on Norwegian operator Telenor's network.

Both media outlets have been reporting on the fighting between Myanmar forces and the rebel Arakan Army (AA) in the region

The Post and Telecommunications Department (PTD) under Myanmar's Ministry of Communications and Transport recently issued orders for mobile internet service providers to block more than 200 websites and online pages, including ones featuring child pornography, explicit material, hate speech, as well as around 50 websites it considers "fake news".

PTD director general Myo Swe said the two news outlets should file a complaint with the ministry if their internet service has been blocked in error, explaining that they are not publishing prohibited reports.

"We ordered not only one [telecom] operator, but also many others to ban pornography, fake news, and hate news websites because we are seeing more reports of child rape cases," he said, in an apparent reference to the 2019 case of a toddler who was sexually assaulted at a nursery school in Naypyidaw, which sparked national outrage.

The official directive to the mobile network companies appeared to be unrelated to the government's recent designation of the rebel Arakan Army (AA), which is fighting Myanmar forces in Rakhine state, as an unlawful association and terrorist organisation.

Myanmar's government has temporarily suspended mobile internet service in eight townships in northern Rakhine and one in neighbouring Chin state where armed conflict has occurred, citing the ban as a security measure.

"The order is not only for Rakhine state, but also for the entire country," Swe said, referring to the latest blocking of specific websites.

Thai state workers get free internet access

The Thai government is working with six telecom operators and four digital platform providers to provide free internet airtime and free downloadable online services for state officials and employees, so they can work from home during the coronavirus outbreak.

The move came after a week of meetings between the Digital Economy and Society (DES) Ministry and private companies.

A recent cabinet meeting also endorsed a move to enable state agencies to explore ways to work from home. A total of 24 ministries are required to report the details of their units to the cabinet next week to enable them to work remotely.

DES Minister Buddhipongse Punnakanta said some departments of the ministry will start working from home on Friday. About 60% of DES officials are considered able to work from home, he said.

An event was attended by six operators: Advanced Info Service (AIS), True Move H Universal Communication (TUC), Total Access Communication (DTAC), TOT, CAT Telecom and 3BB. The four digital platform providers are Google Thailand, Microsoft Thailand, Line Thailand and Cisco Thailand.

Under the cooperation, state officials are allowed to download free online platforms from the four providers, including Microsoft Team, Webex by Cisco, Hangouts by Google and Line. These platforms will support their online work and e-document procedures.

India's telcos warn customers of Covid-19 spread after numbers spike

Telecom operators in India are warning customers of Covid-19 spread after a spike in the number of cases in the country.

Subscribers of Reliance Jio, Airtel, and state-run BSNL are greeted with a warning in Hindi and English when they attempted to make a phone call. The message, locally known as "caller tune," plays before the regular phone ring.

"Always protect your face with a handkerchief or tissue while coughing or sneezing. Regularly clean hands with soap. Avoid touching your face, eyes, or nose. If someone has cough, fever, or breathlessness maintain one metre distance. If needed, visit your nearest health centre immediately," the pre-recorded message said.

Vodafone has started to implement the warning message, too, while Airtel is looking to broaden the reach of its alert. The initiative is being overseen by the nation's ministries of health and telecommunications.

This coronavirus outbreak, which has made severe impact in many industries worldwide, is beginning to disrupt several businesses and livelihoods in India as well. Solar companies and manufacturing and pharmaceutical firms, all of which source materials from China, are looking at the government for help.

India had 43 cases of Covid-19 at the time *Southern Asian Wireless Communications* went to press.

The pre-recorded message advises customers to "regularly clean hands with soap. Avoid touching your face, eyes, or nose"

Philippine operators report increase in mobile data traffic during quarantine

Philippine telecom companies reported an increase in demand for mobile data amid the enhanced community quarantine over the entire Luzon.

In separate statements, Smart Communications and Globe Telecom said they are now taking steps to ensure that the high demand for mobile data is met.

According to Pangilinan-led Smart, data traffic has since grown by around 15% to 20%.

"On the part of PLDT, this is not surprising given that we have provided a speed boost for our fibre customers in the Greater Manila area," it said. "Mobile data usage is also increasing along with voice calls and SMS."

Smart said traffic that originally came from offices is now coming from residential areas, but its fixed and mobile networks have the capacity to handle the increased demand.

Bhutan releases plans for 5G deployment

Bhutan has set out its roadmap towards 5G adoption, with deployments expected to start within two years.

The Bhutan InfoComm and Media Authority (BICMA) has published the Regulator Framework for 5G Deployment in Bhutan. It advocates waiting until other markets have deployed the technology so that country can learn from their experiences and "take advantage of the increasingly mature 5G mobile ecosystem".

BICMA expects to see the first commercial deployments beginning in 2022 ahead of a broader rollout from 2024. It has set an agenda to foster the development of a 5G ecosystem in the market, pledging to ensure sustainable competition, follow international standards, price spectrum competitively, and enforce network resilience requirements. The watchdog also promised to encourage innovation to education around 5G technology in the market. It will grant permits for 5G research and allow operators to conduct 5G trials via the 2600MHz, 3.5GHz and 26GHz bands without paying licence or spectrum fees.

A wide range of bands are under consideration of 5G usage, including the 700MHz, 2100MHz, 2600MHz, 3.5GHz, 4.5GHz and 26GHz bands. The 2100MHz band is currently used for 3G services and BICMA expects this to be the case "until 2025 and beyond", while the 2600MHz band is also in use for fixed-wireless broadband and multichannel multipoint distribution services.

The 3.5GHz is seen by BICMA as the "current frontrunner 5G band" and the regulator noted that the 26GHz band is also a contender but would require "wider deployment of small cells" due to its propagation nature. The 4.5GHz band is currently in use, and so would not be available for 5G purposes until all current users had been migrated – which BICMA expects would take two to four years.

‘Sri Lanka building national fibre network’ – new focus report

Sri Lanka is building a national fibre network linked to numerous international cables, according to a focus report on the island nation.

Sri Lanka’s Telecoms, Mobile and Broadband – Statistics and Analyses by research firm Paul Budde Communications, said the 45,000km network, built and managed by Sri Lanka Telecom (SLT), will serve as the backbone for fixed broadband and mobile services, including 5G.

The report added that the government’s Board of Investment of Sri Lanka supports the development of the telecom sector. Its funding, approved in 2018 and 2019, provided significant investment for network expansion and upgrades to mobile and fixed broadband infrastructure.

The market is now preparing to move from 4G towards 5G mobile services, with Dialog Axiata and Mobitel having already conducted pre-commercial 5G trials during 2019. Dialog has so far ring-fenced 20% of its LTE antennae for 5G.

Competition in the mobile market pushed Hutchison Lanka to merge with Etisalat Lanka in December 2018, as it rebranded as Hutch and became the third largest operator in the country.

Sri Lanka has seen a very strong increase in mobile broadband penetration over the past six years, driven by rising usage of online video and the price drop of LTE-enabled smartphones. However, the market remains at a foetal stage of development, with penetration well below most other developed Asian nations. Strong growth is predicted over the next five years at least.

Fixed broadband penetration in Sri Lanka remains very low, partly due to poor fixed-line infrastructure and partly to the dominance of the mobile platform.

India to help ailing telcos

India is considering options including offering subsidised loans to cash-strapped wireless carriers that owe US$13bn in past dues.

Local media said the proposals include asking the companies to pay 20% of the principal upfront and the rest over a period of 16 years at an interest rate of 0.5% over the yield on the benchmark government bond.

It is understood the plan will help Vodafone’s Indian venture with billionaire Kumar Mangalam Birla, which is saddled with US$14bn of debt and is staring at bankruptcy after the nation’s Supreme Court asked operators to pay the dues by March 17.

In a market that had a dozen carriers two years ago, just three are left standing following a bruising price war with a company started by Mukesh Ambani, Asia’s richest man.

Another option being explored will require the companies to issue bonds and warrants against the balance amount while a third proposal involves banks providing funds against securities issued by the wireless operators.

India’s government won a case in October 2019 when the Supreme Court endorsed the way authorities calculate annual adjusted gross revenue, a share of which is paid as license and spectrum fees. Telecom carriers have disputed the method for years.

The ruling hurt the firms, which were struggling to pare debt and survive a tariff war after Reliance Jio Infocomm entered the market with free calls and cheap data in 2016.

Ooredoo Maldives renews GSMA commitment to cut mobile gender gap

Ooredoo Maldives has renewed its Connected Women commitment to the Global System for Mobile Communications (GSMA)’s Mobile Gender Gap, which aims to increase the number of women that can access and benefit from mobile ownership and internet use.

Ooredoo will continue to collaborate with the GSMA Mobile for Development team to increase digital and financial inclusivity of women, through the telecom giant’s programmes such as Ooredoo Smart Campus, Digital Literacy Camps and Cyber Safety Programs, among others.

According to the report based on 16,000 surveys carried across 15 LMICs, women are 8% less likely to own a mobile phone than men, with a margin of 165 million. Moreover, over 300 million fewer women access the internet from their mobile devices.

The report further highlighted that south Asia has the largest mobile gender gap of any region worldwide, with a mobile ownership gap of 23 percent, and a mobile internet use gap of 51 percent.

The report further highlighted that south Asia has the largest mobile gender gap of any region worldwide

However, the report also noted that south Asia recorded the highest reduction in the mobile internet gender gap since 2017.

“Over 78 million more women have come online in South Asia in the last three years, while in other regions, considerably less progress has been made”, GSMA said.

GSMA is a London-based multinational industry organisation representing the interests of mobile network operators around the world. GSMA Mobile for Development’s 2020 report on Mobile Gender Gap shows that there is still a substantial margin between men and women in owning mobile phones and accessing the internet, in low- and middle-income countries (LMICs).

Ooredoo Maldives joined GSMA’s Connected Women movement in 2015.

Samsung invests in Vietnam R&D centre

Samsung Electronics, the South Korean tech giant, has started building a $220 million research and development centre in Vietnam.

Construction of the centre in Hanoi will be completed by the end of 2022 and will employ between 2,200 and 3,000 people, the firm said in a statement. Samsung further claimed that it is the largest single foreign investor in Vietnam, with investments totalling $17 billion, it said.

This announcement followed an earlier one by the Vietnamese about the commencement of building the R&D centre.

The centre is the largest of its kind in southeast Asia and will enhance the company’s research capability in such areas as artificial intelligence, internet of things, big data and 5G, according to Samsung

Vietnam’s exports of smartphones and spare parts – mostly produced by Samsung Electronics – rose 4.4% last year to US$51.38bn, according to government customs data.

Indosat Ooredoo joins OpenRan race

Indosat Ooredoo will become the first telco in Asia to push forward with OpenRAN trials as it searches for cost effectiveness and accelerated network deployment across Indonesia.

As part of the initiative, the operator will also establish the first TIP Community Lab in South-east Asia during the second quarter. This TIP Community Lab will act as a telco-neutral platform for the telco community to trial solutions, to drive through interoperability and test market readiness of products.

"Only through collaboration can we accelerate the pace of innovation in telecom networks; we are excited to see the Indonesian telecoms community rallying together for this purpose," said Attilio Zanni, executive director of TIP. "This is the beginning of a transformation journey in Indonesia – as the telecoms community and Indonesian citizens reap the benefits of a locally tested and deployed TIP-led solution, and a stronger supply ecosystem."

Ahmad Al-Neama, chief executive officer (CEO) of Indosat Ooredoo added that the operator had "a similar vision with the government" to create an effective and equitable digital ecosystem throughout Indonesia and encourage the emergence of local players. "We hope this collaboration will accelerate the creation of a healthier industry and improve the digital economy and better life for the people of Indonesia," he said.

The field trials will be up-and-running by April, focusing on the least developed regions of Indonesia.

Singapore operators in porting row

Singapore's TPG Telecom has become embroiled in a row with Singtel, after it accused the market leader of blocking number-porting requests from subscribers looking to switch.

The operator, which launched mobile number-porting on February 5, said in a Facebook post that Singtel had "repeatedly denied all valid porting requests to TPG".

Porting allows customers to keep their existing numbers when switching mobile plans from one telco to another. "This affects consumers' freedom of choice and we have raised your concerns to the relevant authorities. We seek your understanding and patience in this matter," TPG added.

Singtel refuted TPG's accusations in a post on its Facebook page a few hours later.

It said testing of the porting system had been completed successfully and Singtel, StarHub and M1 had written collectively to TPG on February 10 to say that all three telcos would support mobile number-porting when TPG launches its commercial service.

"To our knowledge, they have not launched their commercial service," Singtel said in its post. "TPG needs to give us sufficient notice of their launch so that we can implement the necessary front-line system changes and training to facilitate the service. Unfortunately, they have not responded to date."

TPG said a few hours later that it would suspend its mobile number-porting service "following industry discussion and coordination with incumbent mobile operators".

Thai operator starts to offer 5G services

Thailand's True Move has become the kingdom's second operator to launch commercial 5G services after receiving its 2.6GHz spectrum licence.

Regulator NBTC (National Broadcasting and Telecommunications Commission) issued the licence after the firm paid a requisite 10% of its total bid while providing a bank guarantee for the remainder.

True Move obtained 90MHz of 2.6GHz spectrum at 5G auctions held last month, spending a total of THB21.5bn (US$668m) on this holding as well as 800MHz of 26GHz spectrum.

The company conducted 5G trials throughout 2019 and now has a nationwide 400-strong network of base stations operating in the 2.6GHz band. Its board is in the process of deciding the budget for 5G deployment.

Sarit Jinnasith, co-president of True Move, said customers already on unlimited data tariffs would be able to upgrade to 5G tariffs free of charge.

The company conducted 5G trials throughout 2019 and now has a nationwide 400-strong network of base stations operating in the 2.6GHz band

True Move places second in the market behind AIS, based on subscriber numbers. The market leader paid the first instalment for its newly acquired spectrum on 21st February and promptly began offering services in Thailand's main cities.

AIS has set aside an initial budget of THB10bn to THB15bn for the deployment, which will take place across next year in the 2.6GHz band.

Afghan regulator insists 'all SIM cards to be registered under new plan'

The Afghanistan Telecom Regulatory Authority (ATRA) said internet prices would reduce and its quality improve with connection of the second fibre optic network.

Speaking during a conference about the government's accountability to public, Bilal Hashemi, ATRA deputy head said that all SIM cards would be registered under a new plan.

He added that the internet price would be reduced and its quality improved once the second fibre optic cable was connected in Abrisham Valley (Silk Valley).

Hashemi added that 37 companies had been fined and referred to the attorney general office for not registering SIM cards

Currently only three companies work in connecting the fibre optic network and the process would be implemented in capital Kabul first and soon, he said.

Hashemi added that 37 companies had been fined and referred to the attorney general office for not registering SIM cards they distribute to customers.

"If the president approves ATRA's new plan, all SIM cards would be registered based on biometric data", he said.

SAMENA Council welcomes new recruit

Nexign, the business support system (BSS) and Internet of Things (IoT) solutions provider for communications service providers (CSPs), has joined the (South Asia-Middle East-North Africa) SAMENA Telecommunications Council.

As a member of the association of telecom operators, service providers, telecoms technology providers, Nexign will be getting even more closely involved in local discussions and will gain more opportunities to share its outlook on global and regional telecommunication industry trends and developments.

Joining SAMENA Council will support Nexign's regional expansion, providing the company with opportunities for executive networking and participation in working groups, access to exclusive industry-focused studies, and assistance in generating business leads. SAMENA Council's membership will also open up collaboration opportunities with the International Telecommunication Union (ITU), of which SAMENA Council is a Sector-D member.

"We are extremely proud and excited to join SAMENA Telecommunications Council, and look forward to working closely with this community of ICT industry players which is enabling telecom operators across the Middle East and Africa region."

Bangladesh criticised over Rohingya blackout

The Bangladesh government's internet blackout and phone restrictions at Rohingya refugee camps are obstructing humanitarian groups from addressing the Covid-19 threat, according to an international non-governmental organisation.

New York-based Human Rights Watch said that the shutdown is risking the health and lives of over a million people, including nearly 900,000 refugees in Cox's Bazar and the Bangladeshi host community by hindering aid groups' ability to provide emergency health services and rapidly coordinate essential preventive measures.

"The Bangladesh government is in a race against the clock to contain the spread of coronavirus, including in the Rohingya refugee camps, and can't afford to waste precious time with harmful policies," said Brad Adams, Asia director at Human Rights Watch. "Authorities should lift the internet shutdown, which is obstructing crucial information about symptoms and prevention, or end up risking the lives of refugees, host communities and healthcare workers."

Internet access in the camps has been unavailable since September 2019, following a directive from the BTRC. This broad restriction on communication has been described as neither necessary nor proportionate, both of which are required under international human rights law.

Internet access in the camps has been unavailable since September 2019, following a directive from the BTRC

Aid workers and community leaders rely on WhatsApp and other internet-based communication tools to coordinate emergency services and share important information in the camps.

Under Bangladesh law, Rohingya are not legally allowed to have SIM cards - and in September 2019, the BTRC directed carrier companies to stop selling to the group. Since then, authorities have confiscated over 12,000 phone cards from Rohingya refugees. For those who still have SIM cards, the internet shutdown has made their devices effectively useless.

Communicating with relatives and friends outside the camp – particularly those still in Myanmar – has also been affected. This external communication was a direct source of information about conditions in Rakhine State which is critical for the Rohingya to determine whether it is safe to return.

"The Rohingya refugee camps are a tinderbox for the coronavirus pandemic," Adams said. "Authorities should lift the internet ban immediately and ensure that accurate information on the virus and its prevention is urgently made accessible to all."

'Philippine operators could see revenue spike from 5G'

Philippine telecom firms could see their revenues rise significantly five years from now with 5G services, according to a study commissioned by technology company Cisco.

The *5G in Asean (Association of Southeast Asian Nations): Reigniting growth in enterprise and consumer markets* study released in late March, said telcos can increase their annual top line figures "by as much as $650 million" beginning 2025 with the expected entry of the 5G network, targeting the enterprise segment and mobile subscribers.

Tech groups have been vying to lead the 5G race as the technology promises to deliver faster internet speeds and better-quality connectivity.

In the Philippines, dominant players Globe Telecom and PLDT have started boosting their network infrastructure with 5G. The Ayala-led telco currently leads, as it already offers Globe at Home Air Fibre 5G for residential subscribers.

This service is offered in selected areas in Metro Manila and surrounding areas, with expansion to the Visayas and Mindanao expected within the first half of this year.

PLDT is yet to sign a deal with a vendor for its own 5G rollout.

The study further acknowledged that 5G-compatible devices remain limited and expensive. These, however, are expected to be more affordable later on, with the 5G penetration rate in the country seen at nearly 15% by 2025.

"The expected rollout of 5G services comes at a perfect time for telecom operators," Naveen Menon, Cisco president in southeast Asia, said in a statement. The use of cellular data is growing rapidly as users consume an increasing amount of services and content on their personal devices. "At the same time, enterprises are looking to leverage the Fourth Industrial Revolution, which is underpinned by artificial intelligence, IoT (Internet to Things), 3D printing, advanced robotics and wearables, to boost growth."

Menon added that "this provides a huge opportunity for telecom operators to increase their presence in the enterprise market" and sustain their long-term growth.

Malaysians bemoan slow internet

Malaysians now working from home because of the Covid-19 pandemic have complained about slow internet speeds. Whether it be students unable to finish their assignments or employees not being able to connect with their colleagues through online video conferencing tools such as Skype or Zoom, social media platforms have been awash with complaints from across the country. However, they were not directed at one specific player but rather all telco players.

PTA warns of hacking

The Pakistan Telecommunication Authority (PTA) has warned the public to be vigilant against hackers and scammers during the coronavirus pandemic. It informed that hackers are attacking mobile phones and computers by sending malware through coronavirus related materials. "Hackers are infecting mobile phones and computers by sending Malware through coronavirus related scam emails, messages, pictures ads, files, documents or links," alerted PTA in its message to the public. "

Myanmar re-imposes shutdown

Myanmar has re-imposed an internet shutdown in two conflict-torn western states, after partially lifting the blackout five months ago, Norwegian mobile operator Telenor Group said. The firm added that the transport and communications ministry had ordered mobile internet traffic to be blocked again in five townships in the states of Rakhine and Chin for three months.

Talking satellite

Martin Jarrold, chief of international programme development, GVF

Terminal installation, qualification & testing in the field

As I write this column, more than 120 of the world's nations are experiencing the spread of the Coronavirus. To state the obvious, this public health emergency is impacting on all facets of life as well, of course, as very sadly causing so many deaths. There is evident a certain underlying irony in the consequent cancellation or postponement of trade events in the field of telecommunications. In February, MWC 2020 (Barcelona, Spain) – the Mobile World Congress – was cancelled. In March, CABSAT 2020 (Dubai, United Arab Emirates) – the Middle East & Africa's leading event for content creation, production & broadcast and satellite & distribution, and within which was to be embedded the GVF SATEXPO Summit 2020 – was postponed, now to take place at the end of October. If space permitted, this list would be much longer.

Despite all that telecommunications technologies (satellite, fixed and mobile terrestrial/wireless, cable/fibre) have facilitated in the creation of platforms to bring people together through exchange of data, over social media, via voice and video connectivity – therefore without the necessity of physical travel and face-to-face contact – the organisations that continue to deliver innovative advances on such solutions still attach a lot of significance to the traction to be achieved through personal interaction in exhibition halls and dialogue in conference rooms. My various work travels are testament to this.

The subject of conference calling or video conferencing, particularly over Internet Protocol – which has stimulated development of low-cost applications for multi-location and remote site personnel online gatherings – obviously points up the role of satellite solutions as those best suited to serve coverage of remote areas, both in terms of dedicated satellite network links, and in terms of the contribution of satellite to facilitating mobile/cellular networks through backhaul.

Satellite solutions serve everywhere, but, by definition, implicit in ubiquity and coverage of the remote is the need for some Earth stations/terminals – the ground segment – to be equally isolated and remote. This then introduces the related questions of the installation of type approved terminal equipment/antennas.

A long-term core feature of GVF's mission has been the development of a consensus-based framework to improve the efficiency of satellite operators' terminals type-approval procedures. To achieve this objective, the GVF Mutual Recognition Arrangement Working Group created procedures – now internationally recognised – defining a set of standard tests that an antenna or Earth station/terminal manufacturer should perform in order to apply for type approval from any satellite operator. Use of this procedure not only improves the quality and completeness of test data but helps reduce the time and cost required to bring new ground-segment technology to the market, thus advancing the competitiveness and enhancing the reliability of satellite communications services – reducing the factors that cause interference to primary and adjacent satellite services.

The GVF test procedures – in qualifying the performance of antennas/Earth stations/terminals leading to formal type approval by a satellite operator – enables manufacturers to supply antennas/Earth station/terminal equipment without the need for testing each terminal before it is deployed.

Working within this framework a group of satellite operators – AsiaSat, Eutelsat, Inmarsat, Intelsat and SES – have collaborated to develop updated guidance to antenna manufacturers regarding satellite operator expectations for new products, and how to demonstrate compliance with the Satellite Operator Minimum Antenna Performance specification requirements (SOMAP), which came into force in September 2019.

SOMAP was started to improve the Quality of Service (QoS) worldwide for the industry and to minimise interference. Quality products, compliant with satellite operator specifications, provide manufacturers with a valuable tool to differentiate their products. It does not replace the formal type approval procedures for each of the satellite operators, but rather establishes minimum performance that each of the operators expect when deploying equipment which has not been formally type approved.

Whilst the CABSAT-embedded GVF SATEXPO Summit has been postponed, the SATELLITE 2020 show in Washington DC did go ahead, albeit with substantially reduced attendance and a cut-short agenda as a result of Coronavirus concerns. GVF member QuadSAT was present at SATELLITE 2020, located in the exhibition's 'Start-Up' Pavilion. I mention QuadSAT specifically because they serve to illustrate two currently ongoing GVF initiatives/programmes (to which I shall return below), as well as providing an example of a further facet to conducting on-site antenna/Earth station/terminal verification, and also bringing an additional technique, or tool, for ensuring the accuracy of installations – using Unmanned Aerial Systems (UAS) or drones. The technology offers new ways to characterise the performance of ground terminals that have not been available to industry before, with accurate performance data being acquired for VSAT terminals in their deployed locations. Satellite operators have acknowledged the innovation as a valuable alternative to the traditional methods of testing.

Moreover, and returning to the ongoing GVF programme to which I referred above, the European Space Agency has recognised the potential value of this technology and awarded QuadSAT a contract to continue development and validation of the technology – with support from GVF as a contract partner, and with reference to SOMAP.

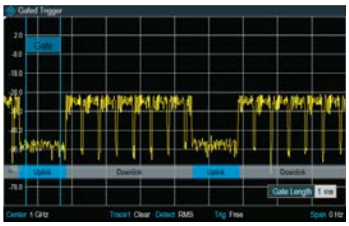
The UAS or drone equipment (actually a quadcopter) can easily be transported to any test antenna location where it functions as a portable test range providing high-precision antenna pattern measurements. It can be flown freely around the antenna under test at various far field distances and at various test angles, providing a flexible, cost-efficient method to verify antenna performance globally. This system allows for testing and verification of already operational antennas, without interrupting their services. The SOMAP recommendations will be used to compare performance data acquired by drone measurements with comparable test data acquired from a traditional far-field outdoor test range.

The ongoing GVF initiative to which I referred above is new. The example I cited of a start-up company is just one of many new entrepreneur-driven commercial enterprises, and academic spin-offs, comprising what is often called Space 2.0. To meet the needs of these enterprises GVF has introduced a new Membership grouping, extending the benefits of membership to such start-ups on especially favourable terms. Companies meeting the eligibility requirements for "NewSpace Membership" will be provided with Associate Membership and its benefits, at nil cost, for a period of one year provided there is a commitment to convert to paying the Associate Membership fee afterwards.

Spectrum Clearance and Interference Hunting

Spectrum clearance should take place before deploying a network in a new or re-farmed frequency band to ensure a clean operating environment. It is a process of characterizing the RF Spectrum and removing unwanted transmitters. Unwanted transmitters are pervasive in today's mobile networks, degrading network capacity and reducing subscriber QoE and reducing revenue for operators. With the densification of cells and the deployment of emerging standards with higher-order modulation, beamforming and MIMO overlaying legacy technologies, the RF environment is becoming ever-more complex making networks increasingly susceptible to interference and therefore interference hunting is a key issue for mobile network operators and regulators.

As 5G NR brings a new aspect to the field: it is the first time that time domain duplex (TDD) networks will have a global footprint. For many operators, the challenge starts with understanding the implications of managing a TDD network, especially when interfering signals threaten to decrease performance and reliability. The communications uplink is more susceptible to interference than the downlink and in TDD networks, the downlink and uplink use the same frequency, meaning the downlink signals mask the uplink and any other present signal making it hard for operators to identify and locate it with conventional measurements.



Gated Trigger in TDD mode of R&S®FPH Spectrum Analyzer

The R&S®Spectrum Rider FPH handheld spectrum analyzer, supports a gated trigger, enabling users to easily separate uplink and downlink signals in the time domain. With the waterfall diagram and an audio tone feature to identify interference, this task that previously looked impossible is made easy by Rohde & Schwarz test solutions.

Click here to to find out more.

Coexistence of 5G and satellite services in the C-band

Frequency allocation plans for 5G are under discussion and planning in most countries. For decades, the 3.4 – 4.2 GHz band, commonly known as the C-Band, has been allocated to satellite services in many countries. The C band is ideal for supporting telecommunications and broadcasting services in rural and marine areas, where terrestrial communications infrastructure is sparse or does not exist. Another benefit of the C band is its low susceptibility to rain fade, which qualifies it for stable links in tropical areas. Additionally, services using C band are essential in emergencies and in disaster recovery.

In addressing the growing demand for cellular network bandwidth, the 5G network will utilize part of the C-Band in the 3.5 GHz range. The plan from national regulatory authorities is to segregate the C-Band to accommodate both services. However, deploying 5G networks in channels adjacent to the satellite services will cause unwanted interference to existing services (the satellite receivers). In order to enable the two services to coexist, several mitigation techniques will be required.

Come and join us in the upcoming webinar, on 22nd April 2020 to learn more on:

The most effective and widely deployed mitigation techniques to reduce RF interference.

Real demonstration of how to measure the optimum guard band required to be added between the services.

How a band pass filter can be defined and characterized for each guard band to enable effective coexistence between the services.

Click here to join the free webinar.

5G NR network testing has never been so easy

Commercial 5G rollout is happening now and the rate of deployment of 5G non-standalone (NSA) sites is increasing every day. Each new installation needs to be verified ensuring correct network performance and the quality of service (QoS) delivered to end users over the 5G network.

Rohde & Schwarz have a new launch for onsite field engineers, the R&S®5G Site Testing Solution (STS), which brings you an automatic over-the-air detection and characterization of 5G signals making site acceptance testing and troubleshooting easy. As soon as the operating bands are selected, R&S®5G STS tool instantly detects the 5G and LTE signals on air and delivers detailed information about each of them such as signal quality, power level, spectrum, cell and beam analysis. It is upgradeable for functional tests that provide information such as uplink-, downlink throughput and latency.

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Pakistani operators offer special coronavirus packages

Telecom operators in Pakistan have launched a number of packages to help customers across the country, as well as provide them with awareness about coronavirus and uninterrupted services.

Under Pakistan Telecommunication Authority (PTA)'s directions, SMS on precautionary measures against Covid-19 in national and regional languages are being sent to all mobile subscribers on a regular basis. Cellular mobile operators (CMOs) have replaced standard ring back tone (heard by caller when a call is being made) with messages about Covid-19 preventive measures.

New packages/offers - giving additional data and on-net voice minutes - at low prices have been launched by all CMOs to facilitate people to stay and work from home (details are available at operators and PTA's websites).

A PTA statement read: "Other initiatives include the abolishment of balance validity period by Jazz and extension in balance validity period by Zong, free WhatsApp and balance share promotions by Telenor. Zong has made Covid related webpages of WHO and NDMA as zero-rated i.e. free access to these websites. Jazz has also created a dedicated webpage/portal (https://jazz.com.pk/darna-nahin-bachna-hai) wherein awareness about coronavirus is being disseminated to the general public."

In addition, all CMOs are offering free calls to emergency numbers (1166). Jazz has launched the "Assistance for Free" service wherein free calls can be made to selected government offices/doctors/laboratories. Zong is also offering free calls to 4343 which offers access to local Government hospitals and doctors. Ufone has made Pakistan Red Crescent Society (PRCS) helpline 1030 free of cost for its subscribers across Pakistan.

CMOs and PTCL are also doing CSR activities by providing relief packages containing rations, medicines and protective gear to virus hit families in different regions of Sindh.

Telekom Brunei Berhad's imagine offers mobile

Telekom Brunei Berhad (TelBru) has begun offering mobile through its newly-launched subsidiary, imagine.

It has already appointed Suzanna Suharju as the new unit's chief executive officer, making her the first Bruneian woman to head a telco.

During the launch, imagine said it will provide mobile and broadband services to meet the increasing demand for data connectivity in Brunei.

By next year, mobile subscribers of the two other telcos in Brunei will be able to switch to imagine's mobile services while keeping their existing mobile numbers.

The creation of imagine comes after Darussalam Assets announced that all network infrastructure in Brunei would be consolidated under a single entity called Unified National Networks (UNN).

Darussalam Assets — the only shareholder of Brunei's three telcos: DST, Telbru and Progresif — said the move would level the playing field for each company, making the telco sector more competitive.

Meanwhile, imagine said it would go beyond TelBru's fixed line, data and broadband services and explore other lifestyle and technology choices "for home, work, and on the move".

It also promised "new competitive and enhanced packages" for existing and new customers by January 2021.

Suharju said: "We are working to make sure the rates we are offering to the public are competitive. The difference now is that not only you have the ability to choose between the current service providers, but you will also have us to choose from."

TelBru's existing customers have the option of sticking to their existing packages or subscribing to the new packages.

The telco said it is also working on offering phone bundle deals with its mobile packages.

'Telkom Indonesia arm to launch new fund of up to US$500m', says minister

MDI Ventures, the venture capital arm of Telkom Indonesia, is set to launch a fund of up to US$500m, according to the country's state-owned enterprise deputy minister Budi Gunadi Sadikin.

Speaking at Microsoft's Devcon/Indonesia Digital Economy Summit 2020, he referred to the new fund as "Telkom's second fund" and said the ministry will support the launch of the new pot.

"The commitment that I will give as part of the ministry is that I will push and approve of Telkom's second fund," he said in a panel discussion alongside Indonesia's education and culture minister and chief executive officer (CEO) Nadiem Makarim. "The size will be around US$300m to US$500m."

The fund, which Sadikin says will be launched "very, very soon," will be essential for Telkom's business given the lacklustre telco industry in Indonesia, which is seeing high capex, declining Ebitda and flattening revenues.

"So, we have to move from digital infrastructure to digital platform and digital services. That's why we need transformation," Sadikin added. "We need to invest in these start-ups."

The fund will follow MDI's existing funds, a US$40m fund with Telkom subsidiary Telkomsel and a growth-stage fund with South Korea's KB Investments with a corpus of US$150M.

Pakistan's telecom sector revenues cross Rs552bn in 2019

Pakistan's telecom sector contributed over Rs96bn to the national exchequer in terms of taxes, duties and levies, attracted investments to the tune of US$636m, while sector revenue crossed Rs552bn.

That is according to Annual Report 2018-2019 issued by the Pakistan Telecommunication Authority (PTA), which also reported that the telecom sector attracted US$236m foreign direct investment (FDI) during the year.

The total subscriber base increased to 163.5m at the end of FY 2018-19, showing a year-on-year growth of 7%. Total teledensity reached 77.7% where the main contribution is by the mobile sector with penetration crossing 76.4%.

Pakistan has over 44,919 cell sites covering the length and breadth of the Country. Subscription and usage of broadband service in the country has seen exponential growth.

The PTA annual report presents a comprehensive overview of the PTA and telecommunication sector's performance for the year 2018-19. It is a regular feature under section 18 of the Pakistan Telecommunication Authority act, 1996, depicting performance over the previous year.

The total subscriber base increased to 163.5m at the end of FY 2018-19, showing a year-on-year growth of 7%

Afghan state telecom operators reduce data prices by 20-30%

Afghanistan's Ministry of Telecommunication announced a reduction of data prices by state-owned telecom firms the Afghan Telecom and Salaam.

According to the watchdog, the former has reduced its data prices by 30%, while the latter has reduced its internet data package prices by 20%.

The news comes as the telecom and internet users have been regularly complaining of a high internet price in Afghanistan.

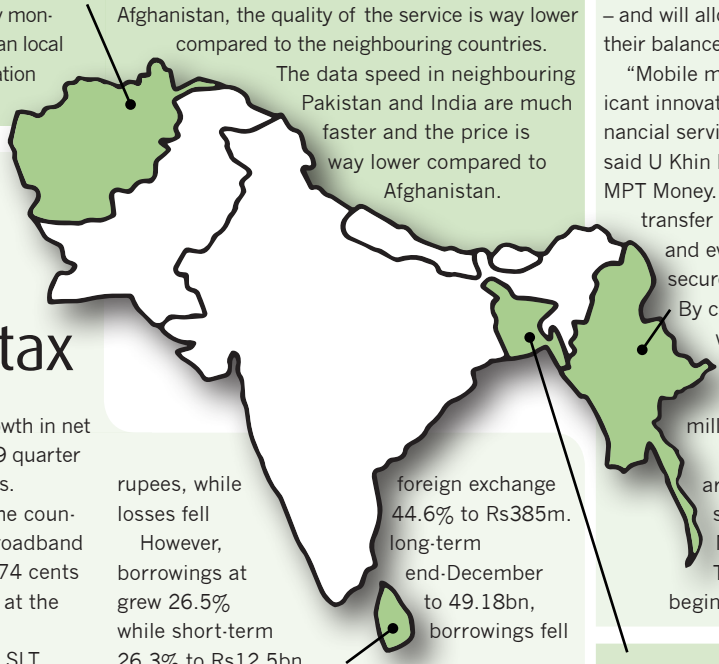
A year ago, a campaign naming '#WhereIsATRA' started by some youths against low telecom service quality and high internet prices.

Mirwais Arya, one of the key members of the '#WhereIsATRA' campaign who has closely monitored the telecom operations in Afghanistan local media that the Ministry of Telecommunication - the wholesale provider of the internet data – is ready to provide internet to the private companies at a lower rate. However, the private companies are in a tight collusion with each other trying not to lower the data prices.

Salaam's main problem is its low technical capabilities and inability to provide the same service quality as the private players.

Mohammad Fahim Hashimi, acting minister of telecommunications had early said that the telecom companies buy a one-gigabit internet for less than AFN 10.00, but resell at AFN 180.00 which is 18 times higher than the original price.

Despite the high internet data price in Afghanistan, the quality of the service is way lower compared to the neighbouring countries. The data speed in neighbouring Pakistan and India are much faster and the price is way lower compared to Afghanistan.



SLT December profits up on lower income tax

Sri Lanka Telecom reported a 39.7% growth in net profits to Rs1.3bn in the December 2019 quarter from a year ago, helped by deferred taxes.

The state-owned operator, which is the country's largest fixed-line telephone and broadband player, reported earnings per share of 74 cents in its interim financial statements filed at the Colombo Stock Exchange.

For the 12 months ended December, SLT earned Rs3.50 per share, up from Rs2.74 on gross net profits of Rs6.32 billion rupees.

Elsewhere, SLT group sales grew 3.4% to Rs22.08bn in the quarter from a year earlier, while cost of sales grew at a faster 12% to Rs12.8bn, which led to gross profits falling 7.7% to Rs9.29bn.

Interest costs grew nine-fold to Rs667m and interest income nearly tripled to 428 million rupees, while foreign exchange losses fell 44.6% to Rs385m. However, long-term borrowings at end-December grew 26.5% to 49.18bn, while short-term borrowings fell 26.3% to Rs12.5bn.

Profits before tax fell 25.3% to Rs1.24bn and income tax costs fell 86.4% to Rs95m.

The SLT asset base grew to Rs206.24bn from Rs180.44bn, while the group's deferred tax liabilities grew 14.7% to Rs7.5bn.

Elsewhere, pre-tax profits from the group's mobile operations arm Mobitel fell 10.9% percent to Rs1.1bn on revenue of 9.93bn, down 3.7%.

BSNL vendors seek support to clear wages of 200,000 employees

India's suppliers have requested the release of Rs20,000 crore in dues from state-controlled Bharat Sanchar Nigam Limited (BSNL), Bharat Broadband Network Limited (BBNL) and Indian Telephone Industries (ITI) to clear wages of 200,000 employees amid lockdown.

In an emailed letter to telecom minister Ravi Shankar Prasad dated March 30 and in a video conference with commerce minister Piyush Goyal, the PHD Chamber of Commerce and Industry's senior director Yogesh Srivastav said outstanding payments from BSNL at a time of complete shutdown following coronavirus or covid-19 pandemic could be a death knell to the Indian telecom equipment manufacturing industry.

Vendors such as Sterlite Technologies, Vihaan Networks and Paramount Wires & Cables have been seeking the release of their dues since early 2019.

Myanmar: MPT goes live with mobile money service

Myanmar's state-owned MPT has launched its mobile money platform after getting the green light from the central bank in October 2019.

MPT Money was first announced in March 2018 and is aimed at helping Myanmar's economy become less dependent on cash. The platform will feature a 25,000-strong agent network at launch - MPT plans to double this in the "coming months" – and will allow customers to pay bills, top up their balances and send remittances.

"Mobile money solutions represent a significant innovation to improve the provision of financial services and develop a cashless society," said U Khin Maung Myint, managing director of MPT Money. "Our goal is to make digital money transfer services more accessible to everyone and everywhere, with a specific focus on secure and reliable mobile transactions. By connecting our customers to mobile wallets, we aim to drive better financial inclusion that will improve the economic and social well-being of millions of Myanmar citizens."

A number of different companies are already delivering mobile money services in Myanmar. Ooredoo's M-Pitesan debuted in 2017, while Telenor partnered with Yoma Bank to begin offering the Wave Money service.

Bangladesh sees rise in subscribers

Bangladesh ended January 2020 with 165.61 million mobile phone subscribers, up from 165.57 million in December 2019.

According to data from the Bangladesh Telecommunication Regulatory Commission (BTRC), Grameenphone maintained its customer base at 76.46 million, followed by Robi Axiata with 49.32 million, up from 49 million the previous month.

Banglalink recorded 34.94 million mobile customers, down from 35.23 million, while Teletalk ended January 2020 with 4.87 million mobile customers, which represents a slight increase from 4.86 million mobile customers in December 2019.

The BTRC's report further showed that there were 99.24 million internet subscribers at 31 January 2020, down from 99.42 million in December 2019. Fixed-line internet user base saw little change at 5.74 million, while mobile internet users totalled 93.49 million, down from 93.68 million the previous month.

Telekom Malaysia confirms two more test positive for Covid-19

Telekom Malaysia Berhad (TM) confirmed that two more employees have tested positive for Covid-19, bringing the total to three.

In a statement posted on the company website, TM said one of the employees is based at Menara TM and the last time this person was at the office was on March 10, 2020. The other employee is based at Menara TM Annexe 2 (TMA2) and the last time the employee was at the office was on 11 March 2020. Both of these employees are currently in government hospitals for medical treatment.

Group chief executive officer Dato' Noor Kamarul Anuar Nuruddin said TM COVID-19 Response Team is working closely with the Ministry of Health (MOH) and that the Company has implemented stringent safety protocols at its office buildings.

"The wellbeing of our employees and stakeholders is of paramount importance to us. We will continue to be vigilant in our effort to contain the spread of the COVID-19 virus. Our top priority is also the wellbeing of the two (2) diagnosed employees, as well as their colleagues and visitors to the building," said Nuruddin. "We have taken proactive measures to mitigate further spread of the virus and keep Warga TM safe. Menara TM, TM Annexe 1 and Annexe 2 were immediately put under lockdown since last night and is currently undergoing full disinfection as advised by the MOH."

TM added that detailed contact tracing was being carried out by the ministry and the TM COVID-19 response team to identify and inform those who had close contact with both employees, as well as investigating where the employees might have contracted the illness.

'Negative outlook for Philippine telecom sector'

Global credit watcher Fitch Ratings placed a negative outlook on the Philippine telecom sector in early March, as it flagged that higher capital expenditures would delay deleveraging.

In a statement, Fitch said it expects the funds from operations (FFO) adjusted net leverage would increase further in 2020.

"Fitch has a negative outlook on the Philippines telecoms sector, reflecting our expectations that average FFO adjusted net leverage will rise towards 3.0x in 2020," it said.

FFO to total debt ratio, as defined by Investopedia, is a leverage ratio that is used by credit ratings agencies or investors to evaluate the financial risk of a company.

"The capex push by the Philippines' incumbent telecom operators - ahead of the launch of third mobile network operator, Dito Telecommunity - will delay deleveraging," Fitch said.

Still, Fitch said it expects the local telecommunications sector to grow by as much as high single digits in 2020.

PLDT reported a core net income of P22.5bn in 2019, up 19% or P3.6bn from the previous year.

Meanwhile, Globe Telecom Inc. reported growth of 20% in its core net income to P22.5 billion in 2019 from P18.7bn the previous year.

Metfone and MB Cambodia pen co-op deal

Metfone, the Cambodian affiliate of the military-run telecom group Viettel has signed a memorandum of understanding (MoU) with the branch in Cambodia of the Military Bank (MB Cambodia) on their five-year strategic cooperation.

Under the terms of the deal, during 2020-2025 MB Cambodia will meet credit demand of Metfone and provide it with all corporate financial services at a credit limit of US$100m at competitive interest rates.

MB Cambodia will provide credit worth about US$15m with preferential interest rates and conditions for Metfone's partner businesses, subsidiaries and employees.

Meanwhile, Metfone will prioritise transferring its cash flows of revenue to a bank account opened at MB Cambodia and using financial services at the bank. The former will also prioritise sending money back to Vietnam via the MB Cambodia's system, while providing telecom services to the bank with preferential prices and priority services.

Having operated for more than 10 years in the Cambodian market, Metfone is considered as one of the leading telecom companies in the country, creating jobs for more than 12,000 workers, contributing more than US$500m to the country's budget so far.

MB Cambodia has developed a distribution network of two branches and 120 agents throughout the southeast Asian nation.

Philippines asks Netflix to adjust quality to ease traffic

The Philippine government has asked streaming giant Netflix to slow its streaming bitrate to ease data congestion during the country's month-long lockdown aimed at curbing coronavirus infections.

Nearly 60 million Filipinos are in self-isolation in compliance with "enhanced community quarantine" measures, forcing many to turn to social media and online streaming services to help pass the time.

Furthermore, demand for data capacity is expected to surge after president Rodrigo Duterte ordered government offices and private businesses to implement work-at-home schemes during the lockdown period.

"The measure will help free-up bandwidth as the increased demand by subscribers may risk overloading network capacity during the quarantine period," the National Telecommunications Commission (NTC), the country's industry regulator, said in a statement.

It added that Netflix had agreed to cooperate, adding that the US firm giant had developed a way to cut network traffic by 25% without compromising the picture quality. Similar measures have been announced in India and Europe.

Netflix has been increasingly popular in the Philippines, with blockbuster shows such as Korean drama "Crash Landing On You," winning high profile fans including presidential daughter Sara Duterte and tycoon Manuel Pangilinan, the chairman and chief executive officer (CEO) of PLDT, the country's largest telecom company.

Meanwhile, the Philippine government sees telecom as a vital sector during the lockdown.

In a proposed law granting the president extraordinary powers to address the COVID-19 pandemic, Duterte's office initially included telecoms as among those businesses he could take over during a state of emergency.

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Bumper start to 2020 for Sterlite

Sterlite Technologies (STL) said it has secured orders worth Rs 1,500 crore already in 2020, according to a regulatory filing.

The digital technology company said orders ranged from continued business development in optical connectivity solutions and network services to emerging areas such as software virtualisation.

STL has won multi-year multi-million dollar contracts from major European telecom players and also projects in Middle East, Africa and South East Asia for solutions related to standard billing, digital engagement and AI based monetisation. However, the company did not reveal the details of the contract.

"In early 2020, network creation capital expenditure has been accelerated by major European, Middle East, Africa and South East Asian network creators," the firm said in a filing to the Bombay Stock Exchange. "As STL has strategically invested in these markets it has disproportionately benefited by this acceleration, driving over 65% of connectivity revenues from these international geographies."

In India, the rural broadband projects are moving to the next phase of digital infrastructure, especially in states like Telangana, Maharashtra and Madhya Pradesh. The company said it benefitted by this trend of fast deployment.

"STL has been building local expertise of deployment to bolster its technology led design process in key states of central India," it said.

According to STL, more states are expected to accelerate their plans, especially given the enhanced budget outlay of Rs 6,000 crores for government-backed telecom infrastructure provider BharatNet, also known as Bharat Broadband Network.

'Pakistan has largest gender gap in mobile phone ownership'

Pakistan's gender gap in mobile ownership and usage is the widest in the world, according to a survey by London-based global telecom lobby GSMA.

It showed that gender gap in mobile ownership in Pakistan is 38% with 81% of the male adult population owning mobile phones compared to women.

The narrowest gender gap was found in Indonesia (10%), followed by Myanmar (14%), India (20%) and Bangladesh (29%). The gender gap in mobile internet usage is also smallest in Indonesia (14%), compared to Myanmar (30%), Pakistan (49%), India (50%) and Bangladesh (52%).

"Of the countries surveyed, the widest gender gap is in Pakistan, where women are 38% less likely than men to own a mobile and 49% less likely to use mobile internet," GSMA said in The Mobile Gender Gap Report 2020.

GSMA also said it believes closing the gender gap in mobile internet use could deliver monetary stimulus to GDP growth and additional revenue to mobile industry.

The third edition of annual survey found that mobile internet awareness has increased 30% in two years. Likely to use the internet on a mobile," GSMA said. "This means that in these markets 300 million fewer women than men use mobile internet."

Even among mobile owners, mobile phone usage differs substantially between men and women. In Pakistan, men use an average of four use cases on a weekly basis, and women three.

In South Asia, the mobile internet gender gap has narrowed from 67% in 2017 to 51% in 2019, bringing another 78 million women online. "Much work remains, but this suggests mobile gender gaps can be reduced and the benefits of connectivity distributed more equally," GSMA said in the report.

Industry veteran D.S Rawat re-appointed as Bharti Infratel CEO

Bharti Infratel has re-appointed D.S Rawat as its managing director and chief executive officer (CEO).

In a stock exchange filing the company said that in its annual general meeting, he Rawat's contract will run from April 1, 2020, up until September 30, 2020, or the ensuing annual general meeting (AGM) of the company, whichever comes sooner.

Rawat has been part of Bharti Infratel since 2010 and is also a member of the Executive Council Committee of Tower and Infrastructure Providers Association (TAIPA) and the Northern Regional Council of Confederation of Indian Industry (CII).

He holds over 25 years of telecom in-depth experience in handling P&L, technology, rollouts, and regulatory interfaces - both from operator and supplier perspective. Previously, he has worked with leading telecom companies like Ericsson and Huawei.

HGC and Sri Lanka Telecom sign MoU for SDN technology

Hong Kong's HGC Global Communications (HGC) has signed a memorandum of understanding (MoU) with Sri Lanka Telecom (SLT) on accelerated network integration and expansion using SDN technology.

According to media reports in both territories, the two companies will work together to enhance interoperability "with the goal of accelerating their customers' digitalisation journey" through inter-carrier network orchestration between the ASEAN and global communities, as well as network integration on HGC international marketplace by SDN.

"We are delighted to announce the start to collaborate on interoperability with HGC," said Mahinda Samarasinha, general manager of carrier business at SLT. "By leveraging both SLT's and HGC's ICT capabilities and global expertise, our corporate customers can enjoy innovative solutions, on-demand services and quick and easy flexible connectivity, giving them the edge in the digital transformation race in both ASEAN and global communities."

This new collaboration, the companies said, will also enable them to leverage their respective network resources and capabilities to expand their already-extensive network footprints while utilising digital technology to provide customers with highly flexible connectivity. The partnership also enhances interoperability between service providers by riding on HGC's carrier-to-carrier API hub, which is built on SDN architecture.

"The collaboration between HGC and SLT further strengthens HGC's dedication in cultivating SDN federation starting from the ASEAN region, as well as highlighting both companies' efforts to address the customers' future connectivity requirements," added Ravindran Mahalingam, SVP of international business at HGC. "The robust marketplace not only creates a new business model for infrastructure providers to unite and strategically increase profitability through maximising capability allocation, acting as a white-label platform, it also boosts competitiveness by providing increased agility throughout the telecommunications ecosystem while providing scalable network access for the ASEAN market."

HGC was previously part of Hutchison Telecommunications, which was part of a mega-conglomerate CK Hutchison Holdings.

Viavi launches OneAdvisor ONA-800

Viavi Solutions has launched OneAdvisor ONA-800, an instrument platform it says will address the evolving requirements of communication service providers, their field technicians and contractors. "As 5G becomes more ubiquitous in 2020 and beyond, network operators are aggressively scaling and commercialising this technology using large workforces of technicians or contractors to install and activate tens of thousands of cell sites," Viavi claims. Viavi says the first OneAdvisor solution ONA-800 provides technology coverage, test features and test process automation to facilitate this aggressive network deployment.

What's more, the product supposedly allows cell site technicians to test fibre, RF, and CPRI/Ethernet from a single instrument, "replacing multiple independent tools (OTDR, CAA, Fiber Scope) and significantly reducing the total cost of ownership for service providers and contractors".

Kevin Oliver, vice president and general manager, converged instruments and virtual test, Viavi adds: "5G represents a quantum leap in network complexity, from the frequency bands used, to diversity of the x-haul technologies, to the possibility of multiple radio vendors."

Sonim brings XP3 PTT flip phone to Verizon

The Sonim Technologies Sonim XP3 rugged flip phone has a dedicated push-to-talk button and is now available on the Verizon network.

The device is interoperable with field radios and smartphones, courtesy of Verizon's preloaded PTT+ application, which provides Verizon customers with push-to-talk capabilities.

"Flip phones are making a comeback among users opting for simple mobile communications," said Sonim chief executive officer (CEO), Bob Plaschke. "The addition of the XP3 gives Verizon business customers an affordable, ultra-rugged, reliable option that supports 4G calling, which has been a limitation for older flip phone models."

There's more – the XP3 is IP68-rated, meets the MIL-810G standard for ruggedness (including drop protection) and comes with a three-year warranty as standard. It also has a 100 dB+ speaker with noise cancellation and is supported by a range of industrial-grade accessories such as rugged headsets, RSMs, vehicle kits and multi-charging bays. *www.sonimtech.com*

New 'TV White Space' solution from Radwin drives broadband to remote communities

Radwin says its new disruptive TV White Space (TVWS) solution is ideal for providing broadband to remote communities. It utilises unused TV channels in the 470-698MHz band to connect unserved rural customers to the digital world.

Leveraging upon the Israeli firm's broadband wireless access technologies, the new TVWS solution operates in non-line-of-sight scenarios and penetrates trees and foliage over extensive distances. The new TVWS solution also complements Radwin's existing carrier-grade sub 6GHz portfolio and is supported by its OSS tools to address all operational aspects of the network lifecycle.

"There are entire populations across the globe that live in remote areas who have no connection to the internet," says Sharon Sher, Radwin's president and chief executive officer. "Fixed wireless is one way to deliver broadband, however, in many rural areas, there are obstacles to direct line-of-sight connectivity. With our newly-launched TVWS solution, service providers can connect unserved remote communities to the information age, help bridge the digital gap and generate new revenue streams. Sher reckons rural communities can significantly improve their lifestyle and boost productivity "by accessing an unlimited array of online broadband services from healthcare, education, government services to entertainment".

The solution will be available globally in Q1 2020. *www.radwin.com*

Receiver antenna that enables EV wireless charging

Spanish firm Premo has designed "highly reliable receiver coils" for EV wireless charger applications – an innovation backed by European and international patents.

The WC-RX-Series (compact secondary coils) consist of a flexible magnetic core combining Flex-Ferrite blocks with PBM (Soft-Polymer Bonding Magnetic) with a D-type coil. The receiver antenna, Premo claims, is able to handle from 3kW to 11kW of power but the firm is already working on a 22kW version.

This wireless power transfer (WPT) requires no physical contact between the vehicle and the charging station, therefore overcoming the inconvenience and hazards caused by traditional direct-conductive methods.

The challenge is to replace the conductive charging method by WPT technology while maintaining a comparable power level and efficiency. What's more the end game goal is to dynamically power the moving vehicles on the road, automated guided vehicles on a factory floor and/or autonomous robots and forklifts in a warehouse. This may lead to a significant size reduced battery pack and extended driving range at the same time thus addressing the main concerns of EV, namely, the high prices of batteries and range anxiety.

For the past three years, Premo has been investing in inductive components design applying both the 3DPower concept (for the magnetics involved in WPT) and the ALMA concept (for long-range antennae using flex-magnetic core).

Together with its research partners, the company developed a technology supporting Inductive Wireless Power Transfer in the range of 90kHz. The magnetic core technology developed for Premo's WC-Rx-Series (secondary coils) provides a high efficiency power transfer in excess of 95% thanks to a carefully crafted combination and optimization of the coil (Litz wire) with a flexible-core configuration that avoids air gaps and reduces heating areas. *www.grupopremo.com*

‘Cloud accessible networks in the palm of your hand’

EnGenius Networks says its eponymous SkyKey is aimed at those interested in speeding up the process of managing feature-rich access points and switches and who want to save time by managing wired and wireless networks from a single platform.

The multinational wireless networking company says that even though the device is smaller than a smartphone, it is powerful enough to act as an integrated computer equipped with built-in sophisticated network management software and powerful state-of-the-art hardware.

A built-in free ezMaster management software controls EnGenius access points or switches directly.

The company further claims the EnGenius SkyKey puts an end to the need of a dedicated server usually required for managing a fully on-premises wireless network. Equipped with user-friendly software, the mini-workstation powered by either PoE or a 12V adapter prevents IT professionals from spending hours going through a challenging installation or maintenance. All tasks are performed via a user-friendly web browser interface. The device comes with integrated sturdy magnet strips allowing IT professionals to attach it to any metal surface.

Key features and benefits include cloud and private network management, secure cloud access, plug and play installation, easy web-based management interface, plus network overview analytics.

“The new addition to the EnGenius family brings extra benefits and convenience to the users,” says Sherry Wei, regional general manager at EnGenius Networks Europe. “SkyKey is fully capable of bridging the gap between on-premises solution and the company’s recently released cloud solution. The SkyKey gives IT professionals multiple ways to adjust global settings, monitor and visualise networks, and access statistics information of any type of network – wireless or wired.” *www.engeniusnetworks.eu*

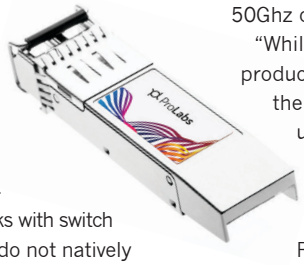
Infinet’s brand new Quanta 5

Infinet Wireless says its brand new 5GHZ point-to-point solution has a capacity of 450Mbps in just 40MHz. It also claims the Quanta 5 product has a processing power of 800,000 packets per second. Apparently, it provides the highest spectral efficiency available in today’s wireless marketplace, even when it’s tasked with operating in high interference environments.

The firm also reckons it’s fully future proofed as it utilises the Octopus SDR platform that allows new PHY, MAC and upper layer features via a firmware upgrade even for the units operating in the field.

Infinet further claims its Quanta 5 can be deployed in a diverse range of applications, from backhauling for Wi-Fi and 4G/LTE base stations to CCTV and video-surveillance infrastructures. It can also provide internet access to remote locations. What’s more, Infinet takes pride in its “unique combination of high performance, affordability and ease of installation”. *www.infinetwireless.com*

ProLabs add to portfolio with new Clarity Auto-Tuneable DWDM Transceiver



ProLabs, the optical networking and connectivity solutions business, says its self-tuning ProLabs’ Clarity Auto-Tuneable DWDM Transceiver is designed to save service providers cost and time to deploy new services.

As the newest member of ProLabs’ solution portfolio, Clarity is a plug-and-play solution that is “appropriate” for any OEM switch platform that supports SFP+ transceivers. Service providers can plug Clarity into the host and passive mux – and the transceiver automatically locates the open channel, tunes and locks onto the transceiver at the other end. It apparently auto-discovers and self-tunes to individual DWDM wavelengths without manipulation by OEM platform or peripheral devices and it’s system independent – meaning it works with switch platforms that do not natively support tuneable transceivers. ProLabs says it also reduces the complexity of tuning to specific wavelengths in the field as well as reducing inventory for spare DWDM transceivers. What’s more, the company claims it provides up to 80KM reach with full industrial temperature performance and is available in 50Ghz or 100Ghz channel spacing.

“While the idea of tuning products is certainly not new, the industry is accustomed to using products that require software or a separate device to perform this functionality,” says Raymond Hagen, global product line manager, ProLabs. “With Clarity, we have eliminated the need for technicians to track fibres or carry extra equipment to program the wavelength of each module during their deployment, which leads to faster deployment and reduced costs. It’s a win-win.” *www.prolabs.com*

Look out for...

NGMN’s white paper on ‘air gap’

The Next Generation Mobile Networks (NGMN) Alliance has published its ‘Continuous Delivery in Telecommunication Network Environments’ white paper, which sets out concepts to tackle the ‘air gap’.

Mobile networks are becoming more software-centric and cloud-based, with greater use of network functions virtualisation (NFV) and software defined networking (SDN). At the same time as paving the way towards a more agile approach to service delivery and enabling greater network automation, mobile network operators’ teams are shifting from a traditional approach to a DevOps approach (which works to reduce the time it takes to deploy new software).

However, one barrier to this approach – identified in the NGMN white paper – is the ‘air gap’. That is the strict separation between live networks (production environments), test environments and development environments, which is required for security reasons. The air gap makes it harder to move software from one environment to another.

The white paper sets out a concept that addresses this problem, allowing network boundaries to be bridged while meeting strict security requirements. It was designed with close collaboration between security experts and their counterparts in the fields of continuous integration (CI) and continuous delivery automation. The concept takes advantage of cloud infrastructures and cloudified applications, but it is not limited to them and the authors claim that it also works well with classic data centres providing virtual machines or even physical network elements.

The concept also draws from findings gained in recent projects, including DevOps practices from major players such as Deutsche Telekom (DT) and SK Telecom (SKT) including feedback from more than 25 NGMN MNOs.

“This project has reinforced the importance of industry collaboration to expand and evolve telecommunications networks with a view to providing continuous deployment,” said Peter Meissner, CEO of NGMN. “Collaboration is key not just for NGMN but for the whole industry.

Third parties, towers and theft

Outsourcing to tower companies is a growing trend in developing nations. Robert Shepherd looks at the pros and cons associated with it

The "liberalisation" of the modern-day telecom sector is a relatively new phenomenon. Indeed, the outsourcing of tower management by operators in Western countries to third party tower companies (towercos) became something of a trend in the last decade, or just maybe just a few years prior. Previously, the handing over of strategic infrastructure including towers, network management and even call-centres would have been unthinkable to operators, as it threatened the very fibre of their vertically integrated model. Now, the game is changing.

Of course, every industry embraces outsourcing in one way or another. However, most companies do it because they are either unable to or just not good enough at carrying out the job themselves.

Indeed, the telecom industry would appear to be slightly different to say car manufacturers, because operators are not looking to get their parts made more cheaply. They are asking a third party to do exactly what they do – deliver connectivity. Yet the trend has not only slowed down, it continues to gather pace.

Analysts say the change has been driven by "two megatrends" in the telecom industry. One is the explosive growth of data-enabled services that has forced operators to liquidate cash to upgrade network equipment from 2G to 3G to 4G at shorter intervals between generations. The other is that average revenues per user (ARPU) have steadily declined around the world – compressing margins in the process.

Developing regions with the lowest ARPUs were the first to embrace tower outsourcing as a means for telecom operators to generate cash to expand networks and capture market share.

Take Bharti Airtel, whose founder chairman Sunil Mittal was the man credited as the pioneer of the low-cost outsourced model of operations. Alongside Vodafone and Idea, Bharti Idea created Indus Towers through a privately held joint venture in 2008.

Although privately held, Indus remains one of the largest towercos in the world. Indeed, the joint venture model worked well during the early part of the outsourcing wave – particularly in less economically developed geographies where new operators needed to quickly roll out new networks when they remained distrustful of untested third-party towercos.

Over the years, it has handed over the operation of its phone network, towers and information technology services to others in a bid to free itself to focus on the business of providing mobile phone services.


Caroline Gabriel, principal analyst, wireless, Analysis Mason

"Building your own infrastructure is more challenging and can be costly, especially if the CSP is the first one to deploy on the tower"

Then there's Etisalat's Pakistani subsidiary Ufone, which has been exploring the sale and leaseback of its towers for some time now; while there may also be appetite for the former to monetise, carve out or outsource its towers in Afghanistan. Etisalat's Sri Lankan subsidiary retains its towers.

So, if an operator is equipped and has the wherewithal to do it themselves, why do they bother outsourcing?

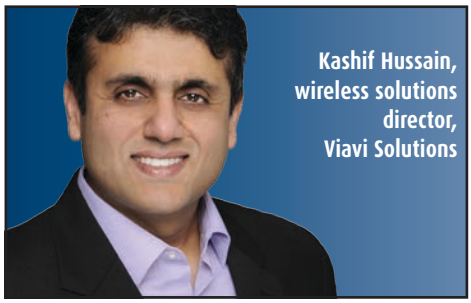
"This is a common phenomenon around the world for communication service providers (CSPs) to lease antenna space along with power and backhaul, as it makes more sense financially and from a time to market perspective," says Kashif Hussain, wireless solutions director at network test, measurement and assurance technology company, Viavi Solutions. "The CSPs' key business is to offer the best user experience, not building and management of cell towers. Building your own infrastructure is more challenging and can be costly, especially if the CSP is the first one to deploy on the tower – while this might offer the best location from a coverage point of view, the cost and time to market may not make sense, particularly in a challenging market with lower average revenue per user (ARPU). On the other hand, the business case for tower companies leasing to multiple telecom providers makes more sense."

Samantha Naidoo, SAP industry value advisor for services and telco industries for EMEA south says that telco tower outsourcing started around 2013 initially in Europe, then Africa before expanding globally.

"This was due to the intense competition amongst telco companies with an even stronger drive to reduce costs," she continues. "Opportunities arose to convert capex to opex through infrastructure outsourcing and through shared towers amongst operators."

Caroline Gabriel, principal analyst, wireless at Analysis Mason, also points to the financial benefits. "There is greater predictability of cost, based on regular contract fees rather than unpredictable bills for maintaining your own towers," she says. "There is lower upfront investment when opening up a new site or expanding a network into a rural or remote area where the ROI is uncertain as well as the ability to reduce staff and other operational costs."

"There is greater predictability of cost, based on regular contract fees rather than unpredictable bills for maintaining your own towers"


Kashif Hussain, wireless solutions director, Viavi Solutions

In addition, Gabriel highlights greater efficiencies through shared infrastructure, such as sharing a location with another operator rather than competing for it, as well as the fact it can reduce time to deploy a network by outsourcing legal work, site contract negotiation etc. to a company with scale and established processes in these areas.

In theory it sounds like a positive step to take, but surely there must be disadvantages?

"Loss of control e.g. of quality of maintenance of tower (there are SLAs but they can be hard to enforce in some regions)," says Gabriel. "You also lose the ability to keep a particularly good site exclusive. Also, where there is limited towerco competition, price negotiations may be tough for the MNO once it has surrendered its towers."

Hussain uses an old real estate expression: "Location, location, location," he says. "Location matters and the laws of physics dictate that having a higher location on a tower provides better coverage. Therefore, if a CSP has their own tower, they can occupy the highest possible location on that tower. This may be a good use case for rural areas where CSPs need to get the maximum coverage out of each tower; however, this is less important in urban areas. Another consideration is the opportunity to lock out competition (at least for some time) if the CSP owns the tower. This may not last long, depending on local zoning laws and opposition to multiple towers."

Daryl Schoolar, practice leader next generation infrastructure at independent analyst and consultancy firm Ovum, is of the belief that not only can it help the operator's overall costs as the expense for base stations site can be shared, but if the operator had previously owned its towers and then sold to a third-party, sales of that asset will only provide it with more capital to spend on network equipment or any other areas the operator deems fit.

"However, the downside is the operator loses control over site location and construction,' he warns. "Also, if the operator had an advantage over a competitor based on-site location, going to a shared tower arrangement means the operator could lose this advantage."

With that in mind, are operators better off

owning a tower and then sharing it with another company/rival? That way they know the tower company has to up its game as it's providing for more than one operator.

"There is no one right answer for this," he adds. "It is based on an operator-by-operator situation."

Gabriel says that it depends on how far the operator wants to offload the cost and hassle of maintaining the tower. "If it believes ownership is still valuable for other reasons, sharing of course reduces its overall costs," she says. "But in many ways, it seems that sharing with a rival is the worst of both worlds – keeping the cost and responsibility but losing exclusive rights to a good location."

Schoolar says: "I see no sign of this trend reversing" while Gabriel believes there will be more outsourcing of towers especially as operators expand their 4G coverage and capacity. "It is especially valuable to have a towerco which supports power systems in areas of unreliable or absent grid power," he adds. "More generally, operators are increasingly differentiating more on their core network (scalability, range of services supported) and the quality of their RAN signal more than their passive sites. So, outsourcing makes sense at a time when margins are falling – more data to deliver, falling ARPUs etc.

Gabriel says she expects there to be "more active RAN sharing too", where regulators will allow it, to reduce costs and to help meet government targets e.g. for coverage of rural areas which are not highly profitable.

We've heard the pros and the cons from an operator and analysts (sadly no towerco was willing to comment), but if this is a growing trend and competition amongst towercos increases, what will happen if consolidation occurs?

However, Schoolar says it can lead to eventually higher site rentals and possibly fewer site solutions. "By this, I mean, if there are fewer third-party tower companies there might be less innovation in how and where to deploy sites as there is less competition to drive innovation," he adds.

Gabriel says it benefits operators "when they can just deal with one towerco" to cover many sites across a whole country or several countries. "However, it weakens their negotiating position (although MNOs are consolidating

Asia's leading towercos by tower count (excluding China)

Towerco	Countries	Total count
Reliance Jio Infratel	India	175,000
Indus Towers	India	127,946
American Tower	India	75,113
Bharti Infratel	India	41,050
edotco	Bangladesh, Cambodia, Malaysia, Myanmar, Pakistan, Sri Lanka	29,924
GTL Infrastructure	India	27,707
Protelindo	Indonesia	19,152
DIF	Thailand	16,059
Mitratel	Indonesia	15,213
Tower Bersama	Indonesia	15,131
Tower Vision	India	8,400
STP	Indonesia	6,412
Ascend Telecom	India	6,451
IBS Tower	Indonesia	4,077
OCK Group	Malaysia, Myanmar, Vietnam	4,066
ASEAN Towers (IGT + Golden Towers)	Myanmar, Vietnam	3,625
Axicom	Australia	2,000
Railtel	India	2,000
Centratama Menara Indonesia	Indonesia	1,937
Apollo Towers	Myanmar	1,800
Balitower	Indonesia	1,589
Pan Asia Majestic Eagle	Myanmar	1,300
Persada Sokka Tama	Indonesia	1,012
Sacofa	Malaysia	1,000
27 further towercos with <1000 sites	Various	6,027

TOWERXCHANGE ASIA DOSSIER 2019

The telecom industry would appear to be slightly different to say car manufacturers, because operators are not looking to get their parts made more cheaply. They are asking a third party to do exactly what they do – deliver connectivity

too)," she continues. "Many MNOs are looking to work with one large towerco but also add other smaller providers to the mix – e.g. cities and governments who own sites – so that they are not over-reliant on one partner."

So, weighing up the pros, cons and of course, the costs, is it worth it? Schoolar certainly thinks it is: "As these arrangements appear to be increasing, not decreasing, the general answer appears to be yes. ■

Daryl Schoolar, practice leader, next generation infrastructure, Ovum

"If there are fewer third-party tower companies there might be less innovation in how and where to deploy sites as there is less competition to drive innovation"

Ooredoo, formerly known as Qtel, is the incumbent mobile network operator in Qatar, and also has extensive international operations in Indonesia (Indosat) and Myanmar, where it was one of the original two international operators to receive a license to build telecommunications infrastructure. Indosat served 56.7mn customers while Ooredoo Myanmar 11.1mn as of Q219.

In Myanmar, the company initially chose to retain ownership of power assets when having sites built by third parties, outsourcing management of the equipment to ESCO IPT, but recently Ooredoo transferred control of energy management to edotco at their 1,250 sites.

Pakistan still behind

Pakistan remains an underserved market but 4G is leading the growth, with over 35% growth in data subscribers in 2017-2018. However, the market remains considerably behind in terms of data consumption per subscribers, compared to other regional countries.

The market could present strong opportunities for towercos as 95% of its tower inventory remains in the hands of MNOs. In recent years, MNOs have started to outsource new site deployments which could pave the way for tower divestments in the future.

The problems caused by theft

Theft of power sources is a major problem. Here is what some have said on the subject:

"The problem with both solar and wind power is how to store the energy. Batteries are still expensive and subject to theft the same way as diesel. As long as the cost of batteries remains high, they will be the target of theft. A hybrid solution helps with power issues when there is no sun or wind, but it doesn't solve the theft problem. And, the operator needs to have fuel cost savings of the hybrid system outweigh cost of diesel, generator, and solar equipment costs."

Daryl Schoolar, practice leader at Ovum

"That too is part of mobile operators' opex, including fences with barbered wires, human guards and patrols."

Stéphane Téral, director, IHS Markit

"I don't know if theft of diesel generators is increasing because it has always been there. There is enhanced security now with CCTV, which of course is an investment. As business models evolve they have to continue to address this issue."

Alessandro Ravagnolo, principal, Analysys Mason

"HIMOINSA generators are fitted with anti-theft devices. We also offer remote monitoring that can disable a unit automatically if the unit is moved beyond specific parameters."

HIMOINSA

"This is one of the biggest headache of the telecom players and many solutions to prevent and avoid fuel and battery theft are being tested now and some already approved and deployed on site. The interest towards the use of Lithium batteries @48V is also fed by this issue, as the thieves cannot use them to power their 12V home appliances."

Giuseppe Taranto, telecom business leader, Ausonia

"Unlike Europe and North America, grid power is not consistently available throughout Asia. As result, this phenomenon is quite common in Asia and even in Africa and it is a real challenge for service providers. In fact, it is actually more than just batteries and generators, but also related to fuel theft as well."

Kashif Hussain, wireless solutions director at network test, measurement and assurance technology company, Viavi Solutions

Nepalese airport gets TETRA treatment

Tribhuvan International Airport, Kathmandu, deploys first national TETRA network solution

Tribhuvan International Airport, Kathmandu, has installed Nepal's first TETRA network, providing airport users and security teams with a comprehensive critical communications solution.

The airport serves as an international hub for over 30 domestic and international airlines and saw over 7 million passengers passing through in 2018, with future increases expected. Situated in Kathmandu Valley, the airport features a passenger terminal, plus extensive outdoor maintenance facilities, parking areas and other large buildings. The entire site is covered by the new TETRA network, ensuring that airport workers and security personnel are in constant communication with the control rooms.

The airport authorities recognised the need to replace the airport's existing analogue radio system and identified a number of key requirements; higher security standards and built in scalability to allow additional users and

the integration of other airport technology.

Following a thorough evaluation process and competitive tender, airport authorities choose Sepura TETRA radios supported by Teltronic's Nebula TETRA infrastructure. The chosen solution matched the airport's need for a scaleable communications system, offering flexibility for varied work groups, with the highest level of encryption to ensure security, and robust radios with a long working life.

The SC20 radios provided by Sepura provide outstanding audio whilst also featuring powerful data capability, capable of streamlining essential processes by automating responses, for example providing GPS location to the control room.

Using the SC20's second data bearer, the radios can be connected to the airport's Wi-Fi service, enabling integration with existing airport data and control systems. Allied to Teltronic's infrastructure, the radios' high transmitter power extends coverage where lower power radios struggle. This is a key feature of the security capability for the airport, ensuring that users based in remote locations, underground facilities or within large building are kept in touch with the control room.

The new TETRA network allows for the smooth movement of passengers through the airport by increasing co-operation between different work groups - including maintenance units, cleaning teams, airline staff, airside crews, security and emergency responders. Passengers benefit from a smoother experience with fewer delays, whilst the airport and airlines both benefit from more efficient working practises whilst fines and compensation for late running are minimised.

"The deployment of a TETRA network allows the airport to co-ordinate the day-to-day operations of its various work teams and provides a higher level of service to both passengers and airlines," says Manohar Rajbhandari. "The benefits of a reliable, high quality network using radios that connect everyone, everywhere, are evident throughout airport operations. Fleets of staff carrying out daily maintenance and cleaning can work in synchronisation with airline personnel, security and luggage handlers to keep the flow of passengers and flights moving."

As well as Tribhuvan, Sepura's TETRA solutions have been deployed in numerous airports worldwide, including Amsterdam's Schipol Airport, London Heathrow and New York's John F Kennedy International Airport. Organisations in these airports are benefiting from advanced data features, class leading audio and a proven reliable product to support their critical communications requirements.

Terence Ledger, Sepura's Sales and Marketing Director commented: "TETRA is the only globally accepted, mission critical open standard technology and we are continuing to see its growth in new markets, building upon its established advantages over other platforms. Our SC20 radios are proven around the world for users looking to maximise the potential of their networks through intelligent applications to support their everyday operations." ■

Good news for the Indian railways commuter

Google's free Wi-Fi for over 400 Indian Railways stations has to be one of the biggest projects that will enable the 'Digital India' that Modi government has promised. What makes this even better is the fact Google claims the Wi-Fi coverage and capacity to be better than that in London and San Francisco. Speaking to media, Gulzar Azad, the country head of connectivity at Google India said, "If you compare this (quality of internet) with Wi-Fi in London and San Francisco, you will find that the Wi-Fi is better in both coverage and capacity." According to Azad, the internet is "dynamically configured" in a way that the user is able to run apps such as WhatsApp and search pages even when a cap for high-speed is consumed after 30 minutes.

What is this project about? RailTel Corporation of India, a mini-ratna PSU under the Ministry of Railways, has been tasked with providing fast Wi-Fi, called RailWire, for passengers at A1 & A category railway stations across the country. For this, RailTel has tied up Google, the latter being a technology partner. RailTel and Google are setting up fast Wi-Fi network which in its initial phase will cover 400 stations.

Elaborating on the same, RailTel said that as many as 200 railway stations boasted the facility of fast Wi-Fi by the end of 2017. "Under this partnership, we had a target of completing 100 stations by the end of December 2016. Surpassing the target, we completed 110 stations by the end of 2016. We now have taken up a target of completing 200 stations by the end of 2017," a RailTel spokesperson said. RailTel and Google completed the project for 400 stations by the close of 2018.

According to RailTel, the Wi-Fi that is being provided is "state-of-the-art high speed network". While RaiTel is providing the power and fibre network infrastructure for this mammoth project, Google is bringing in its expertise on the radio access network front and to enable user experience for Wi-Fi enabled devices, mobile devices and laptops, the official said. "RailTel is upgrading its backbone infrastructure to backhaul high speed connectivity of approximately 1Gbps per station." RailTel claims that the internet speed is good for browsing and downloading and that as many as six million people use the Wi-Fi network every month. On an average, Mumbai suburban stations top the list in terms of number of users.

How does one use Wi-Fi on the railway station and what is the speed of the internet? The capacity of each station is 1 Gig. There is a speed cap after the first half an hour of usage to curb misuse of the service being provided, says RailTel. The speed of Wi-Fi for each user is said to depend on various factors like the kind of mobile phone being used to connect or the time of the day. Once logged in the user can use the Wi-Fi for 24 hours.

Additionally, RailTel has also taken up a project of providing RailWire Wi-Fi at 200 rural stations as a pilot project. "This project is going to be a pioneer in bridging the digital divide between urban and rural India as these 200 stations will be quintessentially stations which cater to rural areas where the internet service is either unavailable or not up to the mark," the official added. ■

RailTel said that as many as 200 railway stations boasted the facility of fast Wi-Fi by the end of 2017

The challenge of managing india's growing mobile video market

India has the world's highest data usage per smartphone at 10 GB per month. With 5G imminent, plus India's insatiable appetite for mobile video streaming, Indranil Chatterjee, SVP of products, sales marketing at Enea Openwave explores the strategies for MNOs to manage mobile data

Size matters. Well, it does when it comes to the Indian smartphone market that is only second to China. By 2022, it's estimated that the number of smartphone users in India will exceed 442 million. The country's mobile user-base is experiencing unprecedented levels of growth, making internet access easier in a country that relied largely on fixed access up until a few years ago. Indian subscribers are loving wireless access and taking full advantage of its benefits.

As of 2019, India has the world's highest data usage per smartphone, averaging 9.8GB per month. By 2024, this is expected to almost double to 18GB per month, largely fueled by the consumption of rich video content. Operators such as Jio, Airtel and BSNL have experienced an exponential demand for mobile data.

Naturally, this demand is creating a need for fast and dependable mobile services, with some operators using mobile data as a key market

differentiator. Availability of 4G at an affordable rate has also led to many first-time internet users, further bolstering demand and creating lots of untapped potential for network operators. This potential is likely to grow even further in the coming years with the arrival of 5G. The pressure is on to deliver flawless user experiences.

Nowhere is the lack of QoE (Quality of Experience) more harshly felt than on-demand video (VoD). While waiting an extra few seconds for a web page to load is inconvenient, waiting for a video to buffer and not being able to enjoy smooth HD playback is a deal breaker for many subscribers.

How video streaming is shaping up in India

Streaming services like Netflix, Facebook, YouTube, Hotstar and TikTok have surged in popularity in India. And half of all video streaming content in India is now High Definition (HD).

Netflix recently recognized the growing appetite for video streaming - particularly on mobile devices - and announced a pioneering mobile-only subscription plan to capitalize on the demand in India. This will open up the Netflix platform to a much larger audience in the country, particularly given the comparatively limited fixed-line infrastructure.

Of course, fixed line infrastructure is going to become less of a concern for mobile markets around the globe as 4G becomes more affordable and 5G is gradually implemented. This puts countries like India, who until recently had comparatively low internet penetration, on a more or less level playing field with the rest of the world. The opportunity here for Indian mobile network operators cannot be overstated.

As well as popular VoD channels like Netflix and YouTube, new formats of video such as 360-degree clips and Augmented Reality (AR) are adding to demand. According to HubSpot, consumers are also more receptive to video content from businesses and brands they like, and in some cases actively seek it out over reading long-form content or navigating to websites. Around 81% of global businesses now position video as a core part of the marketing strategy, with roughly a quarter of them publishing new videos at least weekly. Downloading and streaming on demand is the new norm and this is shaping how the internet is used globally. This is having a knock-on effect in regions like India where mobile markets are maturing at a rapid pace – and it is straining networks to breaking point.

Congestion and mobile data encryption

A major challenge for operators in India – and globally - is the rising levels of encryption. Data originating from OTTs such as YouTube are layered with encryption protocols such as QUIC. So, when mobile users want to stream VoD or even browse the internet, encryption has darkened the network for operators. They cannot see the types of data travelling on their very own networks and are incapable of managing subscriber QoE.

Streaming services like Netflix, Facebook, YouTube, Hotstar and TikTok have surged in popularity in India. And half of all video streaming content in India is now High Definition (HD)

Encrypted traffic currently accounts for around 80% - 90% of global data flow. As OTTs introduce more advanced levels of authentication, more strain is placed on operator networks to transfer data quickly. Being able to deliver high quality video data with minimal congestion - and further encryption on the horizon - is quickly becoming the number one challenge for operators.

A case study: Easing data congestion for a major Indian operator

A major Indian mobile operator needed to manage its mobile data as it faced unprecedented growth and its networks were congested and at breaking point. They were delivering roughly 10 terabytes per second (Tbps). This operator needed to manage this tsunami of data all while trying to offer the best and most consistent QoE.

The challenge for this operator was that it needed to reduce the level of stress on the Radio Access Network (RAN). The problem was compounded by limited accuracy of common congestion detection techniques, a lack of real-time RAN congestion indication and importantly – it had to be done without adversely impacting subscriber QoE.

That is where things got interesting. To address the challenge, Enea Openwave partnered with the mobile operator to build a solution that allowed them to detect congestion in real-time by leveraging intelligent algorithms built on top of a Explicit Congestion Notification mechanism so that only congested user flows could be optimized. Prior to this, the operator was forced to implement blanket optimization policies that were not entirely effective in maintaining subscriber QoE. Now the operator has three levels of congestion for RAN: mild, moderate or high. Radio resources can be allocated more efficiently depending on the severity of the congestion.

These lines of demarcation have made video optimization far more efficient and cost effective for the operator. What's more - users benefit from a faster, more reliable service as a direct result of this unique way of identifying network congestion and acting on it.

Looking to 5G

Spending on entertainment and media across the world is growing at a faster rate than ever before, particularly in India. Demand for video consumption is being pushed by the country's growing millennial population, who largely want to consume video on demand, on their mobile devices. When you factor in the increasing popularity of social media and consumers' increasing preference for video content, it's easy to see that India's mobile video growth isn't going to slow down anytime soon – especially with the advent of 5G.

5G presents an amazingly lucrative opportunity for Indian operators to re-architect their mobile core network and benefit from lower Total Cost of Ownership. The key to this architecture is a 5G common data layer that is open, cloud native and simplified and allows operators to solve the problems of vendor lock-in by liberating state from vendor applications.

If mobile operators want to earn or retain a share of this burgeoning market, they have to ensure the QoE they offer is second to none, and effective handling of video traffic is going to be critical to winning new customers to stay ahead in one of the subcontinent's most dynamic mobile markets. ■

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Country focus: Vietnam's 5G preparations

For major urban areas such as the bustling, 24 hour-a-day Hanoi and Ho Chi Minh City, the potential for smart city development is exponential and needed

The Socialist Republic of Vietnam has one of southeast Asia's fastest-growing economies, while harbouring ambitions to become a developed nation in 2020. We sent Gerry Moynihan to ask: what's next for Vietnam's 5G ambitions?

Vietnam's socialist-orientated market economy, has in part, enabled Vietnam to progress its wealth ranking based on GDP from being one of the world's poorest countries to being a lower middle income country, with a ranking as the world's 45th wealthiest.

Currently, about half of the 96 million inhabitants of Vietnam are online, being served by six sub-marine cable systems, often prone to ruptures, and an additional 120 gigabit channel that runs overland through China. Vietnam's internet can be described as unstable and slow: it is ranked 89th out of 207 countries and territories for internet speed, according to cable.co.uk Worldwide broadband speed league 2019. Vietnam's average broadband speed of 7.02 Mbps was recorded as being10 times slower than Singapore's at 70.86 Mbps.

Vietnam has the potential to become, economically, another Singapore, a realistic possibility that might be boosted by its recent decision to become one of Southeast Asia's first adopters of 5G. A successful implementation of 5G could springboard Vietnam from a substantially agrarian economy into being a participant of the 'Fourth Industrial Revolution. ' The quantum leap in data rate, latency, reliability and potential for IoT etc. that 5G brings is a competitive advantage that no country should ignore.

There, is though, the reality that Vietnam would have to invest billions of dollars, if it wants a national 5G network, and at present there is no indication that the state-owned telecom provider, has the resources available to do this, though at present Viettel offers services to 10 countries across Asia, Africa and South America.

The somewhat arbitrary date of 2021, as the date by which a commercially operative 5G network is envisaged as being up and running, at present, does not appear to be supported by a reality of resource application and capability, in this still, as yet, developing country.

Vietnam is somewhat dependent for communications on fixed line, twin core copper cable and bearing in mind that last year Vietnam was the fastest growing market for mobile payments, (according to PwC's Global Consumer Insights Survey) the implementation of 5G can't come soon enough. It can be assumed that the implementation of 5G will initially benefit foreign multinational companies and enhance the ability of the Vietnamese state to provide services to its citizens. There is no national health system in Vietnam, although the government is committed to developing one. The development of 5G gives the opportunity to implement telemedicine and the use of AI for health purposes.

For major urban areas such as the bustling, 24 hour-a-day Hanoi and Ho Chi Minh City, the potential for smart city development is exponential and needed, as citizens move from the 7 million bicycles in Ho Chi Minh City alone, to car usage, if Vietnam follows the same progression route as Its neighbour China.

The state telecommunications company, Viettel, which is overseen by the ministry of defence, was granted the first 5G licence, and has subsequently selected two partners to help build the country's 5G network.

In what might be interpreted, by some, as a shunning of Huawei, the decision was taken to choose Ericsson to build the network in Hanoi in the north, and Nokia as the network centred on Ho Chi Minh City, covering Vietnam's economic powerhouse in the south. Both Ericsson and Nokia support Vietnam's current 4G network. Ericsson is currently supporting 19 live 5G networks, across 4 continents.

There is though the claim by Viettel that its research and development section, Viettel High Technology, has developed its own in house 5G hardware, taking a mere 6 months to do so. This has resulted in it being able to demonstrate a video call via 5G hardware, that it claims meets ITU standards. Chief of Viettel, Major General Le Dang Dung, is keen to see the commercialisation of Viettel's capability and to develop both civil and military 5G services in the country. Like China, Vietnam has invested heavily in high tech and might be viewing itself as a potential 5G provider in countries that don't offer the potential financial returns that existing major 5G players require.

There is the present reality for Vietnam of the cost of 5G implementation. Vietnam is awash with steel telecom towers protruding from every type of building, which enable the country's current wireless communications. It will be a monumental task to construct a new base station network. The use of sustainable bamboo construction telecom towers might be a consideration for a Vietnamese, socially responsible network provider, as would the adoption of solar panels, given Vietnam's sunny disposition, for power requirements for base stations in more remote areas.

Vietnam is in the early stages of its economic and technological leap into modernity. If all goes well, it could be competing with Singapore, Malaysia and China in the wireless communications arena, in the not-so-distant future? ■

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SoftBank joins alliance for flying telecom bases

Japanese mobile phone carrier SoftBank Corp has joined 11 other firms to launch an alliance to create airborne telecommunication base stations for worldwide connectivity.

The companies involved are Loon LLC (a unit of Google LLC parent Alphabet.), AeroVironment Inc., Airbus Defence and Space, Bharti Airtel Ltd, China Telecom Corp, Deutsche Telekom AG, Telefonaktiebolaget LM Ericsson, Intelsat US LLC, and Nokia Corp, Telefonica S.A. and SoftBank's unit HAPSMobile.

This alliance will build on a tie-up between HAPSMobile and Loon announced in April 2019 to advance so-called high altitude platform station, or HAPS, business and launch a commercial service using unmanned aircraft flying in the stratosphere in 2023.

SoftBank said such a connectivity platform is a "promising solution for expanding mobile coverage to areas where connectivity is lacking – such as mountainous terrain, remote islands, marine regions and developing countries".

This alliance will build on a tie-up between HAPSMobile and Loon to advance so-called high altitude platform station, or HAPS, business and launch a commercial service using unmanned aircraft flying in the stratosphere in 2023

In addition, the system is expected to support growing demand to connect various devices and sensors using internet of things technology in sectors such as manufacturing and farming.

The members of the alliance, hailing from Asia, Europe and the US, will cooperate on promoting and building industry-wide standards and interoperability guidelines, while liaising with regulatory authorities in relevant countries.

Dare1 lands in Djibouti

Djibouti Telecom, Somalia's Somtel and Telkom Kenya, along with cable manufacturer SubCom, said the Djibouti Africa Regional Express 1 (DARE1) submarine cable system has landed in La Siesta Beach, Djibouti and marine installation is underway.

This follows the announcement in early December 2019 that all manufacturing aspects for the DARE1 system had been completed.

In addition to the installation of the trunk, the installation of the two branch legs to the system's four landing stations has also commenced. The landing stations, located in Djibouti (Djibouti's capital city), Bosaso (Somalia), Mogadishu (Somalia) and Mombasa (Kenya), will help enhance connectivity in the east African region and will also help enable more efficient communications, say the partners.

The two installation vessels are progressing on schedule and marine operations are scheduled to be complete in March 2020.

'Operators could lose over $25bn in roaming revenue over the next nine months' – Junpier Research

The impact of coronavirus on the international travel industry could cost network operators over US$25bn in lost revenue during the next nine months, according to Juniper Research.

It examined two possible scenarios: medium and high impact, believing a low impact is now not possible. The high impact scenario assumes severe disruption to international travel will continue for 9 months, with travel restrictions and reduced demand for international travel continuing. In this case, the resulting impact on operators' international roaming revenue would be significant. "In the high impact scenario, Juniper Research believes over 650 million passenger trips will be cancelled due to Coronavirus over the next 9 months," the report said. "This is over 80% of the anticipated international passenger trips that were previously forecast before the spread of the virus.'

Juniper said the research assumes that over half of all roaming revenue for the year will be affected, amounting to $25 billion in lost revenue. It also highlighted the period between June and August as of particular significance when the demand for international travel is high. It forecast that operators could lose up to US$12bn in roaming revenue alone in these three months.

"In terms of the overall impact on operators, it must be noted however that global roaming revenue only accounts for approximately 6% of total operator-billed revenue per year, limiting the hit on the industry," the report added.

The report further added that "given the nature of the international travel industry", the research anticipated there will be no strategies available to operators to mitigate this loss

Consolidated revenue declined 9.9%at Rs1,203 crore during the quarter as against Rs1,335 crore in the corresponding quarter of 2018-19

SMS Teleport selected for Eutelsat satellite

Satellite Mediaport Services (SMS Teleport) has been selected by Eutelsat to provide back-up teleport-based broadcast satellite services for its Eutelsat 8 West B satellite, the companies have announced.

SMS Teleport is providing the satellite operator with 24/7/365 redundant teleport services from its teleport in the market town of Rugby, UK.

It is connected via a diverse fibre linkup to Eutelsat's Paris-Rambouillet teleport, which provides the principal uplink to the satellite.

"Our solution for Eutelsat combines numerous elements of our extensive teleport capabilities, to offer Eutelsat the best possible services," Zvi Golod, SMS Teleport's CEO said. "SMS Teleport is proud to be a contributing factor in Eutelsat's ongoing success, we look forward to working on further projects together."

Eutelsat 8 West B currently broadcasts to over 52 million homes in the Middle East and North Africa.

MWC to offer refunds for cancelled Barcelona event

Mobile World Congress (MWC) has offered to reimburse anyone who paid to attend the cancelled conference, in a move that could "lay down the gauntlet" for other events cancelled due to the coronavirus pandemic.

Organiser GSMA — the trade body for the mobile industry – scrapped the telecom event in February following a string of high-profile withdrawals, saying health concerns made it "impossible" for the event to go ahead.

The Barcelona showcase was one of the first major events to be called off as a result of the pandemic.

However, GSMA said it will refund the full price of the ticket, which costs €799 for a basic exhibition pass.

Clients that spent larger sums of money on the conference can claim a refund, or have been offered credits as an incentive to attend future events.

Under GSMA's financial package, companies that spent up to €5,600 on MWC 2020 can claim either a full refund or credit worth 125% of what they paid. This would be applied as a discount on the cost of attending MWC over the next three years.

Clients with spend over €5,600 are entitled to the same credits, or can claim 50% of this year's fees as a refund, up to a maximum of €168,000.

Companies that withdrew before the conference was officially cancelled – including BT, Vodafone, Amazon and Facebook – are entitled to the credits but not the refunds.

"The GSMA values the loyalty and support of our members and partners in the mobile ecosystem worldwide," said chief executive John Hoffman.

GSMA said it already has formal support for MWC 2021 from O2 owner Telefónica, Vodafone and Orange.

Inmarsat launches new services in Saudi

Inmarsat will bring its maritime, aviation and enterprise connectivity solutions to customers based in Saudi Arabia through new partner agreements. It has also secured new spectrum licenses to deliver both its narrow-band (L-band) and high-capacity broadband (Ka-band), Global Xpress (GX), services in Saudi Arabia, enabling Saudi-based businesses to deploy these services for the first time. Fixed and mobile satellite telecommunications distributor Sada Al Ammah and Global Beam Telecom have been appointed as the company's first distribution partners in Saudi Arabia and the region and they will work closely with Inmarsat's Maritime, Aviation and Enterprise businesses to roll-out services in the region. They will work with Inmarsat's Enterprise business to bring the benefits of its award-winning connectivity services to land-based users in the Middle East.

Bladon sign US$36m deal to supply Alkan CIT

Bladon Micro Turbine, the manufacturer of micro turbine gensets, has signed a three-year distribution partnership contract with Alkan CIT worth over US$36m.

Under the terms of the deal, Bladon will provide its microturbine powered generators to Alkan for use at telecom tower sites across Africa and the Middle East. Alkan currently covers 18 countries in the region and this partnership will provide Alkan customers with access to efficient and reliable telecom tower power.

"Having worked with key telecom operators all around the region and having rendered services for more than 30,000 telecom sites over that past two decades; I can confidently say that our collaboration with Bladon will definitely enrich the market and help operators resolve key challenges that used to cause lots of pain," said Ahmed Galal, managing director, Alkan Communication Networks. "Alkan expertise and Bladon technologies are the perfect match to empower the telecom industry and we're very happy to present Bladon advanced technologies and Micro Turbines to the market."

In addition to a total cost of ownership up to 30% lower than conventional diesel gensets, the Bladon MTG offers up to 8,000-hour service intervals, which translates to 90% fewer site visits than required for conventional diesel gensets.

Paraguayan network to be completed by February

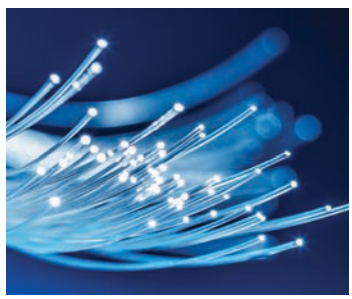
Paraguay's national fibre-optic network (Red Nacional de Fibra Optica, or RNFO) is expected to be completed by February.

The RNFO initiative is aimed at unifying the fibre networks of state operator Copaco, utilities company Administración Nacional de Electricidad (ANDE) as well as the Ministries of Interior and Finance. Copaco operates around 180,000km of fibre, while ANDE has around 120,000km. The ministries have approximately 200km and 74km of fibre respectively.

Paraguay's Ministerio de Tecnologías de la Información y Comunicación (MITIC) made this announcement despite the fact that just 14,000km of infrastructure had been integrated at the end of 2019.

The convergence contract was awarded in February 2019 to domestic firm Celexx, which is believed to have a close working relationship with China's Huawei.

Copaco operates around 180,000km of fibre, while ANDE has around 120,000km



Broadband growth predicted for Argentina

Argentina will see strong growth in the rollout of fixed broadband lines in the next four years, according to new research.

Data and analytics company GlobalData said fixed broadband lines in the South American nation will rise from 8.4 million recorded in 2019 to 9.9 million by the close of 2024, led by operator investment in fixed infrastructure.

The report says that growing demand for high-speed data services on fixed lines among residential and business customers, along with government initiatives to expand broadband services to rural and underserved areas, have led to the investment. It estimates that fixed broadband penetration will increase from an estimated 18.6% in 2019 to 21.0% by 2024.

Cable will represent 42.2% of total fixed broadband lines in 2019 and will remain the leading broadband technology through to 2024. Fibre lines will grow at the fastest compound annual growth rate (CAGR) – 13.1% over 2019-2024 – mainly supported by rising demand for high-speed broadband connectivity and ongoing fibre network roll-outs by operators like Movistar Argentina.

State-owned satellite company ARSAT will also receive US$154m from a universal service fund (USF) by 2020 to help complete the Federal Fibre Optic Network, which is a federal backbone network made up of 13 geographic regions, as well as provincial networks interconnected to the backbone.

The report estimates that fixed broadband penetration will increase from an estimated 18.6% in 2019 to 21.0% by 2024

Spanish firm Sateliot partners with IEEC

Spanish 5G Internet of Things satellite specialist Sateliot has signed a deal with the Institute of Space Studies of Catalonia (IEEC) ahead of its inaugural nanosatellite launch.

The company said a team of experts from the institute will advise it on the correct functioning and development of its first 'CubeSat' before it launches later in 2020, including detailed risk assessment of the mission's technical aspects.

Under the terms of the deal, IEEC will also support Sateliot's planned follow-up launch of a constellation of up to 100 nanosatellites designed to extend the IoT reach of existing 5G terrestrial networks via operator wholesale deals.

Sateliot also similar agreements in place with the European Space Agency (ESA), UK firm Open Cosmos for the manufacture of the nanosatellites and Spain's Alen Space for the payload design.

Comtech acquires Gilat Satellite Networks

Comtech Telecommunications has agreed to acquire Israel's Gilat Satellite Networks for approximately $532.5m.

The former will pay US$10.25 per ordinary share in cash for 70% of Gilat's stock and 30% in Comtech common stock.

"I am excited to have reached this agreement with Gilat and believe this combination is beneficial to the stakeholders of both companies," said Fred Kornberg, chairman and chief executive (CEO) of Comtech. "The acquisition better positions Comtech to take advantage of key marketplace trends, particularly the growing demand for satellite connectivity and the enormous long-term opportunity set that is emerging in the secure wireless communications market."

Founded in 1987, Gilat offers broadband satellite communication and networking services

Dov Baharav, chairman of Gilat added: "I have long admired Comtech's commitment to technology leadership and I firmly believe that employees will have expanded opportunities for career development. No doubt, the future will be very bright for Comtech and Gilat and all of our stakeholders."

Founded in 1987, Gilat offers broadband satellite communication and networking services. The company's largest shareholder is Israel-based private equity firm FIMI Opportunity Funds, which holds a 34% stake, followed by Mivtach-Shamir Holdings with 9.7%.

HYLA Mobile partners with Admin Plus

HYLA, the mobile device repurposing vendor, has partnered with South African insurance firm Admin Plus to deploy its latest machine learning technology, which allows the latter to see the state of the device remotely. Admin will be able to see things like cracks and water damage from afar to help it issue short-term policies quickly. This helps to significantly reduce its risk exposure to fraud.

Cellnex buys out OMTEL

Spanish wireless infrastructure operator Cellnex has reached an agreement with Altice Europe and Belmont Infra Holdings, to acquire 100% of Portuguese telecom towers and sites operator Omtel for a fee of €800m. The acquisition also covers the rollout of 400 sites within the next four years. Cellnex said this build-to-suit (BTS) programme could be enhanced with up to 350 additional sites through 2027. Omtel currently operates 3,000 sites in Portugal, which represents around a quarter of the telecommunications towers in the country.

Rajant steps up amid crisis

Rajant Corporation and its global distribution and integration partners have made a private wireless network for mobile field hospitals and pop-up health treatment shelters immediately available, in light of the Covid-19 worldwide health crisis. The US-based firm's "Emergency Response Rapid Deployment Kit" is the connectivity solution for facility-strapped healthcare, running out of medical space and patient beds to care for the seriously ill, to expand operations.

Q&A

Shanks Kulam co-founder x-Mobility

Who did you want to be when you were going up?

Having always been trying to make money since the age of five (unsuccessfully in the early days as my older brother insisting on lending me working capital at rates that make Wonga.com seem charitable), I always knew I wanted to be in business, but what business I had no idea and to be honest it didn't really matter in the early days.

In primary school I'd buy, do up, and sell skateboards, then moved onto radio controlled cars when entering secondary school. In-fact I was making around £100/week (back in 1984) buying, building (they we're all kits) and selling radio control cars to many many of the rich kids at the private school I had managed to scrape my way into... to the detriment of my studies of course! Back then what we now consider an entrepreneurial spark was considered hustling... in a bad way.

What was your first job after leaving school?

Telecoms engineer, helping build and install the world's first digital mobile network (One2One now EE) initially only active within the M25/Greater London!

When was your big career break?

After graduating with an engineering degree in London, I really got my teeth into technical sales, becoming a product manager selling early internet hardware (high speed modems pre Cisco/IP days). That firmly put me on the path to becoming in commercial sales with a technical understanding.

What is the best thing about your job?

Working with entrepreneurial founders applying telecoms to new vertical markets that personally I would never have considered. I love to see their drive and vision and I love that we at x-Mobility can support that.

What is the hardest thing about your job?

Saying no to customers. Unfortunately, it is something that you just need to do sometimes. We work with customers that are the right fit for us – in this way we know that we can better support them and help them to grow. But from time to time, when it's not the right fit, we have to say no, so that we don't distract from our, and their, goals and focus.

What has been your career low to date?

Launching a telecoms company during the 2008 financial crisis. The world I had known my whole career (which we didn't realise at the time had been a long bull run) just stopped. Investments suffered, there was a sharp increase in bad debt, previously 'closed' deals were put on the back burner. It was tough.

What has been your career high to date?

Coming out of the 2008 crisis intact, albeit with some business scars from that crisis, to successfully help scale many brands and companies into the telco space, initially locally via a SIM MVNO, and more recently globally via our telco-OTT app.

Who has been your biggest inspiration?

My long-time business partner, Wayne Myers, who's the most creative deal maker I've ever come across, plus he helps keep our product and service offering technically ahead of the curve, which enables me to sell the next new new thing!

What is your biggest regret?

Not co-founding a telecoms business earlier. x-Mobility started in 2008, but I've loved every minute of it, so I wish we'd been going for longer.

What is the best business lesson you have learned?

Risk mitigation. In telecoms most companies I've seen fail do so due to bad debts, which is a function of not managing one's risk. Fortunately, I learned this (the hard way) on someone else's time and dime early in my career.

If you had to work in a different industry, what would it be?

Telecoms today is really a function of technology and internet / cloud based services that can reach billions of users at a relatively low cost. If I had to work outside of telecoms, then it would definitely be in the internet industry still helping people to communicate in new and disruptive ways.

What do you want to do when you retire?

I don't ever want to retire. This is a lifestyle choice, not a job!

I've always found communications sector interesting and perpetually evolving, from mobile phone hardware, to software based services such as Skype, to mobile telecoms apps like Vyke.com

What would you say has been the best technological advancement in your lifetime?

The internet. Period. It's levelled the playing field for all, regardless of race, location or wealth. We all have equal access to the world's information. What we do with it is what sets certain folks apart. What can be more disruptive than that.

Which competitor do you most admire and why?

We consider the likes of Twilio.com a competitor. In such a short-time they've democratised telecoms by making it available to the masses via any website or app just by adding a few lines of code.

Which areas of southern Asia to do work in?

We work across the region and also with brands servicing the southern Asian diaspora. There are millions of southern Asian diaspora in the UK, Europe, Africa, US/Canada who want to stay connected with people and brands 'back home'.

Many of the southern Asian brands that we work with are looking to offer is virtual number subscriptions so that someone in India can have a UK or US mobile number on their device (via an OTT app like Vyke.com), meaning they can make super low cost calls and texts as if they we're in the UK or US at a local rates. For the first time someone in South Asia can 'be local' in another country such as the UK, all without the need for any physical SIM or high cost mobile plan. ■

> "If I had to work outside of telecoms, then it would definitely be in the internet industry still helping people to communicate in new and disruptive ways"

> "I don't ever want to retire. This is a lifestyle choice, not a job!"

> "For the first time someone in southern Asia can 'be local' in another country such as the UK, all without the need for any physical SIM or high cost mobile plan"

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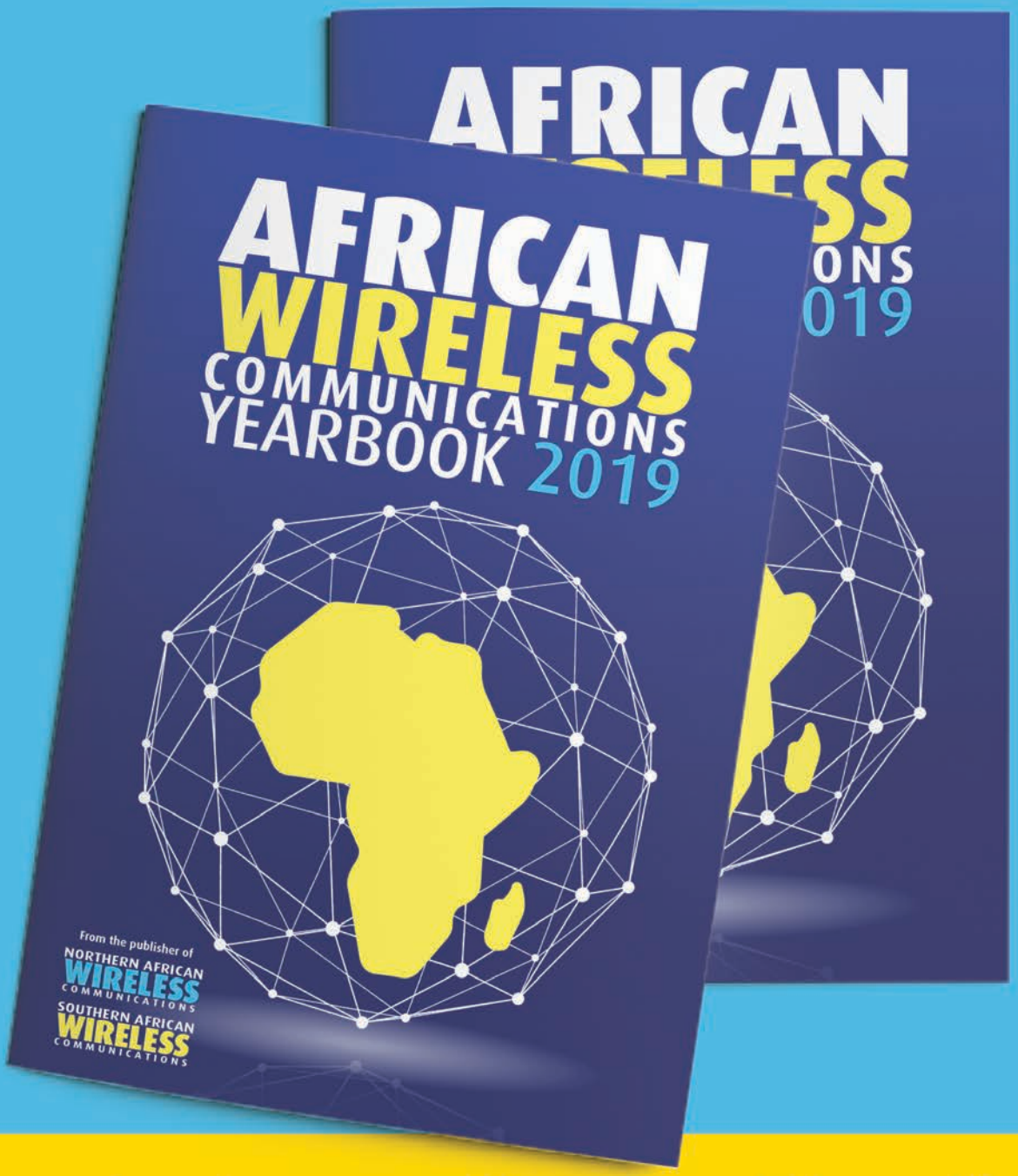

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