- **Mission critical: dealing with disaster**
- **Can mesh networks unleash Southern Asia's full potential?**
- **Making money with the right partner**

Nicholas Van Slyck
Senior Director, Africa and Asia
at SBA Communications

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Your Signal Starts Here.®

SBA Communications Corporation is a leading independent owner and operator of wireless communications infrastructure including towers, buildings, rooftops, distributed antenna systems (DAS) and small cells. With a portfolio of more than 36,000 communications sites in sixteen markets throughout the Americas, Africa and the Philippines, SBA is listed on NASDAQ under the symbol SBAC. Our organization is part of the S&P 500 and is one of the top Real Estate Investment Trusts (REITs) by market capitalization.

An industry leader with more than 30 years of experience and expertise, our commitment to Building Better Wireless® includes:

- Leasing antenna space on our multi-tenant towers and other structures to a variety of wireless service providers under long-term lease contracts.
- Assisting wireless service providers and operators in developing their own networks through site acquisition, zoning, construction and equipment installation.
- Working with property owners to strategically develop and monetize the wireless infrastructure potential of their real estate assets.

Meet Nicholas Van Slyck, Senior Director, Africa and Asia along with the SBA Communications team at TowerXchange Meetup Africa in Johannesburg, South Africa, which takes place October 11 to October 12, 2022.

Visit www.sbasite.com to find out more

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Cambodia to add 100 new towers in tourism hotspots

The Cambodian Ministry of Posts and Telecommunications has announced that it plans to spend US$10 million on 100 towers, which will be strategically located in areas of importance to the country's growing tourism sector. The project was developed according to instruction from prime minister Hun Sen.

The locations have already been identified in collaboration with the Ministry of Environment and Ministry of Tourism.

"We will continue to build more antennas to promote the remote areas to have mobile phone and internet services," said Chea Vandeth, minister of posts and telecommunications.

The ministry of posts and telecommunication has reported that the number of internet subscribers in Cambodia grew to 17.8 million as of August 2022, exceeding the country's population of 16 million. Some 17.48 million subscribed to the mobile internet service, and 312,233 to the fixed internet service.

"Internet surfing has increased in Cambodia, which contributes to the development of e-commerce," said Vandeth.

Teltronic to equip Delhi-Meerut RRTS with Mission Critical Services MCX

Alstom has selected Teltronic to supply and integrate the on-board equipment, radio terminals and control centre solution that will deliver Mission Critical Services MCX (MCPTT & MCData) for the Delhi to Meerut Regional Rapid Transit System (RRTS), a high-speed commuter rail that will, once construction is completed, link these two Indian cities via an 82km rail corridor.

This project demonstrates the validity of Teltronic's communication solutions over MCX (critical broadband communications applications and the infrastructure that supports them) defined by the 3GPP standard; a technology that will allow the line operator a smooth transition to FRMCS (Future Rail Mobile Communication System) in the future.

"This project is a clear demonstration that our solutions for railway environments comply with the 3GPP standard for MCX services," said Felipe Sanjuán, transport business development director. "Teltronic reaffirms its commitment to standards as a reference framework and after a clear target to R&D to evolve our solutions to the technologies of the future, we are proud that Alstom has selected us and that we can demonstrate that Teltronic will continue to play a key role in private communications."

Teltronic will provide its control centre solution, CeCoCo, with ten operator stations. The onboard communications management platform is based on 3GPP MCX and connected to third party MCX server. It incorporates a Geographic Information System (GIS) which enables real-time visualisation of the location of terminals and trains and will be integrated with the Train Management System. It will also allow communications with the public address and intercom systems.

Teltronic will also equip the trains with its on-board solution, which consists of an RTP-800 on-board unit in each cabin, RCC-3000 touchscreen control console and audio accessories that will be integrated with the public address and intercom systems on the train, and with the TCMS (Train Control & Management System). The Teltronic onboard units will be connected to the Alstom NetBox mobile router managing the train-to-ground connectivity for all services.

Teltronic will supply more than 600 LTE terminals, both desktops and rugged portable terminals that will be used by the line's operations and maintenance staff.

SKY Perfect JSAT utilises Satmotion from INTEGRASYS for Indonesian VSAT client

SKY Perfect JSAT has opted to use INTEGRASYS' Satmotion auto commissioning tool to complete cross polarisation isolation (CPI) tests for a VSAT network customer of JSAT in Indonesia. The customer, Lintasarta, focuses on connectivity for banking and financial institutions.

The Satmotion tool will ensure that the customer can use its satellite network in the most optimised way, while also complying with the service level agreement (SLA). For JSAT, Satmotion reduces workload for the company and its customer.

Satmotion works by simplifying the Lineup process as much as possible, ensuring that each transmission is free of interference, by measuring Copol and Xpol, and feeding back to the customer via a simple interface. INTEGRASYS has worked with the technical team to adapt the Satmotion tool for its specific requirements.

"By using Satmotion, it is possible to perform CPI test by our customer alone. Usually, CPI test is conducted through direct communication with operators by phone or chat," said Tomoaki Fujihara, network operations division, SKY Perfect JSAT. "For customers who own many VSAT, CPI test is performed frequently. And if operators are busy, they may keep customers waiting. Therefore, by using Satmotion, the customer conducts CPI test themselves, which allows the customer to test at any time they want and reduces our operator's workload.''
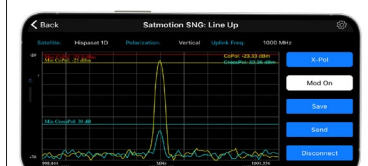
Aruba partners with Chunghwa Telecom to deliver managed services for enterprise

Aruba has partnered with Chunghwa Telecom Singapore to provide managed services for global enterprise customers, which will help them deploy modern networks with increased flexibility, agility and security as they expand overseas. With Aruba Managed Services, customers will be able to focus on developing core business while expanding into Indonesia, Singapore, Malaysia, Thailand, and Vietnam.

Taiwan launched its 'New Southbound Policy' back in 2016, which drove Taiwanese enterprises to make inroads in the southeast Asian market, however, turbulent market mechanics and the COVID-19 pandemic have increased the challenges in market expansion. Many companies have now adopted new ways to manage and maintain their network infrastructure, including integrating international leased lines with the internet, high-speed wireless workplaces, remote secure collaboration, and flexible payment solutions to drive business mobility.

"We offer one-stop services from edge to cloud to help enterprises expand their business," said Magic Hsu, director and general manager of growth and emerging markets and Taiwan at Aruba. "The COVID-19 pandemic has led to the increased popularity of managed services in Taiwan and ASEAN countries. Aruba continues to work with new partners to help enterprises strengthen

their continuous operations capability, thereby driving their business growth."

Aruba's integrated infrastructure can integrate software-defined network gateways, routers, controllers, and private virtual networks at different locations, including company headquarters, branches, and remote offices. IT staff can keep track of the operations of wired and wireless network devices on a single management platform anytime and anywhere.

Meanwhile, Chunghwa Telecom Singapore, Aruba's Managed Services Provider (MSP), offers fully hosted multinational network services for enterprises, and helps customers manage their overseas sites including transnational factories and data centres. The full

range of managed services provide customers with fast and efficient modern network management, which can be remotely adjusted and locally supported when issues arise, reducing overseas manpower and initial operating costs.

"Chunghwa Telecom Singapore is equipped with professional network design and management experiences," said Roger Liu, general manager of Chunghwa Telecom Singapore. "With Aruba's NaaS (Network as a Service) solution, we believe we can help our customers adapt to constantly evolving business needs and improve their productivity and business agility, thus creating new revenue sources for our customers and create a multi-win situation for our customers, partners and government."

Cinturion, Lightstorm sign TEAS cable India deal

Cinturion a global provider of scalable, subsea and terrestrial capacity-based network solutions has secured Lightstorm as its landing partner in India.

Under the terms of the deal, Cinturion's TEAS – Trans Europe Asia System, an 'open-access' submarine and terrestrial network, will be hosted by Lightstorm to strengthen connectivity between India, the Middle East and Europe. The latter will use its carrier-neutral and open CLS to herald a new era in the landing of submarine cable systems in India.

TEAS will seamlessly link two new connections across the Arabian and Mediterranean Seas and continue

with two paths interlinking the Middle East, with multiple routes across the Arabian Peninsula and a route through the Gulf of Aqaba and the Red Sea.

"We are extremely excited to partner with Lightstorm and deliver a network that will ensure secure, resilient, and redundant communications with our Open-Access Carrier-Neutral Solutions to further establish India as a hub for international connectivity," said Bill Marra, chief commercial officer, Cinturion.

Ranjan Banerjee, chief strategy officer, Lightstorm, added: "The growing data consumption and the digital aspirations of India demand

best-in-class digital infrastructure. Collaboration with Cinturion will not only contribute to this growth but will also bring diversity to the existing cable systems in the country. We look forward to a longstanding and fulfilling partnership with Cinturion."

Viettel selects Infinera to support 5G rollout across Vietnam

Viettel Network Corporation – member of Viettel Group, the largest telecommunications service provider in Vietnam – has selected Infinera's Optical Timing Channel 2.0 solution to prepare its synchronisation network for Viettel's 5G pilot rollout.

The latter's technology enables Viettel to seamlessly build a network that offers 5G services with ease, high resiliency and high performance across its distribution network, Infinera said.

As Viettel Networks modernises its network for 5G, improving synchronisation distribution performance is critical to providing improved network performance and customer experience.

Infinera's OTC2.0 is a standalone synchronisation technology that can be deployed across virtually all DWDM networks from any vendor to ensure timing and synchronization of cell towers is seamless and meets the demanding performance criteria required by 5G applications even in challenging fibre environments. Viettel said it selected Infinera's OTC2.0 solution for its superior performance and leading resiliency capabilities.

"Resilient and accurate synchronization performance enables us to fully utilize our most valuable asset, our spectrum," said Dao Xuan Tung, project leader of research and implementation of time/phase synchronisation system for 5G network at Viettel. "Infinera's OTC2.0 solution will enable us to deploy a comprehensive 5G network and deliver superior solutions to our customers."

Nick Walden, senior vice president of worldwide sales at Infinera, added that synchronisation requirements have become more stringent and more important for mobile operators like Viettel as they modernise their networks for 5G transport. "Infinera's synchronization capabilities enable both mobile network operators and wholesale carriers to deliver network-based synchronisation with industry-leading high performance and resiliency," he said.

Kacific wins major service awards

Kacific Broadband Satellites Group has been named as Most Accessible and Affordable Broadband Services Provider Singapore, as well as Best Broadband Satellite Operator Singapore 2022, at this year's World Business Outlook Awards.

Kacific has brought efficient and fast broadband to hard-to-reach communities and has been recognised for its success in delivering affordable, accessible, high-quality services and infrastructure throughout the Asia Pacific region. Through local partnerships, Kacific has connected more than 1,900 education institutions and more than 260 medical centres, as well as a large number of business, government and residential sites.

One of Kacific's most lauded services is the delivery of broadband via small, lightweight and easy-to-install VSAT terminals, which has helped eliminate the heavy investments required with alternative systems, making it easier for smaller ISPs and entrepreneurs to gain access to their local market.

"We are honoured to win two awards at the World Business Outlook Awards," said Christian Patouraux, CEO and founder, Kacific. "This is a great source of motivation for us to continue expanding our reach across the globe, connecting more unserved and underserved communities with our latest broadband technology. By focusing on accessibility, affordability and local support, Kacific will continue to bridge the digital divide, ensuring no one is left behind in the digital age."
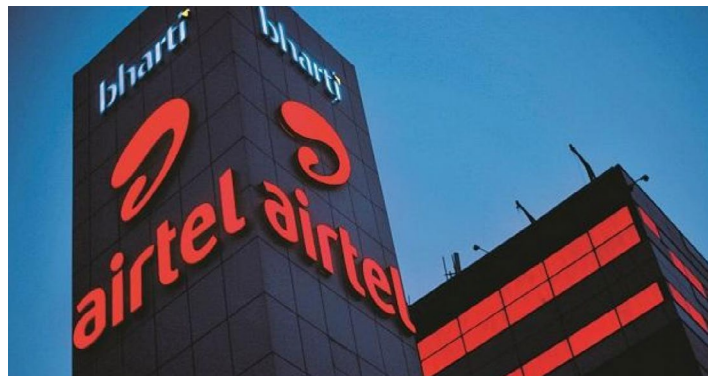
Bharti Airtel and IBM to deploy edge computing platform in India

Bharti Airtel and IBM have announced their intention to jointly deploy Airtel's edge computing platform in India, which will include 120 network data centres across 20 cities. Once deployed, the platform will enable large enterprises across multiple industries to securely accelerate innovative solutions that deliver new value to their clients and operations.

Airtel's edge computing platform, deployed as a hybrid environment based on IBM Cloud Satellite and Red Hat OpenShift®, extends secured and open cloud services wherever data resides. This can help improve business performance and customer experience by reducing latency. It also addresses data security and sovereignty requirements, which are vital as workloads increasingly shift to the edge.

The business value delivered by edge computing can be significantly enhanced when combined with 5G. In India, where 5G is expected to be rolled out later this year, it has the potential to create a cumulative economic impact of $1 trillion by 2035.

"As India gears up to experience 5G, we see a massive opportunity to help businesses across industries transform how they deliver goods and services," said Ganesh Lakshminarayanan, CEO – Enterprise, Airtel Business. "We have the largest network of edge data centres available in India under the Nxtra brand and we will leverage our work with IBM to help Indian businesses address their critical business needs with greater efficiency, making it significantly easier for companies to process workloads where their data resides."

IBM and Airtel Digital engineering teams will build use cases that leverage Airtel's 5G connectivity and IBM's hybrid cloud capabilities to address the pressing business issues faced by enterprise clients. Harnessing Airtel's 5G connectivity and highly secured edge computing capabilities from IBM can enable enterprises to deploy and manage workloads in near-real time. Industries including telecommunications, financial services, healthcare and government can benefit from reduced latency, high availability and increased connectivity speeds.

"As businesses – particularly those in regulated industries – work to modernize their infrastructures, they need to be able to do so in a way that enables them to stay compliant, without becoming overburdened by their compliance obligations - regardless of where their data resides," said Howard Boville, head of IBM Cloud Platform. "Teaming with Airtel to bring IBM's hybrid cloud offerings to their Indian multi-access edge compute customers will help them embrace the opportunities presented by 5G and edge, like innovating with greater speed and security."

irix enhances connectivity across Borneo and Sarawak

irix has unveiled its Batam-Sarawak Internet Cable System (BaSICS) and Tier IV Data Centre (DC), dubbed irix DC, a new development intended to enhance internet connectivity for residents of Borneo and Sarawak.

BaSICS is a subsea cable system linking Batam, Indonesia with Sarawak, landing at the irix DC. From there, terrestrial networks carry the improved internet service to all parts of Sarawak and Borneo, including Kalimantan. The irix DC is the first Tier IV designed and certified DC in Malaysia, and as such offers improved redundancies with no downtime.

The two new facilities form the first phase of the Sarawak International Internet Gateway, in line with the aspirations of the Sarawak state government's Digital Transformation Programme.

"We look forward to working with further partners in this industry, such as ISPs and mobile carriers, to utilize our infrastructure and are actively working to establish additional partnerships and collaborations for further expansion of our networks," said PP Telecommunication's CEO, Jonathan Smith.

Commenting on Sarawak's plan for improved internet access, minister of Sarawak's Utility and Telecommunication Datuk Julaihi Narawi, said: "The roadmap is laid out in our Post-COVID Development Strategy 2030, which outlines seven strategic thrusts to accelerate economic development, including accelerating digital adoption and data utilization to generate outcomes."

Globe's heavy investment delivers market-leading mobile network

Addressing the growing connectivity demands and increasing digitalisation in the Philippines, Globe has installed 572 new cell towers and upgraded approximately 6,800 mobile sites to 4G LTE in the first half of 2022. It remains on track to end the year with 1,700 new cell sites compared with 1,407 in 2021.

As of the end of June, Globe has spent 56% or P50.6 billion of its P89 billion capital expenditure allocation for 2022.

"Our network rollout momentum continues, and it is faster," said Joel Agustin, SVP and head of network planning and engineering at Globe. "We accomplished about 70% more than in the same period last year. We are very positive that we can set a new build record this 2022."

Globe's strong network expansion complies with its support for the UN's Sustainable Development Goals, including UN SDG No. 9, which highlights the important role that infrastructure and innovation play as drivers of economic growth and development.

Globe's extensive expansion and heavy investment has already started to pay off, being recognised by global analytics firms. According to Ookla's Speedtest Intelligence data, Globe achieved the highest Consistency Score of 79.44, as well as a Most Available All Technology score of 93.11.

According to Agustin, these metrics have earned Globe recognition as the Philippines' most reliable mobile network: "All our efforts are not only aimed to elevate the standard of connectivity within the Philippines, but equally important, this continued drive will deliver a consistent level of quality," he said.

India offers Indigenous 5G Test Bed free of charge to start-ups and MSMEs

The Government of India has decided to offer the use of the Indigenous 5G Test Bed free, of charge to government-recognised start-ups and MSMEs up until January 2023, with the aim of boosting the 5G ecosystem within India, and to achieve the objectives of Aatmanirbhar Bharat and Make in India initiatives. The test bed will be available at a nominal rate to all other stakeholders.

The Department of Telecommunications has urged all 5G stakeholders to utilise the test bed facilities and expertise in order to facilitate the rapid development and deployment of their products on the network. Industry, service providers, academia, R&D institutions, government bodies and equipment manufacturer stakeholders are all expected to participate.

The development of the Indigenous 5G Test Bed is a milestone for India en route to becoming self-reliant in the 5G arena. Development of the test bed began in 2018 as a multi-institute collaborative project after the Department of Telecommunications approved a grant for 5G deployment. The Indigenous 5G Test Bed was developed at a final cost of Rs 224 crore by eight collaborating companies: IIT (Indian Institute of Technology) Madras, IIT Delhi, IIT Hyderabad, IIT Bombay, IIT Kanpur, IISc Bangalore, Society for Applied Microwave Electronics Engineering & Research (SAMEER) and Centre of Excellence in Wireless Technology (CEWiT).

The Indigenous 5G Test Bed enables R&D teams of academia and industry to validate their products, prototypes and algorithms, and demonstrate various services. The test bed, which complies with the global 3GPP standard and the ORAN standard, offers access for research teams to work on novel concepts holding potential for standardisation both in India and globally. It provides the facilities of 5G networks for demonstrating applications of importance to India like rural broadband, smart city applications and intelligent transport systems.

M1 to launch offshore 5G coverage for Singapore's southern coast

M1 has announced plans for an ambitious multi-year project to deliver ubiquitous 5G standalone (SA) offshore coverage along the southern coast of Singapore, including the waters surrounding the southern islands.

The Maritime and Port Authority of Singapore (MPA), and the Infocomm Media Development Authority (IMDA) will work in collaboration with, and co-fund, the project.

"The launch of M1's 5G standalone network provides low-latency, responsive, secured and high-throughput mobile connectivity to ensure more precise and reliable communications between the ships and the port," said Manjot Singh Mann, CEO of M1. "5G has the capability to resolve long-standing pain points and it will become the natural technology of choice for the maritime industry. As the first country to extend 5G standalone coverage to sea for maritime operations, M1 is excited to partner MPA and IMDA to co-develop 5G solutions that will not only transform the industry but benefit the whole of Singapore's maritime economy."

The 5G SA network is expected to enable new maritime 5G use cases under the IMDA Innovation and Ecosystem Testbed Programme and the MPA Innovation Lab, making this project the world's first public and biggest maritime testbed at sea. Potential new use cases being targeted include telemedicine for crew welfare at sea, delivery drones, maritime surveillance, autonomous vessels, and remotely controlled task-based robots use for dangerous and labour-intensive tasks such as ship inspection and fire-fighting robots.

Vodafone partners with Kacific for mobile backhaul in PNG

Kacific Broadband Satellites Group has partnered with Vodafone PNG to deploy Kacific's mobile backhaul services, expanding Vodafone PNG's voice and 3G/4G data network into rural parts of Papua New Guinea (PNG).

Launching earlier this year, Vodafone PNG has committed to wholesale bandwidth delivered by Kacific's high-speed Ka-band satellite, Kacific1. The cost-effective mobile backhaul bandwidth will primarily be used for voice and data and will serve both enterprise and residential users.

"Kacific and Vodafone PNG see huge potential for growth in Papua New Guinea, as well as a genuine thirst from the country's citizens for affordable and reliable mobile and data services. Together we aim to disrupt the market in a way that brings more choice and better connectivity to everyday people," said Brandon Seir, COO, Kacific. "There is real potential for satellite-based communication services to help Papua New Guinea increase access to communications services from 10 percent (in 2009) to 100 percent of the population – a goal of the nation's strategic development plan, Vision 2050."

PNG has some 9 million inhabitants using more than 3.3 million mobile connections, leading to a mobile penetration of 36%. 3G coverage currently reaches around 73% of the population, according to recent reports. The majority of the population are located in remote and rural areas, rendering satellite a practical connectivity tool for the region.

"In every market, we aim to be the best. With Kacific, Vodafone can provide the best coverage and increase local people's access to reliable, high-speed voice and data services." says Nirmal Singh, managing director, Vodafone PNG. "Kacific satellite services vastly reduce the cost and complexity of remote terminal installation, allowing Vodafone to rapidly deploy our network across the nation, including to the underserved rural areas. Together we are providing greater access on a large scale, helping increase Papua New Guinea's basic infrastructure in order to grow and prosper."

Motorola Solutions celebrates 50 years in Malaysia

Motorola Solutions is this year celebrating its 50th anniversary in Malaysia. The company has grown from a small semiconductor operation in 1972 to a leading supplier of mission-critical technologies enabling public safety and enterprise security today.

Enterprise organisations like MRT Corporation use Motorola Solutions' video security and mission critical voice and data solutions. During the COVID-19 pandemic, MRT established new ways to utilise these solutions across its trains to prevent virus transmission, while keeping daily services running safely and reliably.

Meanwhile, Royal Malaysia Police and other public safety agencies depend on a combination of Motorola Solutions' mission critical voice communication and video systems, and its integrated computer-aided dispatch, video

management, command and control centre dispatch solutions for faster emergency response and enhanced incident awareness.

"As we look to the future, Motorola Solutions Malaysia will continue to provide even greater integration across its mission-critical ecosystem of voice communication, video security and software technologies to enable the public safety and enterprise security sectors to reach

unrivalled levels of safety, security and performance," said Solomon Lorthu, vice president of Motorola Solutions' Penang operations.

The Motorola Solutions Foundation has donated US$725,000 to various Malaysian charities in the last five years to help cultivate the next generation of engineers and inventors, while promoting diversity and equitable access within the technology and engineering fields.

Digital Edge commences work on 23MW data centre in Jakarta

Digital Edge (Singapore) Holdings Pte. Lts. has commenced construction of a 23MW data centre in Jakarta, Indonesia. The data centre, dubbed EDGE2, will be operated by PT. Ekagrata Data Gemilang (EDGE DC).

"The growth opportunities in southeast Asia are vast and our presence in Indonesia plays an important role in our mission to bridge the digital divide in these high growth markets," said Samuel Lee, Chief Executive Officer at Digital Edge.

EDGE2, Digital Edge's third data

centre in the region, will feature 3,430 cabinets and is designed to meet the growing demand for high power density applications from local and international network providers, cloud-driven hyperscale deployments, and financial service providers. The data centre is due for completion in the fourth quarter of 2023.

EDGE2 will become a part of the virtual campus with EDGE1, which sits less than 3km away, and customers will be able to take advantage of the network density and internet exchanges already present in

EDGE1 from the outset. The new data centre incorporates green design principles to reduce its carbon footprint, in line with Digital Edge's Environmental, Social & Governance (ESG) strategy. The facility has a design annualized PUE of 1.27 and will leverage Nortek's StatePoint® liquid cooling technology, making it the most energy efficient data centre in the Jakarta metro. It will also utilize renewable energy solutions similar to the Renewable Energy Certificate which the EDGE1 facility recently received.

DNB to deploy new energy-efficient radio in Malaysia

Ericsson has announced that Digital Nasional Berhad (DNB) will be the first operator in Asia to deploy a new breed of radio equipment which, it claims, cuts operating costs by delivering better energy efficiency.

The Air 3268 for mid-band 5G networks is reportedly the lightest and smallest Massive MIMO radio in the industry. Weighing in at 12kg, each unit is 40% lighter than the earlier generation, and 18% more efficient. The equipment utilises the Ericsson

Silicon system-on-a-chip set-up to deliver real-time channel estimation and precise beamforming, which will improve coverage as well as the user experience.

This latest news comes after DNB and Ericsson successfully demonstrated a 5G Voice over New Radio (VoNR) call for the first time over a live 5G network, back in June. VoNR uses DNB's 5G network architecture to deliver a high-definition, audio-video experience thanks to ultrafast 5G

speeds throughout the duration of the calls. VoNR is also expected to generate new revenue opportunities among MNOs with ready 5G Cores.

"5G VoNR calls are a basic capability needed for future Standalone New Radio (SA NR) 5G deployments and will allow innovative services to be offered in the market," said David Hägerbro, head of Ericsson Malaysia, Sri Lanka & Bangladesh. "This is another milestone as we work with DNB to deliver a world class network for Malaysians to enjoy."

HCI launches first HTS broadband service across India

Hughes Communications India Private Limited (HCI) has announced the commercial launch of India's first high throughput satellite (HTS) broadband service.

The HTS broadband service delivers high-speed broadband across the country, including in remote areas beyond the reach of terrestrial networks. It supports applications including Wi-Fi hotspots for community internet access, backhaul to extend mobile reach, managed SD-WAN solutions, as well as satellite internet for small businesses.

The service combines Ku-band capacity from the Indian Space Research Organization's (ISRO's) GSAT-11 and GSAT-29 satellites with Hughes JUPITER Platform ground technology.

"With support from ISRO, we are happy to announce the commercial launch of India's first HTS broadband service. Available countrywide, HTS broadband from Hughes underscores our long-standing commitment to bridging the digital divide, delivering multi-megabit high-speed broadband at affordable rates," said Partho Banerjee, president and managing director, HCI. "This new broadband service will address connectivity gaps, improve network performance, and support the high bandwidth requirements of government organisations, financial companies, cellular operators, mining and energy companies, among other businesses, large and small, helping to connect India to a limitless future."

"Thanks to the continuous efforts by the Government of India, there is growing optimism and excitement about enhancing public-private partnership in India's space ecosystem. At ISRO we are committed to exploring and expanding the ways we can work with the private sector to help improve people's lives and bridge the digital divide," said S Somnath, secretary, Department of Space, and chairman, Indian Space Research Organization. "With the new HTS capabilities powered by ISRO satellites, we are confident that HCI will continue to deliver excellent quality satellite broadband services and further enhance the connectivity experience that accelerates India's digital transformation."

Singtel and Intel to launch 5G MEC incubator

Singtel and Intel have agreed to collaborate to establish a 5G Multi-access Edge Compute (MEC) incubator that will allow enterprises to adopt 5G seamlessly, deploy applications that need low latency processing at the edge, drive innovation and accelerate their digital transformation.

The collaboration will focus on developing the application and ecosystems to deliver transformational enterprise and consumer use cases like high-definition content delivery, video analytics, cloud gaming, virtual-augmented-mixed reality and metaverse. The incubator will be powered by Intel's 4th Gen Xeon Scalable processors and Intel Data Center GPU, dubbed Ponte Vecchio, and supported by Singtel's Paragon, a one-stop orchestration platform for 5G edge computing and cloud services, which will simplify the adoption of 5G services for enterprises.

Enterprises can use the incubator to deliver 5G use cases, including ready-to-deploy applications for rapid trials and proof of concepts for research and development. One of the first successful trials on the platform is a content delivery solution. Other ongoing trials include a video analytics AI solution in collaboration with Axis Communications, energy-saving technology developed by Quanta that enables a more sustainable MEC platform for enterprises, and a mixed reality usage solution for real-time workspace collaboration with HTC.

"Singtel's 5G network and Paragon MEC platform are transforming operations in sectors such as advanced manufacturing, smart logistics, healthcare, retail, transportation and urban planning," said Bill Chang, CEO, group enterprise and regional data centre business, Singtel.

"As enterprises navigate a significant digital transformation, technologies like 5G, edge, artificial intelligence (AI) and cloud play a key role in helping to deliver new use cases," said Christoph Schell, executive VP and chief commercial officer at Intel. "Our collaboration with Singtel will help accelerate use of these technologies to solve real business challenges, by utilising our unique combination of hardware and software spanning Xeon, GPUs, Smart Edge, OpenVINO and more, and also a broad portfolio of ecosystem innovations."

Talking critical

Paul Ward, director, ETELM

The mission critical comms revolution

Private 4G/5G communications offers an exciting opportunity for mission critical users – the move towards high-speed broadband services will enable new, advanced applications and offer significant operational improvements for users. However, there will still be a demand for traditional PMR technologies….so can the industry gain more than just the improvement in data services?

TETRA is still the most advanced digital trunked communications system for mission critical users today and sets the standard for voice and group communications but will never be able to offer the high-speed data services that are essential for today's critical workers. As organisations look towards the next generation mobile communications, there is an opportunity to reflect on how different technologies can continue to be viable for users.

Traditional narrowband PMR technologies will be required well into the future….issues of affordability, spectrum availability, cell coverage and re-use of existing subscriber equipment are all likely to be factors. We believe that a hybrid approach to technologies is the ideal solution to allow users the best choice; and a fully integrated, single network solution will always be a better solution than gateways to separate networks.

The TETRA standard was developed over 20 years ago, and one of the major benefits was the interoperability between subscribers from different manufacturers, however the lack of interoperability at the infrastructure level was (and still is) a frustration for clients. This was not an issue in the consumer 4G market as 3GPP standards allow all LTE eNodeBs to co-exist on the standard LTE Core. As a TETRA vendor, users regularly ask if our base stations can be used to extend an existing system (from a different manufacturer) – sadly the lack of an open networking standard adopted by all manufacturers, meant that full interconnectivity was not possible (apart from using a basic gateway interface)…this proprietary issue created difficulties for users, particularly where security is at stake. The ability to seamlessly select from a range of different vendors, and different technologies on the same core network is an ideal approach.

Recent global emergencies should focus mission critical users on the importance of fast, secure communications and the ability to rapidly deploy the most appropriate technology for any situation and in any geographic area is essential. A perfect example is where ETELM working with B-LIFE deployed a system combining both TETRA and 4G for COVID emergencies in Italy.

The B-LIFE project required a rapidly deployable health laboratory to effectively respond to emergency public health issues – this is particularly pertinent to COVID but also for co-ordinating vaccination programmes, and for outbreaks of other viruses such as ebola, where dealing with any isolated outbreak is critical to avoid the spread and save lives. A similar solution is also adapted for emergency services and military applications whereby the user can benefit from secure TETRA voice communications deployed instantly in the field, with advanced mobile applications linked to command centres obtaining important data and making assessments in real-time. This solution is often based on single cell systems, where 4G (and 5G) has limited coverage, so having TETRA for voice communication and a '4G Bubble' for broadband data services, connected to the central monitoring systems gives the benefit of both technologies.

As an industry supplying highly secure, national infrastructure we must collectively work towards a future where our customers are given the option to select the most suitable technology (or combination of technologies) and not left in a position where they are locked-in to a supplier or service, and we have a responsibility to ensure migration paths are more seamless and less complex than they currently are today. The 3GPP model is perfect in this respect.

If one assumes that the demand for PMR technologies will continue (even in the 'next-G' world!), it is essential that vendors look at offering an equivalent fully integrated, single network solution for users. There is no technical reason why several different technologies cannot inter-operate on the same core network, this will reduce the costs and increase the options for users, and simplify the architecture by avoiding gateways and separate interfaces. ETELM's 4GLinked is a trailblazer in this regard as its TETRA base station can co-exist with eNodeB's on the LTE core network….so how can we take this opportunity to revolutionise how vendors of different technologies co-operate in the future?

The technical solution is possible, and lessons can be learnt from the network standards established by 3GPP for the mobile consumer market – the 4G and 5G Core network is internationally standardised and all base stations from different vendors inter-operate on the same network. This gives operators the ability to select suppliers based on a competitive market, and the ability to switch suppliers quickly should the need arise. This competitive approach has been a major factor in the rapid rate of deployment and technology advances in the consumer communications market.

An opportunity now exists for manufacturers of all standard PMR technologies to adopt the same approach and develop their technology into the 3GPP standards for core networking – LTE Core, 5G NR…. this could create a single eco-system for all mobile communications and allow users to select and mix technologies based on cost, service and user requirements. 4GLinked TETRA base stations adopt this approach as they can connect directly to any LTE Core network in the same way as any LTE eNodeB, by utilising the LTE-S1 connectivity standard. This allows our TETRA system to be deployed over the same, single network core solution alongside 4G and future 5G base stations. The solution has been tested at 3GPP Plug tests and already deployed in many different scenarios for emergency services.

As the 3GPP networking standards for 4G and 5G are open, any vendor can develop the same solution into their base stations meaning that we can all benefit from the advances in core networking and allow inter-system and inter-technology solutions over a single core. The technology is available but commercial issues need to be overcome – this is where users can influence vendors and ensure that they never find themselves locked-in to proprietary networks.

Once technology becomes interoperable the next challenge for large national networks is how to deploy their service – privately owned or operator managed? The choices are available, and certainly operators will have a large part to play since they already have much of the national infrastructure established. However, once again users must ensure that there is a competitive environment – there is no point in having open standards in technology, if users are forced into single sourced managed services….so it is important to ensure that options exist with other operators so that services remain competitive – again a challenge for highly secure networks and one that needs to be carefully managed.

Sepura Recruits International Sales Lead to Grow Global Business

Sepura has appointed Derek Brooks as International Business Development Manager. His role will be to engage with potential and existing partners with the aim of growing Sepura's share of the global critical communications market.

Derek has a background in international business development, having previously worked in global sales and marketing roles with Tyco, Eaton MEDC, NesscoInvsat and TransTel Engineering. Within these roles he worked with major international system integrators to deploy complex telecoms networks into oil and gas refineries, petro-chemical plants and other critical national infrastructure organisations.

Having studied electronic engineering and design, Derek has the technical background to match Sepura's extensive range of products to users' needs. On joining the Cambridge-based manufacturer, Derek said: "I am delighted to take on this role with such a trusted supplier to the industry. Sepura has a strong relationship with its partners, working with them to drive growth wherever opportunities exist, and I look forward to working with our teams to further this."

Alongside the recent appointment of Rob Merrick to grow the company's sales of broadband products, the addition of Derek to Sepura's sales team will help support critical communications users deploy powerful, flexible Sepura solutions.

Terence Ledger, Worldwide Sales Director at Sepura, said: "We are really pleased to have added Derek's experience to our global sales team. The sale of Sepura to Epiris has allowed us to look at markets that we know are significant areas of growth for critical communications. This includes new metros, airports and other transport infrastructure, utilities and oil and gas plants and of course with our core market in public safety.

"Derek will be crucial to building relationships with partners in these regions and growing our customer base around the world."

Steve Barber, CEO at Sepura, added: "It is an exciting time at Sepura under our new owners, Epiris. Our potential for growth in international markets has been transformed, underpinned by significant investment in new technologies, enhancing our market leading product portfolio. The addition of key sales leads such as Derek is crucial to our strategy in these regions, and we look forward to making further additions to our global sales team moving forwards." ■

Derek Brooks has joined Sepura to lead sales efforts in international markets.

ABOUT SEPURA

Sepura is a recognised global leader in the development and supply of radio terminals, accessories and applications for mission-critical and business-critical communications. Based in the UK's Cambridge technology hub, Sepura provides local support through its global footprint, and is a trusted partner to public safety users and commercial customers in the professional mobile radio (PMR) market. Sepura's comprehensive solutions for critical communications enable customers to address the demanding operational challenges they face.

For more information, please visit www.sepura.com

Sepura has sold over 3 million devices to public safety, transport and utilities organisations around the world since its founding in 2002.

Vodafone agrees Indus Towers merger

Vodafone Group has agreed with Bharti Airtel and Vodafone Idea to proceed with the completion of the merger of Indus Towers and Bharti Infratel.

It is expected that Vodafone will be issued with 760 million new shares in the combined company at closing in exchange for its 42% shareholding, on the basis that Providence Equity Partners has opted to receive shares in the combined company in respect of its 4.85% shareholding in Indus Towers, and that Vodafone Idea has elected to sell its full 11.15% shareholding in Indus Towers for cash. The shares issued to Vodafone would be equivalent to 28.2% in the combined company. Bharti Airtel's shareholding in Bharti Infratel would be diluted from 53.5% to 36.7%. Bharti Airtel and Vodafone will jointly control the combined company.

At the current market valuation, Vodafone's stake in the combined company would be valued at around INR 151 billion, and Vodafone IDEA would receive some INR 40 billion in cash upon completion. The final number of shares issued to Vodafone and Providence, as well as the cash paid to Vodafone Idea, will be based on agreed closing adjustments, including but not limited to movements in net debt and working capital for Bharti Infratel and Indus Towers up to closing.

Telkomsel sells 6,000 more towers to Mitratel

PT Telekomunikasi Selular (Telkomsel) has announced its third tower sale in three years, this time of 6,000 towers for an undisclosed price, to PT Dayamitra Telekomunikasi Mitratel.

This follows the 2020 sale of 6,050 towers for US$700 million, and the 2021 sale of 4,000 towers for US$436 million. Since 2020, Telkomsel has sold 16,050 towers to Mitratel.

Under the terms of the deal, Mitratel will implement Telkomsel's IoT and Data Analytic services to provide real time telecommunication tower operational management and proactive power consumption optimisation.

"The ownership diversion of 6,000 telecommunication towers can be our main capital for market expansion and to support the acceleration of 5G implementation in Indonesia, increase Mitratel's production equipment, and strengthen Mitratel's position as the biggest tower provider in Indonesia and one of the largest in southeast Asia," said Mitratel CEO Theodorus Ardi Hartoko. "Along with the transaction, we also agreed to explore tower ecosystem business with Telkomsel by utilising Internet of Things (IoT) to support service operation and business expansion that encompasses green energy service and other new ecosystem tower business."
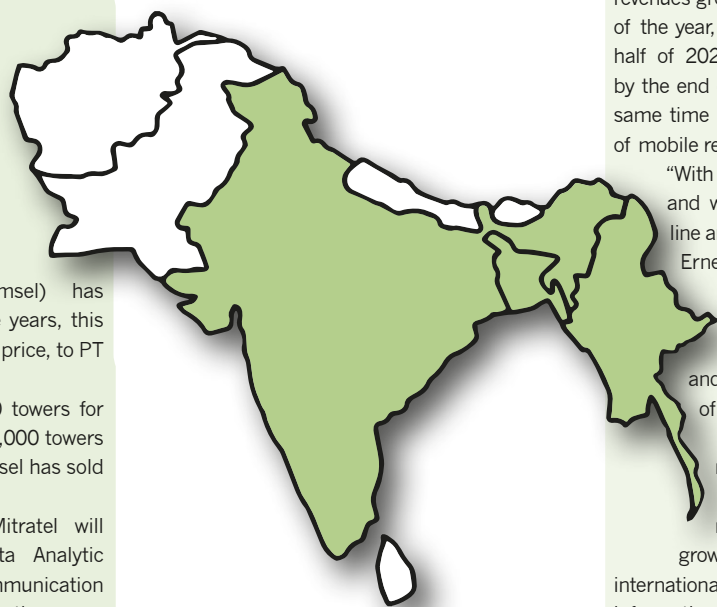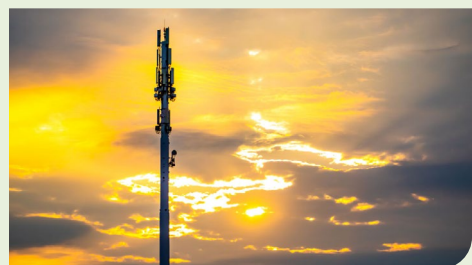
Globe reports record-breaking P40 billion quarterly revenues

Globe has reported a new record quarterly revenue of almost P40 billion, fuelled by the contribution of data-related products and services across mobile and corporate data, and supplemented by the performance of non-telco services.

The strong quarter boosted the year's first half consolidated service revenues to an all-time-high of P78.9 billion, up 4% year on year. Total data revenues also grew to 81% from 79% in the same period last year. Accelerated digital adoption saw mobile data revenues grow by 8% to P41.8 billion in the first half of the year, compared with P38.6 billion in the first half of 2021. Mobile data traffic grew to 2,177PB by the end of June, compared with 1,761PB at the same time in 2021. Mobile data accounts for 77% of mobile revenues, up from 73% this time last year.

"With digitalisation, data use is growing rapidly and we already see it impacting our bottom line and shaping the way we do business," said Ernest Cu, Globe president and CEO. "Data is bringing a lot of excitement within Globe. We will continue to improve our network and come up with new products and services to meet the changing needs of the market."

Globe's corporate data revenues reached an historic high of P8.2 billion, some 21% higher than the P6.7 billion reported in the first half of 2021. The growth has been attributed to increased international leased line services and growth in information and communications technology, largely from business application services, cloud solutions, and cybersecurity services.

ABS appoints new CEO

Amit Somani has been appointed as the new CEO of ABS, effective from 10 October 2022.

Amit brings more than 25 years of experience as an operational and strategic leader in the information and communications technology space and comes with valuable experience as a senior executive in the satellite communications sector.

"I am very excited to be joining the ABS team at this time," said Somani. "The company's diverse and wide-reaching portfolio of assets, spanning multiple technologies and markets, coupled with a highly capable team makes it a unique platform to capitalize on the opportunities in the rapidly evolving satellite communications industry."

Somani joins ABS following almost 13 years with Yahsat, where, as Chief Strategy Officer, he played a critical role in the company's expansion into several new businesses and geographies.

"Amit brings proven industry experience and strategic expertise to help us deliver innovative growth and value creation," said Parm Sandhu, Chairman of ABS. "The ABS Board warmly welcomes Amit who, with the support of the senior leadership team, is the ideal candidate to lead ABS into this next phase of its development."

NOW Telecom receives SEC approval for increase in authorised capital stock and quasi-reorganisation

NOW Telecom Company has been granted approval from the Philippines Securities and Exchange Commission (SEC) for the increase in its authorised capital stock, the quasi-reorganisation of its equity, as well as a stock split.

Following this approval, NOW Telecom has increased its authorised common shares from 14.59 million to 952.09 million and reduced its par value from Php100.00 to Php1.00 per share. Previously, stockholders of NOW Corp approved the increase of the company's stake in NOW Telecom for a total of Php600 million, part of the proceeds from the placement received from the equity subscription of Velarde, Inc. to NOW Corp. The additional subscription from NOW Corp and other shareholders supported the increase in the authorized capital stock of NOW Telecom.

Further, the SEC has also certified the approval of the equity restructuring to fully expunge NOW Telecom's deficit as of 31 December 2020. The quasi-reorganization has allowed NOW Telecom to eliminate its deficit, which will allow it to declare dividends to its shareholders from its unrestricted retained earnings that may be generated subsequent to the quasi-reorganization.

"This strategic initiative of NOW Tel is envisioned to support its growth plans. The three-step equity restructuring better positions NOW. Tel for investors both domestic and foreign to participate in its equity," said Rene Rosales, NOW Telecom president and COO. "With the amended Public Services Act allowing up to 100% foreign ownership in public utility companies and this recent approval from SEC, NOW Tel can now proceed in its growth plans starting with its fundraising efforts including but not limited to tapping either the debt market or equity market, or both."
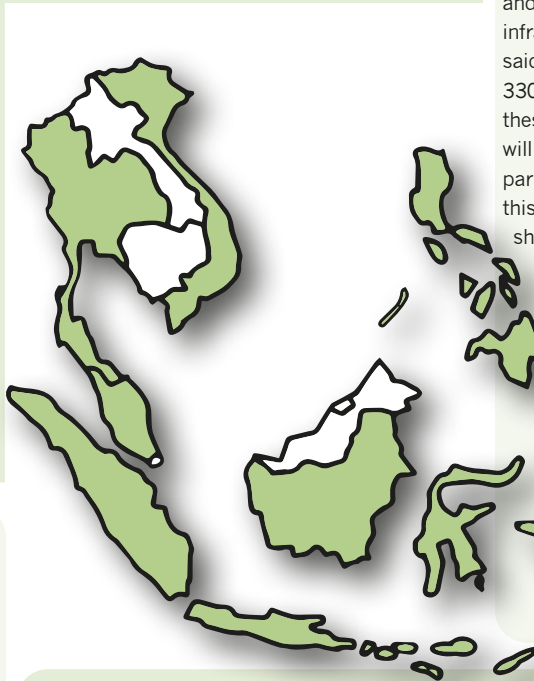
Bangalink agrees tower sharing initiative with BTCL

Bangalink has reached an agreement with Bangladesh Telecommunications Company Limited (BTCL) for a tower sharing initiative.

As part of the agreement, BTCL will share its tower infrastructures with Banglalink. The initiative will enhance Banglalink's quality of services further by supporting its 4G expansion, ensuring energy-efficient operations and optimising the use of Bangladesh's national resources.

"We always welcome network sharing opportunities to serve our customers better and ensure proper utilization of resources and infrastructures," said Erik Aas, CEO, Banglalink said. "In the last year, we have added more than 3300 4G base stations to our network; many of these are based on shared infrastructure. We will continue to expand the network, and our partnership with BTCL will give a fresh impetus to this endeavour. We are looking forward to further sharing opportunities of passive and active telecom infrastructure in the future."

"We are happy to enter into this partnership with Banglalink. Since last year, we have been sharing our fibers with Banglalink, achieving positive results for us both," said Dr Md. Rafiqul Matin, managing director, BTCL. "As a country, we have reached an impasse where infrastructure sharing can be an effective way to tackle national and global challenges. This initiative is an example of how two organizations can benefit from partnering."

BSNL to sell more than 10,000 towers

Bharat Sanchar Nigam Limited (BSNL) has begun the process of selling more than 10,000 mobile towers, which have an estimated value of Rs 4,000 crore. KPMG has been appointed to administer the sale, which comes as part of the central government's national monetisation pipeline (MNP).

The towers up for sale have co-location agreements with other telecom service providers, including Bharti Airtel and Reliance Jio. BSNL has more than 68,000 telecom towers, more than 70 percent of which are fiberised and ready for the deployment of 4G networks.

Local reports indicate that Indus Towers and Data Infrastructure are expected to make purchases.

In line with the MNP, BSNL is expected to sell a total of 13,567 towers by 2025. Similarly, MTNL is expected to sell 1,350 towers in Mumbai and Delhi. This is expected to prove helpful for private companies looking to create more infrastructure for the rollout of 5G.

Centratama appoints Arief Mustain as independent commissioner

PT Centratama Telekomunikasi Indonesia, Tbk has appointed Arief Mustain as an independent commissioner on its board of directors. Mustain will be part of a five-fold person board of commissioners supervising Centratama's board of directors in the day-to-day management and operations of the company.

"We warmly welcome Bapak Arief Mustain to the Board of Commissioners," said Ronald Waas, President Commissioner of the Board of Commissioners at Centratama. "As the Board of Directors strive to achieve Centratama's goals, his addition to the Board of Commissioners will further guide their success. We are confident that Arief's career experience across telco and broadband operations and infrastructure will help in further strengthening the company's position as the third largest independent towerco in Indonesia."

Before joining Centratama, Mustain most recently acted as director and chief strategy and innovation officer at PT Indosat, Tbk. He has more than three decades of experience in the telecommunications industry, including more than 20 years in telco service and operations, five years in broadband infrastructure strategy and deployment, and five years in digital telco strategy and innovation.

CITIC reports 7.1% increase in profit in H1 2022

CITIC Telecom International Holdings Limited has reported a profit attributable to equity shareholders of HK$572 million for the six months of the year ending 30 June 2022, a 7.1% year-on-year increase, or 7.6% if the effect of investment property valuation is excluded.

Revenues from its primary telecommunications services business grew by 10% year-on-year to HK$4,393 million, while total revenues grew by 3.8% year-on-year to HK$4,977 million. Basic earnings per share grew by 6.9% to HK15.5 cents, and the board declared an interim dividend of HK6.0 cents per share, up 9.1% year-on-year.

"During the first half of 2022, against the manifold challenges posed by complicated and austere international situations and the impact of the pandemic, staff members of the company strived forward against adverse conditions in a united effort with confidence and diligence in fulfilment of its mission," said XIN Yue Jiang, chairman of CITIC Telecom. "We seized opportunities for development with an unwavering focus to explore new markets, businesses and customers with our full force. Meanwhile, the Group has continued to enhance its technological innovation and our technology and innovation regime has been fortified with an increase in R&D investment. The Group has enhanced its platform capability, broadened its scope of service as we took our overall corporate development to a new height and reported yet again record-high operating results."

Indus Towers CEO resigns

Bimal Dayal, managing director (MD) and CEO of Indus Towers, has resigned from his posts, with approval from the board, to pursue opportunities outside of the company.

Dayal worked at Indus Towers for 12 years, including six years as COO and six years as MD and CEO.

"It has been a nostalgic journey with the milestones of Deming Prize, Great place to work and an impeccable merger, to count a few," said Dayal. "What I am leaving behind is a very stable and performing company with a great talent pool. I look forward to my next engagement with enthusiasm."

"Mr Dayal led this company through the tough times of the last five years wherein the company braved the consolidation in the industry, the unknown of COVID, the difficult phase of AGR issue and culminated an impeccable merger between the company and erstwhile Indus Towers Limited," said N Kumar, chairman, Indus Towers.

Malaysia to sell 70% stake in DNB by end of September

The Malaysian government plans to sell 70% of its stake in 5G agency Digital Nasional Berhad (DNB) by the end of the month, after two mobile operators dropped out of talks on the equity sale in early September.

Maxis Bhd and U Mobile declined to take up stakes in DNB, disrupting the government's plan to sign agreements with other operators. The country's government had wanted six of the country's mobile operators to agree on taking a combined 70% stake in DNB following months of talks. The Maxis Bhd and U Mobile withdrawal is expected to delay Malaysia's 5G commercial rollout, as the remaining four companies must now consult with management on adjusting their own stakes in DNB. Some shares may now be sold to foreign players instead.

In spite of the delay, DNB remains on target to achieve 80% 5G penetration in populated areas by 2024. However, the country's plans have been repeatedly delayed since 2021 amid an impasse between DNB and major carriers over pricing and transparency, including concern that a single state-run network could result in a nationalised monopoly. DNB has reportedly said that the country's communications regulator will adopt stringent public guidelines to ensure fair pricing and a smooth roll-out.

Globe agrees sale of 7,000 towers

Globe has agreed to the sale and leaseback transactions of 7,000 towers with Frontier Tower Associates and MIESCOR Infrastructure Development Corporation (MIDC).

Frontier Tower Associates has successfully acquired 3,539 towers for US$810 million and has signed an agreement to secure Globe access to the towers for an initial fifteen-year period. Meanwhile, MIDC has acquired 2,180 towers for US$468 million and signed a leaseback agreement, also for fifteen years. Additionally, Globe has committed to MIDC to build an extra 750 towers in four years.

Globe is also reported to be in advanced talks with a third party for a further 1,350 tower sales.

Robi Axiata's former CEO files "wrongful dismissal" lawsuit

Mahtab Uddin Ahmed, former CEO of Robi Axiata, has filed a lawsuit seeking US$25 million in lost benefits and compensation for what he claims was "wrongful dismissal." This is the first case of a top executive embarking on a legal battle with such a large company in Bangladesh.

Local reports suggest that Ahmed was one of the most dynamic and successful CEOs in the country. In 2021, he decided not to renew his tenure with Robi Axiata once his contract ended in October 2021. The board of directors accepted his resignation but then started an internal investigation exploring his time as CEO. After nine months, the board fired Ahmed retrospectively based on accounting anomalies. Ahmed's lawyer has claimed that this move will not only ruin his career, but also stop him from receiving retirement benefits from Robi Axiata.

"Imagine your executive career of 31 years destroyed by a corporate vendetta," Ahmed wrote in a public statement on his Facebook page. "You are not given your agreed contractual bonuses, shares and retirement benefit -- instead, your reputation is tarnished and defamed by the rumours that swirl in our corporate world."

The first hearing is expected at the end of September.

Singtel to unlock S$2.25 billion with 3.3% Airtel stake sale

Singtel's wholly owned subsidiaries have entered into a share purchase agreement to sell a 3.3% direct stake in Airtel to Bharti Telecom by 23 November 2022.

The sale will unlock approximately S$2.25 billion as part of Singtel Group's capital recycling strategy. This move is expected to achieve approximately S$0.6 billion in net gain on divestment for Singtel.

The decision follows several recent capital management initiatives to rebalance and optimise Singtel's associates portfolio, including an increase in stake in Intouch Holdings, the parent company of Singtel's regional associate AIS, and a partial divestment of Airtel Africa.

"As long-term strategic investors and partners, the value of our stakes in our regional associates has risen substantially over the years but has not been properly reflected in our share price," said Arthur Lang, Singtel's group chief financial officer. "This sale in Airtel will be our first ever and seeks to address this gap by illuminating the sizeable value of our holdings in Airtel. It is also part of our capital management approach to take monetisation opportunities that allow us to increase our return on invested capital and enhance total shareholder returns. With this transaction, we will raise over S$2 billion which will help to fully meet the Group's needs for 5G and growth initiatives in the next few years, and put us in a strong position to grow our dividends in a sustainable way in line with our dividend policy."

After the transaction is complete, Singtel Group is expected to own a 29.7% stake in Airtel, valued at approximately S$22 billion. This comprises a 19.2% indirect stake through Bharti Telecom and a 10.5% direct stake.

Talking satellite

Martin Jarrold, vice president international programme development, GVF

Preventing "Kessler", preserving LEO

In my previous column I included some perspectives on the imperatives of bringing environmental law to space. In recent contributions elsewhere I have considered the importance of various issues pertaining to the sustainability of human activity in space, issues that are part of a wider core dialogue concerning preserving the entirety of the terrestrial and non-terrestrial environment surrounding us. As well as better-managing Earth's finite natural resources, preventing yet more environmental degradation, and behaving to preserve the planet's current climate equilibrium, we must protect Earth's vital orbital resources. In brief, space must remain sustainable.

In this connection I recently attended the 4th Summit for Space Sustainability hosted by the Secure World Foundation (SWF) and the United Kingdom Space Agency (UKSA) which took place in London on 22-23 June. The Summit was focused on developing solutions for space sustainability and encompassed a comprehensive cross-section of space sustainability issues: orbital capacity, space debris, space law and policy, lunar governance, national and international space security, and space stations.

Launched at the Summit was the Space Sustainability Rating (SSR). This is an innovative and practical tool to support space actors in designing their missions and managing their operations more sustainably and responsibly. The SSR "aims to recognise, reward, and encourage space actors to design and implement sustainable and responsible space missions to ensure the long-term sustainability of the space environment. It provides a unique rating system enabling space actors to comprehensively and transparently assess their missions' impact on the space environment and other operators, as well as practical guidance on how to improve sustainability performance & practices." (Quoted from a press release issued by the EPFL Space Centre – eSpace Consortium). More information about EPFL and the SSR is available here. It is very important reading for our times and affords us the opportunity not to repeat our Earthly mistakes in space.

Timed for publication during the Summit were important industry and government analyses of sustainability including, from the satellite operator Inmarsat, the Space Sustainability Report: Making the Case for ESG Regulation, International Standards and Safe Practices in Earth Orbit.

Donald J. Kessler's eponymous cascading satellite collisions syndrome goes all the way back to 1978. At that time the occupation of geostationary (GEO) orbital positions by commercial communications satellites was still in its infancy. In the following decades the GEO orbital arc became progressively busier, but was (and is) characterised by our ongoing good husbandry. The principle issue now is that non-GEO orbital space is becoming congested, with a potential 100,000-plus satellites by the end of this decade adding to the debris already orbiting. The space sustainability imperative requires that we tackle the various new critical space management challenges by bringing our historical good husbandry of GEO to Low Earth Orbit (LEO).

LEO congestion does not only relate to, and potentially negatively impact, the future of satellite communications. The LEO environment is where many new Earth Observation satellites operate, the platforms on which we are increasingly coming to rely to monitor the physical evidence of planetary climate change and environmental degradation. It is this data that will help us better manage our Earth's limited resources, monitor the changing environment, and stave off existential disaster. Therefore, space sustainability management cannot be placed in a silo as a separate challenge. Space management challenges are also an Earth management challenges. Forgive the pun, but watch this space.

On a separate note, the five finalists for GVF Quarter Century of Excellence Award – which celebrates GVF's 25th anniversary year – have been chosen, and on 6 July executives representing Eutelsat, Hughes Network Systems, Inmarsat, Kratos, and SES, all recognised as industry leaders, featured in an online discussion and Q&A with co-hosts David Meltzer from GVF and Pacôme Révillon from Euroconsult to present their company's case for being judged the "Best of the Best". Watched by a group of independent jurors who will decide the winner, the result will be announced and the Award presented on 14 September 2022 at Euroconsult's World Satellite Business Week Gala event in Paris which, like GVF, is celebrating its 25th year.

The LEO environment is where many new Earth Observation satellites operate, the platforms on which we are increasingly coming to rely to monitor the physical evidence of planetary climate change and environmental degradation.
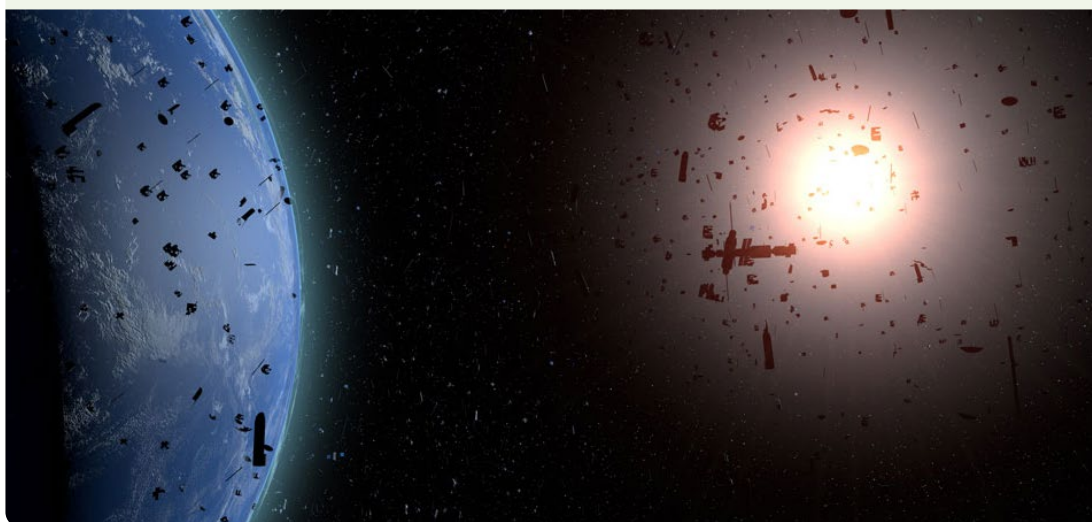
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Going further in critical communications

Mission critical: dealing with disaster

Recent floods in Pakistan have caused widespread devastation – putting critical communications under the spotlight. Robert Shepherd speaks to those keeping southern Asia connected

The recent flooding that's engulfed Pakistan is a stark reminder to humanity that we are always at the mercy of Mother Nature.

Whether it's to do with climate change – spoiler alert: there is no global warming debate here, so look elsewhere if that's what you seek – war, nuclear disasters, terrorism or badly-constructed buildings, human life can be changed dramatically, if not ended, on a whim. This latest tragedy is proof of this if further proof be needed.

Furthermore, if it wasn't for wireless communications, we wouldn't be as informed about this disaster as we are.

For example, recent images taken from NASA's MODIS satellite showed the massive impact of heavy rain and an overflowing Indus – a trans-Himalayan river of south and central Asia - which has flooded the Sindh province in southern Pakistan.

Operational land imagers aboard NASA's Landsat 8 and Landsat 9 satellites took images of the country on August 4 and 28, the Earth Observatory of National Aeronautics and Space Administration (NASA) reported.

At the time of writing, Pakistan has the unenviable task of reporting just under 1,500 dead, millions displaced – and a vast swathe of croplands submerged. It's the country's worst

floods for 10 years.

"Recent global emergencies should focus mission critical users on the importance of fast, secure communications and the ability to rapidly deploy the most appropriate technology for any situation and in any geographic area is essential," says Paul Ward, director, ETELM. "A perfect example is where ETELM working with B-LIFE deployed a system combining both TETRA and 4G for Covid emergencies in Italy."

More on TETRA later, but the good news is there's a plethora of different technologies at our disposal, like the kit utilised by NASA. Satellite has a long history of providing critical communications connectivity services to first responders – be they NGOs, international/ government agencies, or the military – who must have resilient communications to enable effective decision-making in the field.

Martin Jarrold, VP international programme development at GVF says the more recent history of the satellite industry supporting the humanitarian community is exemplified in its global collaboration with the United Nations Crisis Connectivity Charter; to the development of which GVF (along with several member organisations) significantly contributed. "With the support of the Emergency Telecommunications Cluster of the World Food Programme and the UN office for the Coordination of Humanitarian Affairs, the Charter greatly enhances the humanitarian community's access to vital satellite-based communications when local networks are affected, destroyed or overloaded following disasters, providing immediate, resilient connectivity within 24 hours," he adds.

Ildefonso de la Cruz, a principal analyst in the public safety & critical communications group at OMDIA, says that the benefits offered [by broadband technology] to mission-critical communications [MCC] by addressing their demands for data-rich features and services are unquestionable.

"However, the network planning models selected for their implementation vary in every region. In contrast to Europe and North America which have opted for nationwide public safety broadband networks (PSBN), Asian countries

"As the economic recovery from Covid-19 continues throughout the region, we're also addressing the pent-up demand for LMR systems and devices which organisations are investing in as part of their recovery"

show a preference for dedicated local public safety network buildouts," argues de la Cruz. "At the end of 2021, Asia Pacific led the way with 57% of the investment in dedicated broadband mission-critical networks. The Asian market investment in mission-critical broadband devices is expected to reach US$1bn by 2025."

Sepura, headquartered in Cambridge, England, has a rich history in Asia. The company supplies digital radio solutions, complementary accessories, support tools and devices in the critical comms space.

Koh Cheng Soi, business development manager, Asia, Sepura explains what his company has been doing in southern Asia to keep the region connected.

"Sepura has continued to supply our customers in public safety, transportation and airports with critical comms solutions," he says. "In particular we have seen significant take up of new TETRA solutions from transport organisations in India, with a number of lines adopting Sepura radios as standard for their communication needs. We continue to supply major public safety forces with handheld and vehicle radios and are increasingly seeing interest in new variants of our solutions; VHF TETRA for those operating in very large outdoor areas, and LTE dual mode solutions for those looking to incorporate mass data into their communications."

Indeed, the traditional markets for TETRA are still those deploying solutions today; these include police, fire, ambulance, transport, airports, utilities and oil and gas plants. Soi says Sepura, in particular, has seen a lot of demand from new transport infrastructure, including city metro and light rails and airports.

"TETRA is still the standard choice for users operating in mission critical environments – that is where there is a risk to life or to critical national infrastructure," Soi continues. "In certain countries where LTE band is available for mission critical, government has started planning/ adopting mission critical LTE into their existing TETRA network for Hybrid TETRA/ LTE network or some going for mission critical LTE network in specific sector.

We are increasingly seeing interest for hybrid LTE/TETRA, with a constant demand to maintain TETRA for voice due to its proven reliability and security."

Motorola Solutions has long had an expansive reach with LMR systems for public safety and commercial organisations throughout the Asia Pacific region.

It supplies many LMR systems and subscribers across multiple industries and projects, many of which are based on the TETRA and P25 standards which customers continue to depend on for secure and reliable team-based communications.

"Public safety continues to be an industry in which we are seeing considerable demand for our mission critical communications solutions," says Subodh Vardhan, vice president, southeast Asia, Motorola Solutions.

"This has particularly been the case

"With the support of the Emergency Telecommunications Cluster of the World Food Programme and the UN office for the Coordination of Humanitarian Affairs, the Charter greatly enhances the humanitarian community's access to vital satellite-based communications when local networks are affected, destroyed or overloaded following disasters, providing immediate, resilient connectivity within 24 hours"

throughout the Covid-19 pandemic when government and public safety agencies needed to continue delivering their services both in the field and remotely with back-office functions supporting frontline technology users from the comfort and safety of their homes."

He adds that this has driven the need both for greater investment in LMR technologies as a means for secure communications and to support contactless operations. "But it has also driven the need for integration of broadband technologies with LMR to enable seamless communication between two-way radio users on the frontline and users of smartphones, desktop computers and other devices working in their homes or at other remote locations," Vardhan continues. "As the economic recovery from Covid-19 continues throughout the region, we're also addressing the pent-up demand for LMR systems and devices which organisations are investing in as part of their recovery."

There are other companies making major inroads in southern Asia, too. It was recently announced that the Tactilon Agnet 500 developed by Airbus Secure Land Communications (SLC) is now fully operational in India in collaboration with Arubaito and Bharat Sanchar Nigam Limited (BSNL), following a phase of implementation and testing.

The state-of-the-art mission-critical communication Service (MCS) for business and mission-critical users is based on the mobile telecommunications standard of the 3rd Generation Partnership Project (3GPP). As a future-proof modern, easy-to-use, flexible and scalable solution, Tactilon Agnet 500 can acquire and transmit data, video and voice to all relevant bodies at once – securely and reliably, the partners said.

**Koh Cheng Soi,
business development
manager, Asia, Sepura**

"Terrain is no more an issue in Asia
than anywhere else in the world –
it is just another factor that needs
to be included when planning a
properly deployed network"

saving on costs for new applications".

Looking to the future, Ward adds that private 4G/5G communications offers an exciting opportunity for mission critical users – the move towards high-speed broadband services will enable new, advanced applications and offer significant operational improvements for users.

He cites TETRA as "still the most advanced digital trunked communications system for mission critical users today and sets the standard for voice and group communications" but will never be able to offer the high-speed data services that are essential for today's critical workers.

"As organisations look towards the next generation mobile communications, there is an opportunity to reflect on how different technologies can continue to be viable for users," Ward continues. "Traditional narrowband PMR technologies will be required well into the future...issues of affordability, spectrum availability, cell coverage and re-use of existing subscriber equipment are all likely to

What's more, the technology allows radio-device, smartphone, tablet, and laptop users to communicate individually, or in a group.

"Tactilon Agnet 500 is a complete solution and its deployment in India is a real success thanks to the strength of the BSNL network," says Selim Bouri, vice-president for Airbus SLC in Africa, Asia and the Middle East.

P.K. Purwar, CMD BSNL, adds: "As one of the largest wireless telecommunications service providers in India, BSNL is proud to have enabled the deployment of Tactilon Agnet 500 in collaboration with Airbus SLC. This is a real breakthrough for mission-critical communications offering to our professional/ enterprise customers."

In 2020, during the height of the Covid-19 pandemic, Petroleum Authority of Thailand (PTT) has chosen a bridged TETRA solution from DAMM Cellular Systems for the replacement of the radio communication system used for their Gas Separation Plant (GSP).

Included in the redundant, decentralised solution are base stations, dispatchers, log server, network management system and DAMM's smartphone solution as well as a DAMM TetraFlex Group Bridge that bridges to the existing system.

Witchukorn Naewwong, business director at DAMM partner Seanet Asia, explains that PTT chose a DAMM solution because, "It guaranteed cost-efficiency, low power consumption, flexibility and scalability. And just as importantly it let them bridge to their existing system, enabling them to perform a less cost-heavy gradual replacement".

Naewwong also explains that "it solves the problem that PTT had with an outdated TETRA solution and bridges seamlessly to their existing system in exactly the way they needed it to. On top of that the open API allows them to easily integrate third-party applications, allowing them to customise the solution to their exact needs and

be factors. We believe that a hybrid approach to technologies is the ideal solution to allow users the best choice; and a fully integrated, single network solution will always be a better solution than gateways to separate networks."

Ward further argues that an opportunity now exists for manufacturers of all standard PMR technologies to adopt the same approach and develop their technology into the 3GPP standards for core networking – LTE Core, 5G NR. He says this could create a single ecosystem for all mobile communications and allow users to select and mix technologies based on cost, service and user requirements. "4GLinked TETRA base stations adopt this approach as they can connect directly to any LTE Core network in the same way as any LTE eNodeB, by utilising the LTE-S1 connectivity standard," Ward continues. "This allows our TETRA system to be deployed over the same, single network core solution alongside 4G and future 5G base stations. The solution has been tested at 3GPP Plug tests and already deployed in many different scenarios for emergency services."

No country has the same terrain and topography as the next, which means the method of deployment when it comes to technology can pose different sets of problems.

Soi says this is always best answered on a case-by-case basis, as every network deployment is based on a number of factors, including geography and available spectrum.

"However, the launch of our VHF TETRA solution is significant, as this opens TETRA to users who have this spectrum available to them but have not previously had the opportunity to deploy TETRA radios as nothing has been available to them," he adds. "This is particularly the case for transport organisations and other commercial organisations across Asia."

More specifically, then – how much of a challenge is deployment in southern Asia?

"Terrain is no more an issue in Asia than anywhere else in the world – it is just another factor that needs to be included when planning a properly deployed network," Soi adds. "The key is proper planning and engagement with suppliers, who can help organisations deliver a critical communications solution to match their needs. This is why TETRA is and continues to be the primary choice for critical comms users across the region."

Regardless of the causes of a tragedy – natural or manmade – one thing is for sure, critical communications is more important than ever before, according to Mladen Vratonjić, board chair of TCCA, the global representation organisation for the critical communications ecosystem.

"It has been proven time and time again, all around the world, that having robust and reliable communications systems is essential when managing major events, whether planned or unplanned," he says. "This encourages competition, helping to keep quality levels up and costs down, ensuring a wide choice of suppliers, catalysing innovation and preventing the emergence of expensive proprietary products. We would urge governments of all African countries to ensure they are implementing the best possible services for their first responders and emergency services – the quality of the communications can be the difference between effectively managing a crisis situation, or seeing a disaster turn into a tragedy."

Soi's colleague Terence Ledger, worldwide sales director, Sepura, sums it up when he explains that natural disasters around the world

Mladen Vratonjić, board chair of TCCA

"It has been proven time and time again, all around the world, that having robust and reliable communications systems is essential when managing major events, whether planned or unplanned"

remind us of the fragility of the status quo in vulnerable locations. As a result, preparation for dealing with such situations is vital and this includes technology and equipment to support such responses, as well as the learning from experiences and other situations around the world. "Mission critical communications solutions are of course a key element of this – being the key tool to join together operational forces," Ledger adds. "In these environments, tough, dependable devices are paramount – water resistance, robust design and the ability to provide loud, clear audio are vital to ensuring rescue operations can be properly fulfilled."

While southern Asia does continue to face challenges in the critical comms space - be they cultural, financial, political or something else, the will is there. Like many things, progress takes time. At least we have the tech. ∎

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Mesh networks can unleash Southern Asia's full potential

By Mike Foletti, Sales Director – APAC for Rajant Corporation

Internet connectivity continues to grow in Southern Asia, with the highest Internet penetration in the Asia-Pacific region. The number of people using the Internet increased from just 31 percent in 2020 to 69 percent in 2021. Mobile broadband has improved in recent years in the region, but 1.1 billion people are still not using mobile Internet despite having access to mobile broadband coverage. With vast populations across Southern Asia, many industries operate across disparate, remote areas and suffer from typically poor, limited, or zero coverage by existing cellular 3G/4G services. 3G and 4G coverage addresses most of the population, with the shift to 5G coming to fruition in the years ahead. Southern Asia has seen tremendous growth in smartphone adoption, and despite data becoming more intrinsically more affordable, the cost of Internet-enabled devices has increased due to the Coronavirus pandemic.

As Southern Asia and the Asia-Pacific region as a whole look to welcome new innovative smart technologies and Internet adoption

grows, the benefits of the Industrial Internet of Things (IIoT) can be unlocked. IIoT facilitates the growth of connected devices and equipment, increasing the significant amount of data and communications being transmitted. If this technology is correctly harnessed and implemented, it can unleash the full potential of a host of industry verticals and present innumerable opportunities. New technologies being introduced into the market also benefit the South Asian economy and ensure that all people receive access to reliable and ubiquitous connectivity, with the intention that no one gets left behind.

Unlocking the benefits of mining

One of the industries set to benefit tremendously from the latest innovative technologies and connectivity is mining. Southern Asia is rich in petroleum, coal, iron, copper, lead, and gold. The likes of coal are still a fuel source in power generation that will continue to dominate the market over the next five or six years. Environmental conditions in Southern Asia have intensified due to the effects of global warming. This involves the likelihood of heightened temperatures, enhanced risk of cyclones, and rising sea levels. This is compounded by typically diverse geographical environments, including unforgiving and exposed terrain in the form of rainforests, deserts, and glaciers surrounded by three water bodies, the Indian Ocean, Arabian Sea, and the Bay of Bengal. There are also many challenges to overcome, including how to effectively and successfully deploy a communications system to monitor equipment, improve safety, and decrease costs.

Mining technology has advanced considerably to help ease the challenges, such as navigating hazardous mine areas and keeping all personnel safe across a vast environment. However, these high-value machines and vehicles do not entirely negate the risk that mining presents. With IIoT technology enabling the likes of automated machinery, data analytics, and surveillance systems, mining operators have the opportunity to thrive in the age of Industry 4.0 and build the digitalised mine of the future.

Limited coverage can slow growth

There is no shortage of network choices for industrial enterprises today. But almost all fall short of effectively connecting expansive and ever-moving outdoor operations with dynamic connections to personnel, vehicles, and equipment. The two most common options are LTE and Wi-Fi. However, private LTE networks, infrastructure, and deployment costs are prohibitive in many Asian price-sensitive markets. The ability to purchase, service, and

support complex private LTE networks is also not practical, especially for mining operations that tend to be managed by mining contractors with limited 3-5 year contracts. Historically, mining communications infrastructure is generally supplied by them. While Wi-Fi brings the benefits of high-speeds and the capacity to support an increasing concentration of mobile devices, this land technology is best suited indoors, where the majority of assets are stationary. Numerous access points also have to be introduced to keep sprawling operations covered, in turn, making the network challenging to design for the desired performance needed. The signal can also degrade rapidly when the assets move further away from these access points.

Network interference is also a formidable obstacle. Therefore, coverage drops are commonplace. Operators that deploy LTE to achieve the required performance, have 4G towers that can disperse signals over obstructions to achieve wide area coverage. But LTE cannot reach shadowed areas, such as the bottom of an open-pit mine and radio frequencies cannot travel through common industrial obstructions, such as thick steel or rock. Relocating or adding a tower is a complex, costly, and a time-consuming feat. Data rates also degrade the further assets move from the tower. While 5G may take advantage of higher frequencies to deliver data rates faster than 4G, these data rates have a shorter range and require line-of-sight. This means more towers are needed, increasing deployment and maintenance costs considerably.

"As Southern Asia and the Asia-Pacific region as a whole look to welcome new innovative smart technologies and Internet adoption grows, the benefits of the Industrial Internet of Things (IIoT) can be unlocked"

Self-optimising mesh network

Wireless signals may struggle to travel in a typical mine landscape that can often have varying depths and slopes. This can cause unnecessary expenses for operators due to increased technician visits if the networks lack the resilience in a mine environment. Any downtime in the network can have a detrimental effect on production targets. Having access to instantaneous connectivity is crucial for all operational personnel and their support teams across all corners of a mine.

A mesh network that requires less infrastructure to create more resilient, fully mobile coverage across an industrial environment is desirable for operators, and Rajant Kinetic Mesh® can provide this. Rajant BreadCrumb® nodes work peer-to-peer, holding multiple connections over multiple frequencies at the same time, therefore, maintaining bandwidth as the industrial environment changes. Nodes can be fixed or mobile, and easily deployed on moving equipment to extend coverage in hard-to-reach places, as well as enabling machine-to-

machine (M2M) communications.

Rajant InstaMesh® networking protocol intelligently orchestrates traffic over these connections, dynamically assessing and selecting the fastest path for delivery. When faced with signal blockage or interference, it seamlessly redirects traffic over the next best available path allowing the network to self-optimise, making mission-critical mobility possible. With enhanced resilience to overcome even the most adverse conditions, operators can have unparalleled access to the multi-radio high-speed connectivity they desire. The network is ideally placed to meet the industry's heightened demands and can provide real-time data that increases the visibility of a mine's asset's health and performance, and personnel conducting their day-to-day operations.

Navigating high-risk areas soundly

Rajant recently undertook a project with a mining company in Brazil that was faced with the challenge of managing multiple heavy machinery across a vast site without any human operators in the work zone. Tele-operations were required to navigate high-risk dam areas to extract iron ore where multiple dams were at risk of collapse. Placing people in this dangerous situation was to be avoided at all costs.

The remote management of the heavy machinery across the entire topography was met with challenges, such as increased interference that the Rajant network was able to overcome. Seventeen dozers, excavators, loaders, and trucks were consequently remotely operated seamlessly from the safety of a central command station. The teleoperation software and controls were provided by NEVIL ELETRO MECANICA of Brazil, leveraging SITECH Brazil's integration and engineering expertise and Rajant's industrial wireless network.

Prework to ready for teleoperation was done by programmed drones that surveyed the topography. Collected terrain data was loaded onto machines, such as dozer and motor graders, to perform tasks at a distance of up to 23 kilometers away. Enhanced safety and productivity were the overall benefits following the network deployment. Downtime and risk were eliminated, and the project continues to progress with the site being operational 20 hours a day for six days a week.

Mining success

The gains experienced in Brazil are not just limited to Southern Asia mining operations. Large agriculture plantations are becoming more commonplace in the region and deliver significant revenues for Southern Asian countries. As they rapidly deploy and adopt sophisticated harvesting and monitoring equipment solutions, they need dynamic wireless networks that will eventually support autonomous operations. These industries include palm oil, sugar cane, and rubber plantations.

To fill the gaps left by LTE and Wi-Fi, a robust and resilient wireless network is available. Whether tele-operation or autonomy is required to effectively monitor assets in motion and communicate in real-time, Rajant is the IIoT solution. In both open-pit and underground environments, having access to unfailing connectivity is paramount. By utilising Kinetic Mesh, all technologies can be supported, allowing operators to capitalise on the new era of digitalisation that promises immense potential. ■

Delivering connectivity to Newcrest's Lihir Island mine

The mining sector has historically been slow to respond to new technology, not least because its application can be challenging in the remote, dusty environments typical for mines. However, today, mines stand at the precipice of an exciting era of transformation.

New digital technologies and applications promise to deliver incredible opportunities to improve so many aspects of the mining trade, including performance, production, revenues, safety and welfare, to name but a few.

While the move towards the digital transformation of mines shows great promise, the use of real-time data, cloud-based services and automation is challenging. The remote and highly dispersed nature of the mines themselves means that they often lack access to conventional terrestrial network connectivity. This challenge is key in the modernisation of mining practises, because without that connectivity, the impacts on all areas of mining operations, including but not limited to initial site evaluation, processing, equipment and maintenance, employee safety

and welfare, transportation and manufacturing, can be enormous.

An underground challenge

One such mining company looking to enhance its operations and future-proof for shareholders and future projects is Newcrest Mining, one of the world's largest gold mining companies. Newcrest boasts several operational mines spanning Australia and Canada, and two in Papua New Guinea (PNG).

Newcrest Mining was faced with connectivity challenges that hindered it from driving its business-critical applications at its remote operations on Lihir Island on PNG. Subsea fibre optic cables and microwaves were both determined to be unviable solutions, meaning that Newcrest had to look beyond traditional connectivity means in order to move to the future with the latest use of digital technologies.

An off-world solution

The solution to Newcrest's Woes came from a partnership between Telstra and SES, who joined forces to provide a cost-effective satellite-enabled connectivity solution and develop new applications and services.

Indeed, the partnership enabled the delivery of robust connectivity to empower the digital transformation of the mining operations, as well as to drive improvements in safety and productivity.

The connectivity solution has proven itself already, delivering a 600% increase in bandwidth and a 300% improvement in latency.

Indeed, the combined services of Telstra and SES have completely transformed Newcrest's mining operations on Lihir Island, a location where access to high-speed connectivity has historically been prohibitively expensive or entire inaccessible. By utilising SES' O3b constellation of medium Earth orbit (MEO) satellites, Newcrest can be assured of reliable, consistent coverage with high-speed broadband connectivity enabling high quality voice, video and data communications. With the solution being MEO satellite technology, the low latency required for the delivery of carrier-grade, cloud-ready services, is guaranteed, with O3b reporting latency as low as 125ms.

The result is that Newcrest can now deploy advanced digital technologies including cloud applications, IoT, SAP, and wire sensors, achieving new efficiencies by streamlining and optimising processes. Moreover, the network enables the real-time transfer of data to speed up decision-making, save time, and improve profitability.

Building morale

The Lihir Island mine is home to some 2,000 employees who regularly spend several weeks away from home at a time. Like all personnel working in potentially dangerous conditions, staff safety and welfare is the top priority for those working in Newcrest's mines.

With the Telstra-SES solution, Newcrest's Lihir Island staff can now stay better connected with friends and family back home, which is critical for improving morale and quality of life.

Indeed, recent studies have reported that employee welfare for all staff physically separated from their support network for any significant length of time is improved with the delivery of reliable connectivity solutions. Access to voice, video and web browsing can have a huge positive impact on the mental health and general mood of employees; the ability to reach out to loved ones digitally is of high value among all remote workers, whether they're based at sea, in the air, or at remote locations. Moreover, high morale has a huge impact on employee retention, a valuable prospect for any employer. ∎

Boosting Thailand's tourism sector with new safety protocol

Thailand has long been considered an exotic and exciting holiday destination for tourists all over the world. With white sand beaches and crystal-clear oceans, as well as exciting nightlife, fantastic food and the promise of unlimited adventure, Thailand is one of the most visited countries in southeast Asia.

Before the outbreak of COVID-19, Thailand boasted an enormous 39.8 million international visitors in 2019, according to Statista. Naturally, the first epidemic in modern history abruptly halted global tourism industries overnight, and Thailand's annual international visitor numbers fell to 6.7 million in 2020 and 430,000 in 2021.

Island rejuvenation

Two years on, and after longer-than-expected travel restrictions resulting from the COVID-19 pandemic, 2022 saw the re-opening of Thailand's borders. With restrictions easing globally, and quarantine requirements allowing for more movement again, vaccinated tourists are now once more allowed to visit the country.

With some travellers still having their wanderlust weighed down by safety concerns, both COVID-19 and, more recently, crime-related, Thailand's government has planned a significant programme to revitalise tourism.

A novel approach to tourist safety

A pilot project featuring the deployment of several thousand tracking units has been undertaken by the Thailand Marine Department. The department is committed to helping accelerate the recovery of the industry, which is vital to Thailand's economy.

Local government regulations now mandate that all tourists to the island of Phuket and the surrounding islands – which by themselves play host to some 20,000 tourists per day - must always carry a tracking device, whether on land or at sea. Each tourist must be registered and provided with a tracking device by an approved government-certified official tourist guide. Tourists are required to check in via the tracking unit with their guides upon completion of any day trips or excursions, and the service fees are incorporated into the excursion package.

In case of emergency

A solutions evaluation tender process took place, which involved numerous government agencies. While there were many competing propositions including a wide array of network technologies, the ubiquitous, 24/7, always on-connectivity required for the task could only be achieved via satellite.

Thus, SPOT Gen4 was selected. The SPOT Gen4 devices were acquired from Globalstar Value Added Reseller partner, Ship Expert Technology, and will be provided to all travellers on and around Phuket, for their safety and security. The coverage and price point of SPOT Gen4 were influencing factors, according to Ship Expert Technology CEO Kirk Viaimal. The SPOT Gen4 units will assist the authorities and first responders to improve the speed and effectiveness of emergency rescue operations,

for example, in cases of medical emergency or vessel capsize.

Indeed, in an emergency, the tourist can press the device's one-touch SOS button, which instantly transmits an alert and GPS position to Marine Services, the government authority responsible for maritime safety. Depending on the nature of the incident, the local police or Thailand Coastguard will coordinate on rescue operations.

Joining forces for safety goals

The project is the first milestone of a new partnership between Globalstar and Thaicom.

Announced at the end of March, Thaicom and Globalstar have signed an agreement to collaborate on the development and operation of ground station facilities at Thaicom's Teleport Center in Pathumthani Province for Globalstar's low Earth orbit (LEO) satellite constellation. The partners will commercialise safety and security services and solutions to support tourism as well as the region's maritime industry.

"We are very pleased to partner with Globalstar. This collaboration is a strategic move in expanding our portfolio of cooperation with leading global LEO operators which will complement our existing satellite services," said Patompob (Nile) Suwansiri, Thaicom's CEO. "Our experience and expertise in the satellite industry, along with Globalstar's world-class services for Personnel Safety & Management will serve to provide our customers with advanced satellite solutions for the digital era. We believe this strategic alliance between the two companies will lay the foundation for a long-term relationship and sustainable growth in the satellite industry in this region." ∎

The Pharaoh from Antenova

Antenova manufacturer of antennas and RF antenna modules for M2M and the IoT, says it has halved the footprint of its 4G cellular antennas with its latest offering.

Designed for small PCBs, Antenova's Pharaoh antenna (P/N SR4L073) covers all 4G frequencies: 698 – 824 MHz, 824-960 MHz, 1710-2170 MHz, 2300-2400 MHz and 2500-2690 MHz.

The company reckons the Pharaoh's small ground requirement "offers designers a huge advantage in designs on a small circuit board", such as miniature pet trackers, wearables or OBD-II designs.

This antenna was tested with evaluation boards of 50 x 40 mm and 60 x 40 mm and its performance-to-footprint ratio out-ranked competing 4G antennas for small circuit boards. They typically require a minimum 60 x 40 mm of space, utilise large and costly band switching networks and display lower levels of efficiency.

Critically, the Pharaoh's performance on small PCBs is above the level required to pass PTCRB tests for cellular networks.

"The performance of an antenna is directly related to the length of its ground plane," Michael Castle, product marketing manager, Antenova, explains. "At the lowest 4G frequency, 698 MHz, the wavelength λ for electromagnetic radiation is 42.95 cm. Most antennas require a ground plane of a quarter wavelength, which means they need a space of 107 mm to operate effectively. Our Pharaoh antenna smashes this rule and uses about half of this area." *antenova.com*

Siklu expands series with point-to-point and node solutions

Siklu, the millimeter wave (mmWave) solutions specialist, brings to market two new connectivity options to its MultiHaul TG product family – the MultiHaul TG MPL-260 and the MultiHaul TG N265. Siklu has a large selection of Terragraph-certified products for fixed 5G wireless access, Wi-Fi hotspot and small cell backhaul, smart city connectivity and other applications.

The MultiHaul TG MPL-260 is a plug-and-play solution for the rapid deployment of Gigabit-speed point-to-point (PtP) connectivity. A Terragraph-certified first, the MultiHaul TG MPL-260 features two pre-paired radio units, with Auto-Aligned patent-pending scanning antennas. Customers can simply install the units and point them towards each other to deliver 1Gbps over up to 300m (984ft.), across interference free 60GHz licence-exempt spectrum.

According to Siklu, the MultiHaul TG N265 enhances the MultiHaul TG series of nodes with flexibility in radio coverage for those situations calling for a significant down-tilt of the antenna to connect adjacent structures from a large tall roof in a dense urban setting or when one needs 90° coverage or less, for example, to backhaul a few cameras or Wi-Fi APs in a parking lot to a corner pole. This unit is designed for an easy single-person installation and also features the patent-pending scanning antenna capability to align pencil-thin beams with other nodes or terminal units automatically. *siklu.com*
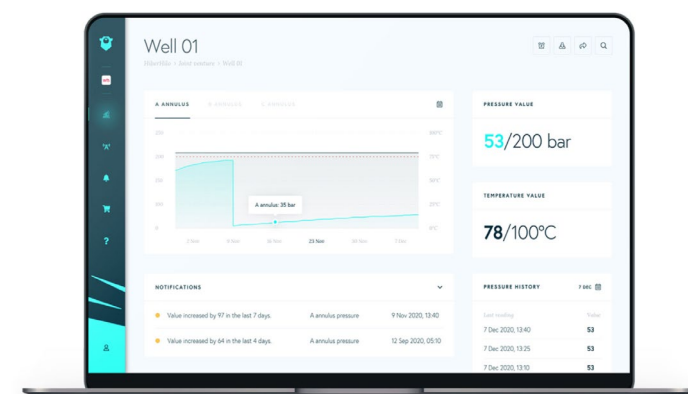
Hiber expands data-gathering capabilities of remote well-monitoring solution

Hiber, the IoT-as-a-Service provider, has added new capabilities to its HiberHilo satellite-powered remote well-monitoring solution for the oil and gas sector, enabling connection over LoRaWAN to a wide range of specialised in-field sensors. By integrating ATEX-certified, wired-to-wireless (W2W) connectivity into the HiberHilo sensor portfolio, Hiber now provides over-the-air access to a broad array of in-field data parameters and metrics, equipping oil and gas operators with new ways to monitor and optimise production.

The latest HiberHilo sensors, equipped with W2W hardware, can, the company says, convert the analogue signal from any wired sensor (4-20mA or 0-5V output) into a LoRaWAN signal. This significantly expands the range of operating parameters that can now be monitored remotely, adding flow, methane detection, variable speed drive (VSD) readings, torque, voltage (for example, to ensure cathodic protection is intact), and more. The new HiberHilo W2W hardware can be connected to any existing or new sensor installed in the field, negating the need to purchase additional devices.

"Monitoring remote wells or keeping track of and optimising production of wells scattered across a wide area is difficult, expensive and complex without satellite-enabled IoT monitoring," says Hiber chief executive officer (CEO) Roel Jensen. "The combination of the enhanced sensor options, and our expertise in IoT and connectivity, means we can now support a wider range of use cases for the oil and gas industry by providing a solution that is affordable, effective, and easy to install." *hiber.com*

Samsung and Airbus partner to launch new critical comms kit

Samsung just released a new XCover6 Pro smartphone that helps users of critical communications with new and improved features – the new smartphone, together with the Airbus Tactilon Agnet MCX solution, "enables mission and business critical communication to be successful even in demanding conditions".

Airbus has developed and tested Tactilon Agnet solution together with Samsung, and the just released XCover6 Pro smartphone brings new solutions for service deployment and MCX services for demanding users. Samsung Knox products complete Tactilon Agnet deployment easily with firmware management, license server for offline activation, out of the box enrollment and many other features that are valuable for critical communications users. With Samsung Knox Security, security

management and quality can be implemented even more efficiently. "This announcement shows that a global and leading technology enterprise is ready to meet mission critical user requirements for terminals," says Samuel Gustafsson, head of European sales, Airbus. "The Tactilon Agnet service on the new XCover6 Pro will be able to serve the users with new features without compromising on efficiency and security, which are increasingly important aspects of critical communications."

Neil Barclay, head of B2G, Samsung Europe, adds: "Security and usability are top priorities for government organizations when choosing mobile technology. Leveraging our enterprise grade security and staging tools, we've collaborated with Airbus to create a unique and easy-to-

deploy platform that manages and protects the most sensitive and confidential information on a best-in-class PTT device."

The new Samsung XCover6 Pro itself has numerous features that makes it functional for field use such as protection for demanding conditions, programmable hardware keys, high capacity battery with fast charging, and loud mono speaker for clear voice communication. Also, the Samsung XCover6 Pro has a chipset with support for LTE and 5G, which will enhance the quality of video streaming and video conferencing by end-users. *samsung.com*


Galaxy XCover6 Pro
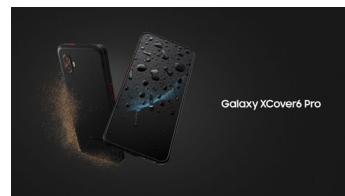
Pure glass from Nippon

Nippon Electric Glass has developed a transparent antenna, which is made of a glass substrate and a repeater, using radio wave lenses and does not require power supply, for 5G millimeter-wave wireless communication technology.

The newly developed transparent antenna, the company says, has a special antenna pattern on a glass substrate, whose dielectric constant (4.0) and loss tangent (0.002) are the smallest in the world. This is a highly efficient transparent antenna. The size of glass substrates can be increased, making it possible to manufacture multiple products from a single substrate. This contributes to improving the antenna

productivity and enables formation of antennas for multiple bands on a single substrate. By making the antenna transparent, the antenna functionality can be added without spoiling the design and landscape of an installation location. The antenna can be installed in various locations, such as windows, walls, displays, and vehicles.

The repeater, which is the other newly developed product, consists of two radio wave lenses and a waveguide. It receives and retransmits radio waves and changes the direction of radio waves without power supply even under circumstances where radio waves are blocked by walls and window glass. By changing the
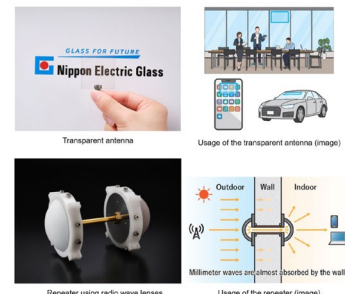
shape of the lens, radio waves can be transmitted in a certain direction or over a wide range. The lens is not subject to deterioration caused by ultraviolet rays because it is made of glass. It can be used stably over a long period in various places, both indoors and outdoors. *neg.co.jp*

The Huawei WiFi Mesh 7

Huawei introduces the WiFi Mesh 7, further expanding its mesh router product portfolio. Available in two packs, the new Huawei smart mesh routers – the company boasts – "provide blazing fast Wi-Fi 6 Plus connection speeds for up to 250 devices within 6,000 square feet".

Supporting AX6600 Tri-Band, the solution features eight streams for extreme speeds up to 6,600Mbps, which makes smooth streaming of 8K media a possibility. The new smart mesh router also supports HarmonyOS Mesh+, which includes a wide range of networking solutions

to ensure top Wi-Fi 6 Plus mesh performance for all users. Setup is simple, requiring only a few easy steps to establish the home network, and with One-Touch Connect, users can connect their smartphones to the mesh network securely with a single tap. *huawei.com*

Ericsson, Qualcomm and Thales to take 5G out of this world

Ericsson, French aerospace company Thales and wireless technology specialist Qualcomm Technologies are planning to take 5G into space across a network of Earth-orbiting satellites.

After having each conducted detailed research, which included multiple studies and simulations, the parties plan to enter smartphone-use-case-focused testing and validation of 5G non-terrestrial networks (5G NTN).

The result could effectively mean that a future 5G smartphone could use 5G connectivity anywhere on Earth and provide complete global coverage for wideband data services, including places normally only covered by legacy satellite phone systems with limited data connectivity capabilities.

The benefits of 5G connectivity via low Earth Orbit (LEO) satellites are expected to include coverage in extreme geographies or remote areas across seas, oceans and other locations where terrestrial coverage is absent.

Such widespread connectivity would boost 5G smartphone subscriber roaming service capabilities, as well as enabling global connectivity for transportation, energy and health sector 5G use cases.

The space-based network could also be used as back-up support to terrestrial networks in the event of major network outages or disasters.

Erik Ekudden, senior vice president and chief technology officer, Ericsson, reckons this testing and validation cooperation between Ericsson, Thales and Qualcomm Technologies will be a major milestone in the history of communications. "The ultimate result could effectively mean that no matter where you are on Earth – in the middle of an ocean or the remotest forest – high-end, secure and cost-effective connectivity will be available through collaborative 5G satellite and terrestrial connectivity," he says.

Making money with the right partner

MNOs can successfully monetise their A2P SMS routes by partnering with the right messaging solutions provider, writes Sizo Nkosi, regional operator partnership manager at Infobip

Optimal monetisation of business SMS traffic across their ecosystems has traditionally been a complex issue for many Mobile Network Operators (MNOs), yet, boosting revenue across this platform is becoming increasingly important.

With earnings from person-to-person (P2P) SMS messaging steadily declining due to it now generally being commoditised and with chat apps as preferred messaging channels, application-to-person (A2P) traffic has become the major revenue spinner across the SMS channel.

Yet, network operators often struggle to fully monetise their A2P pathways, as messaging providers often exploit network vulnerabilities to send business messaging via grey routes, which are essentially low-paying or unbilled pathways. The result is that little or no revenue is generated by this traffic and the scale of this leakage poses a real financial risk to operators.

A report published by Mobile squared found that between 2018-2023 grey routes are expected to cost the mobile network operators almost US$50bn. Additionally, market education is required with 60% of mobile network operators having not yet sufficiently protected their network from grey-routes and other A2P fraud by investing in fraud prevention solutions such as firewalls.

SMS firewalls are monitoring and filtering solutions that are specifically designed to detect and block unauthorised A2P SMS traffic on a network. They do this by monitoring incoming messages and – based on aspects such as the originating network, number, hashing and message content – block and filter the ones not sent through a properly billed route.

Monetise legitimate traffic

In the case of improperly billed legitimate A2P messages, once these have been blocked by the firewall, attempts can be made to monetise this traffic. After detecting that an aggregator is sending business messaging via an improper route, the firewall administrator or solution providers should contact them to reroute this traffic to a properly billed pathway at the applicable pricing.

However, an SMS firewall is a complex system that is expensive to develop, and which incorporates Machine Learning (ML) to automate the discovery of fraudulent or unauthorised messages based on keywords, text patterns and even spelling. ML has been found to be more efficient than a human-operated monitoring system and can continuously learn and develop new algorithms and build up a database of elements to look out for.

Most network operators simply lack the skills and resources to develop their own SMS firewalls, as it requires a lot of development and advanced engineering. It also requires the human factor in the form of experts who have in-depth knowledge of global markets and pricing, as well as the ability to identify and calculate the proper pricing for specific routes, countries and messages.

Some large network operators do have their own firewall solutions but are discovering that it is a better value proposition to outsource SMS firewall provision to a specialised vendor due to its complexity and the need to reduce costs. A messaging solutions provider can not only develop but also maintain the firewall, which needs to evolve and keep pace with the ever-changing threat landscape.

Greater complexity

The complexity of SMS firewall development and implementation is greater for big operators and especially for those that operate in countries with huge subscriber bases, such as in the African region. These MNOs typically handle massive volumes of SMS traffic and need to address a lot of unauthorised messaging on their networks. As a result, they typically receive large amounts of complaints from unhappy customers who are regularly exposed to spam and other potentially harmfully SMSes.

An effective firewall solution will cover all the termination points on an operator's network and the solution provider will implement rules that govern how unauthorised traffic is blocked. Once advanced pricing strategies are implemented, the technology partner should guide the MNO as to how best to monetise traffic on the network.

A specialised vendor can bring broad expertise, agility and global knowledge and coverage to the table, as well as the ability to constantly look for new approaches for better monetisation of A2P SMS routes. MNOs should look for a partner that will understand their needs, which is key for successful technology implementation. However, this partnership should stretch beyond technology, enabling the partners to share business insights and develop new services much faster. ■

# Lynk Global and BICS to expand mobile coverage to the global underserved

Lynk Global and BICS have signed an agreement to enable MNOs to expand mobile coverage to people in remote areas across the world. Coverage areas will include southeast Asia, rural areas in Africa, North America, the Caribbean, and Latin America.

Lynk's 'cell tower in space' technology provides a satellite-direct-to-mobile-phone service, which when partnered with BICS' network, will extend coverage to areas lacking cell towers. Lynk's technology allows

standard roaming partner integration without any hardware or software changes to the mobile operators' networks, bringing coverage to remote areas, islands, and even offshore.

"Mobile service is taken for granted by so many people who live in cities and suburbs, but we need to remember that billions of people still experience extended periods of disconnectivity, and hundreds of millions live without any connectivity," said Charles Miller, Lynk CEO and co-

founder. "Being left out of the digital world creates barriers to economic growth and social improvement — trapping hundreds of millions in the deepest poverty. It also eliminates access to basic emergency services, making life more dangerous. Our partnership with BICS will allow MNOs to affordably expand their coverage and connect more people, saving lives and accelerating economic development for those living in the remotest parts of the world."
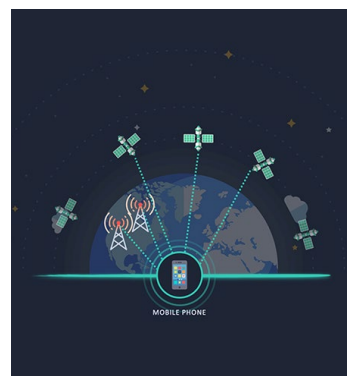
Ceragon and Pacific Rim MNO to augment 4G and 5G coverage

Ceragon Networks Ltd has signed a multi-year contract with a tier 1 Pacific Rim operator to extend and enhance its 4G and 5G coverage across regional areas, addressing reliability, speed of network, and connectivity black spots.

The operator will use Ceragon's microwave and millimeter wave solutions, alongside its SDN suite and full turn-key services, including site acquisition, design, deployment and support, to achieve optimal coverage. The contract is valued at more than $44 million over three years, with delivery starting as soon as November.

With Ceragon's IP-50C multicore high-power microwave and IP-50E millimeter wave radios,

alongside its SDN suite, the operator will achieve ultra-high-capacity connectivity quickly and cost-effectively. Utilising Layer 1 multi-box aggregation technology, Ceragon's E-band and microwave solutions can work with any existing third-party microwave radios, reducing the costs for swap and replacement.

"We are excited to support the operator in delivering on its commitment to nationwide subscribers – providing reliable connectivity coverage to unserved and underserved rural regions," said Doron Arazi, Ceragon CEO. "This contract signifies an immense vote of confidence in Ceragon, as potential average annual bookings

are expected to increase by over 50%. By leveraging Ceragon's high-power and multiband solutions, the operator can cover longer distances with fewer sites, delivering ultra-high capacity with up to 20Gbps capacity, hence leading to reduced capital and operating expenses. By deploying the SDN suite, the operator can enjoy faster time to market by having automatic configuration processes, reduced resources for commissioning and provisioning of Ceragon and third-party links, improved network performance using predictive analytics, and reduce OPEX by defining automatic changes in the network such as power consumption reduction in Ceragon Multicore."

Deutsche Telekom deploys 5G native CORE

Deutsche Telekom and Mavenir have successfully deployed cloud native 5G Core to Deutsche Telekom in Germany. Mavenir supplied its software applications to run on Deutsche Telekom's defined hardware and the existing Kubernetes-based platform of its German business, ensuring an open architecture approach.

The Converged Packet Core was integrated with Deutsche Telekom's existing multi-vendor access network and other system components. The new Converged Packet Core supports data, voice, and messaging services, as well as network slicing. The initial network slicing use case focuses on

live video broadcasting.

The Mavenir solution is based on automated software delivery and network upgrades. This will allow new Converged Packet Core services with all the required network functions to be deployed in minutes by using the automation framework of Deutsche Telekom. It is largely self-updating for the entire lifecycle of each application. The platform can automatically synchronise production environment resources and configuration with changes expressed in code.

"The deployment of a cloud-native Standalone (SA) core marks a key milestone in the evolution

of our 5G architecture," said Abdurazak Mudesir, Group CTO, Deutsche Telekom. "This sets us on a path towards a fully automated network with the reliability, massive scale and flexibility required to deliver innovative 5G SA services to our consumer and enterprise customers."

"The Mavenir solution deployed with Deutsche Telekom in Germany, creates the foundation for the future introduction of 5G standalone enabling new applications and services to take advantage of 5G features such as low latency and network slicing," said Pardeep Kohli, Mavenir's president and CEO.

Ericsson and China Mobile embark on 5G natural disaster management solution

Ericsson is partnering with China Mobile Group Zhejiang Co. Ltd. and other parties in order to deploy 5G solutions for natural disaster management systems in China. This follows the successful test of a 5G mission critical partnership solution in ten cities in Lishui, China.

The solution includes early-warning analysis, natural disaster monitoring, command and dispatch, and post-disaster assessment, and has now been included in China's Ministry of Science and Technology's Monitoring, Early Warning and Prevention of Major Natural Disasters demonstration projects.

Ericsson and China Mobile supported the development and validation of core applications by combining respective emergency communication practices, digital twin use cases, and network slicing technologies while jointly building 5G network connectivity.

Nationwide deployment is expected to begin in the coming weeks.

Tanzania gains first 5G mobile network

Vodacom Tanzania has launched the country's first 5G mobile network, offering users faster speeds, low latency and supporting the development of emerging technologies, including IoT.

The network will be available for smartphone users with 5G capable devices and for fixed network customers via 5G router. Initial speeds of 400Mbps are planned, with an increase to 800Mbps in the months to come, and ultimately, up to 1Gbps once the 5G spectrum is made fully available.

Sites will be deployed in Dar es Salaam, and Vodafone Tanzania aims to expand 5G connectivity to approximately 230 locations in the country, including Arusha, Dodoma, Mwanza, Iringa, Kagera, Zanzibar, and Mbeya, among others.

"Having been first to launch 5G in Africa, this is an exciting milestone in Vodacom's history as we continue to densify 5G services across our Africa markets, bringing the continent closer to the global digital economy through the latest generation of mobile technology," said Shameel Joosub, CEO, Vodacom Group. "Congratulations to the Tanzanian team for bringing us one step closer to an inclusive, fully digitised future for all Africans."


Marlink to use Starlink capacity for enterprise and maritime customers

Marlink and OmniAccess will leverage SpaceX's Starlink service to augment connectivity for their portfolio of smart network solutions and services globally. Together, they will act as global "authorized Starlink integrators" for enterprise and maritime customers.

Marlink's integration of Starlink with existing highly reliable VSAT, LTE (4G/5G) and terrestrial connectivity solutions will result in a seamless user experience. Marlink and OmniAccess will orchestrate the different connectivity paths to provide their global customers with enhanced network solutions, improving business-critical applications, passenger communications, and crew and remote workers' welfare.

"This ability to utilise Starlink is a giant step in our strategy to provide our customers with the best-in-class user experience, combining our industry-leading GEO satellite connectivity solutions with the next generation LEO high-speed, low-latency services," said Erik Ceuppens, CEO, Marlink Group.
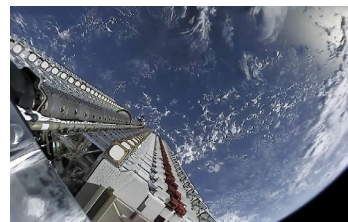
"We are looking forward to working with SpaceX to integrate Starlink as part of our smart network solutions, creating a superior global connectivity service for our extensive maritime and enterprise customer base across the world."

Launch of The Global System for Mobile Association of Zambia

Airtel Networks Zambia Plc, MTN Zambia and Zamtel have jointly established a lobby group to champion the interests of GSM telecommunications operators, called The Global System for Mobile Association of Zambia (GSMAZ).

GSMAZ will collaborate with local government, ZICTA and other organisations to encourage growth of the digital economy and promote policies, in line with the government's objective to increase access to and utilisation of high-quality and reasonably priced financial services.

A statement released by the companies explained that GSMAZ will be used as a platform for influencing and ensuring the emergence and sustained development "of pro-competitive, harmonised telecommunications policies and legal and regulatory frameworks in Zambia."

"The launch of GSMAZ comes at an opportune time with the national development focus and intends to influence the efficient development and sustained growth of a strong and vibrant mobile telecommunications sector in Zambia based on the recognition that mobile technology plays a crucial role in tackling numerous socio-economic development concerns across the country, particularly digital and financial inclusion," said MTN Zambia CEO and current GSMAZ Chairperson Bart Hofker. "This digital inclusion will promote infrastructure and economic growth, boost employment and productivity across the country, and enhance access to essential services like healthcare and education."

FWA device shipments to grow by 111% in 2022

Shipments of 5G FWA devices are expected to grow year on year by 111% to 7.6 million units in 2022, due to the growth in 5G coverage and growing market demand for fixed wireless access (FWA) services, according to TrendForce.

5G FWA supports both business and home applications, enabling wide bandwidth, low latency connections, and is fast becoming a viable alternative to fixed broadband connections. With faster deployment that requires less manpower and less equipment than fibre installations, governments the world over are investing heavily in 5G FWA. For slower economic developing regions like Indonesian Borneo, central/southern India, Sumatra and the western plateau of Vietnam, 5G FWA deployment is expected to lower the threshold for the future construction and maintenance of high-speed networks.

PLDT begins work on Asia Direct Cable system

PLDT Group is set to inaugurate the construction of its fourth cable landing station and the initial construction phase of the Asia Direct Cable (ADC) system by the end of 2022. These two new projects follow the completion of the Philippines largest hyperscale data centre and the activation of Jupiter, the fastest international cable direct to the US and Japan.

"After the successful launch and activation of Jupiter, PLDT hopes to lead the country to become the best transpacific cable hub in Asia, as we work on delivering additional subsea cables and new cable landing stations in 2024," said former PLDT VP and technology advisor for enterprise, Victor Aliwalas.

The ADC cable is expected to be completed by the end of next year, while the cable landing station in Baler, Aurora, will be completed by 2024, and will supplement PLDT's international gateway on the northern and eastern borders.

"Apart from the DC and the International connectivity, PLDT is also leading the charge on 5G rollouts and domestic fibre rollouts on top of all the other platforms to significantly increase the country's take up of digitalisation," Aliwalas. "We are not focusing on just one or two pillars, we are building out the entire ecosystem to work as a whole. We need a full working and energized system to support this hyperscale initiative and PLDT is determined to put together everything to be the strongest hyperscale player in the country, to establish and promote the Philippines as a hyperscale destination."

Three UK and Freshwave to combat poor mobile 4G indoor connectivity

Three UK has partnered with Freshwave on the operator's first deployments of the Neutral Host In-Building mobile specification. Following two successful pilot tests at offices in London, the approach has been selected by Three UK to augment its 4G indoor connectivity.

Some 80% of mobile phone calls originate from indoors, but modern building materials make it more difficult for the outdoor macro signal to penetrate inside. As a result, many buildings harbour mobile signal dead zones which can reduce productivity and increase frustration. Accordingly, in-building small cell systems bring network indoors with guaranteed quality of service, without placing extra pressure on the outdoor macro.

A standard for in-building radio solutions, the Joint Operator Technical Specifications (JOTS) Neutral Host In-Building, has recently been established in collaboration between all four of the UK's mobile network operators. It specifies the technical standard use of 4G small cell technologies to simplify the provision of indoor mobile coverage for businesses. By adhering to the JOTS NHIB specification, a third party, or 'neutral host' can provide mobile services to businesses on behalf of one or more of the operators. The neutral host can enable this connectivity using their own choice of vendors and equipment.

"Indoor focus has been a major priority of ours with the acquisition of additional low frequency spectrum in 2020 and our agreement with Freshwave will further enhance indoor coverage, particularly for business customers," said Iain Milligan, chief network officer at Three UK.

"This is another step forward in making assured indoor mobile connectivity easier for businesses to access around the UK and we're pleased to have worked with Three UK on this world-leading approach," said Tom Bennett, CTO at Freshwave. "We're excited that Three UK is now also using the specification and that Freshwave is the first company to be the neutral host for multiple operators on the NHIB specification."

Liquid to offer SMEs new connectivity via satellite

Liquid Intelligent Technologies and Eutelsat Communications have signed a multi-year, multi-beam agreement for capacity on EUTELSAT KONNECT to meet the connectivity needs of SMEs and Small Office/Home Office (SOHO) customers in Uganda, South Sudan and eastern parts of the DRC.

The agreement will see Liquid use the EUTELSAT KONNECT capacity to deliver affordable internet services in locations underserved by terrestrial networks. Liquid already uses connectivity from EUTELSAT 7B for VSAT services in sub-Saharan Africa.

"We offer satellite services in over 27 African countries, impacting the lives of over 1.3 billion people. With this agreement, we will expand our service portfolio to include Ka-band services for the first time," said Scott Mumford, CEO of Liquid Satellite Services. "We have always been early innovators and investors towards initiatives and technology that will help us realise our vision of creating a digitally connected future that leaves no African behind."

Liquid will also play host to the first EUTELSAT KONNECT ground gateway in sub-Saharan Africa in Krugersdorp, South Africa. The gateway will help Eutelsat enhance local coverage and create new business opportunities by offering enhanced broadband service performance.

"This new agreement testifies to the strong appeal of our EUTELSAT KONNECT satellite in sub-Saharan Africa and its pertinence in supporting telecom operators in bridging the digital divide," said Michel Azibert, Eutelsat's deputy CEO. "By reinforcing our relationship with Liquid Intelligent Technologies, we will be able to leverage the Eutelsat fleet's extensive coverage of sub-Saharan Africa combined with Liquid Intelligent Technologies' unique expertise and local know-how to deliver best-in-class services to businesses across the continent."

Telecom Egypt and Orange Egypt sign roaming deal

Telecom Egypt and Orange Egypt have signed a five-year local roaming agreement to augment mobile coverage, particularly for voice and data.

"Signing this agreement confirms the depth of strategic relationship between Telecom Egypt and Orange Egypt and the two companies' keenness to develop the system of services provided in the Egyptian telecom market," said Telecom Egypt Managing Director and CEO Adel Hamed. "The new agreement contributes to strengthening the capacity of the company's competitiveness with its technical, commercial and financial advantages most notably the realisation of financial savings in the provision of mobile phone services starting in 2023 and the consequent improvement in the profit margins for those services. At the same time, Telecom Egypt continues to implement its plan to expand in building its own mobile stations throughout the republic (Egypt) in order to eventually ensure that its customers receive the best level of communication services."

Orange Egypt plans to continue its network development and modernisation in order to meet customer demand.

Q&A

Alastair Williamson
CEO
Wyld Networks

Who was your hero when you were growing up?

If it is OK, I would like to have two heroes. The first is the England all-round cricketer and legend, Lord Botham (Ian Botham). My family was a cricketing family and we all played, even my mum and siblings, so we spent a lot of time watching county and international cricket. In Test cricket, he scored 14 centuries, took five wickets in an innings 27 times, and 10 wickets in a match four times.

Ian Botham was and still is an inspiration with his energy, enthusiasm and commitment. But these qualities were not only displayed on the cricket pitch but were also reflected in Ian's charity work – having undertaken 12 long distance charity walks and raised £12million.

My second hero is Nelson Mandela. I grew up in Uganda and Kenya and my father was a great champion of anti-apartheid, which was instilled in us as children. As I grew up and became more politically aware, I realised the enormous influence Nelson Mandela had in leading the transition from apartheid to a multiracial democracy in South Africa. While he has sadly passed away, he will always remain a major influence in my life.

What was your big career break?

When I was 18 and living in Kenya, I met Klaus Krone, a young German entrepreneur and industrialist who was running the family electrical switchgear business set up by his father. It was Klaus who gave me my first job at Krone but also paid for me to go to university back in the UK. In those days in Kenya, students would do O and A levels, but few would go to university. I worked for Krone for some 15 years and Klaus dispatched me to countries across the world to set up sales organisations and set up offices, including Nigeria, Hong Kong and Singapore as well as working in Germany and the UK. That opportunity changed the direction of my life.

If you had to work in a different industry, which one would you choose?

Twenty years ago I would not have an answer but today it would definitely be agriculture. I grew up on a coffee plantation and it transpires that farming is in my blood. But that's not all. More recently I have become more aware of the growing challenges the world faces in feeding itself. According to Action Against Hunger, globally, one in nine people are hungry or undernourished. This is an appalling statistic and I genuinely believe that our work at Wyld – providing IoT sensor-to-satellite connectivity across the globe – will play a small part in how technology can help famers to increase yields, reduce waste grow more sustainably. With an incredible 30% of global water wastage due to agriculture – mainly due to over irrigation - using soil moisture sensors to manage irrigation, for example, can drastically reduce this figure.

What would you do with US$1m?

It is a question I have never had to consider but aside from supporting my family, I would love to help nurture and invest in innovative aggrotech start-ups looking to help find solutions to food poverty and increase sustainability. Technology has saved us more than once and by harnessing the vision and skills of young entrepreneurs, scientists and engineers, we can hopefully find a way through feeding the world.

Where would you live if money was no object?

I have lived all over the world in Africa, SE Asia, South America, mainland Europe, but my home now is in Wiltshire in the UK, 'God's own county'. While it has been a privilege to experience the people, culture and geography of so many places, for me now, home is where the family is, so I have no plans to go elsewhere, even if money was no object.

What's the best piece of advice you've been given?

I have been given so much good and valuable advice by so many great people over the years, some of which I have accepted but other advice that I have ignored to my detriment. It is difficult to pick one piece, but I would have to go back to my father who told me when I was 18, I should leave Kenya and head back to the UK to further my education. As I've said at the time in Kenya we did O and A levels but few students went on to university. He gave me a passport and packed me off. It was daunting but with that encouragement and the help of my mentor Klaus Krone, it was the start of an exciting and rewarding career – and I am still reaping the benefits.

What's the best technological advancement in your lifetime?

There are so many technological breakthroughs that have shaped our lives that it is difficult to pick just one but if pushed I would have to say mobile communications and the Internet. The idea that you can speak to someone in rural Uganda from Wiltshire on Facebook or WhatsApp is simply phenomenal and life changing. When I was studying in the UK, the only way to contact my parents was through an arranged call from a phone box or by writing. The only downside from mobile communications and social media is that the art of writing a letter is disappearing.

If you could dine with any famous person, past or present, who would you choose?

It has to again be Lord Ian Botham or Nelson Mandela, depending on the sort of evening I wanted. But having them both would make for fascinating dinner conversation. While both very different, they also have a lot in common, not least the single-minded commitment to getting the job done. Ian's epic eight-day charity walk across South Africa passed through Soweto, where Nelson Mandela grew up and Mandela was a great fan of cricket, from watching visiting sides from enclosures in the ground reserved for the non-Europeans in his youth to greeting visiting international cricket teams as president of South Africa.

Which law would you most like to change?

While not strictly speaking a law in itself, I would have no hesitation in changing the rules on income tax. I strongly believe that taxing people on their earnings is immoral. A better and more just approach is to shift the burden of raising necessary income to taxing expenditure. While you can't do away with income tax completely, it's time to change the balance. If you look at countries such as Singapore that adopt this approach with low-income tax, they have successful economies and arguably a fairer society.

What's the one product you couldn't live without?

My first thought was my smartphone, but then I lived quite happily without one for the first 30 years of my life. But I'm still drawn back to communication devices, whether it is a landline phone, mobile or smartphone. So, I guess it comes back today to a smartphone as the product I would struggle most to live without. I suspect that this applies to most people. But there is another product I would struggle to live without – a very British cup of tea!

Which historical event do you wish you had experienced in the flesh?

I was in Berlin when the wall came down in 1989, which marked the end of the Soviet Union, the end of the Cold War. Sadly, with the current backdrop of the Russian invasion of Ukraine, the world has gone back to a very dark time. I was also in Hong Kong when the sovereignty of Hong Kong was transferred from the UK to China - that's also not worked out in the way it was envisioned. But my thoughts on a historical event I wish I had seen in the flesh in my lifetime would have been the release of Nelson Mandela from 27 years in prison, marking the end of apartheid in South Africa - no one can deny that event was a positive move for mankind.

What's the one thing you would want to do before it's too late?

I read a book when I was a child about a father and son who travelled from Cairo to Cape Town on motorbikes. The adventure has stayed with me for years and I still think about it. A friend of mine did the trip from UK to Cape Town on a bike a few years ago. My father is no longer with us - but maybe I could convince one or all of my children to take up the challenge with me and explore the continent, experience the different cultures and escape the daily rat race for a few months. ∎

Do you want to be involved with the 2022 edition of the African Wireless Communications Yearbook?

We're looking for the usual quality of comment and opinion from thought leaders, industry influencers and technological experts within the African marketplace.
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