

- Nepal unlocking financial inclusion
- NTNs style over susbstance?
- Making money with Al



Tait TM9000

A full suite of multiband, multiprotocol mission-critical portables and mobiles.

Unexpected challenges? Bring them on.





Wireless Solutions for Exploration, Mining, Fleet Tracking & Surveillance

Mobile Mark is a leading supplier of innovative, high performance antennas to wireless companies across the globe. We've been in the wireless industry for over 30 years and have our roots in the early Cellular trials. Today, we benefit from enhanced design capabilities and expanded production capacity – along with a greater understanding of new and emerging markets such as mining and exploration.

Modern mining operations rely on a battalion of vehicles, ranging from massive extraction vehicles to modest-sized material transport trucks. These vehicles operate in tough environments where high vibration is a frequent wear and tear challenge. Mining companies throughout Africa have relied on our rugged, foam-filled mobile antennas for consistent connections. Mobile Mark's infrastructure antennas have been used for rapid deployment and redundancy coverage for effective wireless coverage in isolated settings.

SOUTHERN ASIAN OMMUNICATI



Q2 2024 Volume 17 Number 1

Are you ready for unexpected challenges?

tait

Police, Fire, Emergency services, Mining, Oil and Gas, Transportation and Utility workers face challenging and often remote conditions every day. They need communications equipment that is reliable, rugged, and lightweight.

The Tait 9000 series is known worldwide for its mission-critical reliability and highly flexible capabilities. We design and build the 9000 series in New Zealand to the highest standards because a truly tough job requires a world-leading Tait Tough solution.

Communicating between agencies like Police, public transport, and emergency services must be convenient and efficient. Inter-agency conversations can be the difference between life and death in our communities and workplaces.

The new Tait TP9900 multiband and multiprotocol portable radio enables communication between agencies by supporting P25 and DMR networks while working on VHF, UHF or both bands.

Visit taittough.com to see the extreme ways Tait's radios are used every day.

Tait Communications. We go beyond for a safer world.















SUBSCRIPTIONS:

Southern Asian Wireless Communications is a controlled circulation quarterly magazine. Register now for your free subscription at www.kadiumpublishing.com Readers who do not qualify under the terms of control can purchase an annual subscription at the cost of £110. For more information and general enquiries please contact Karen Bailey at karenb@kadiumpublishing.com or call +44 (0) 1932 886 537.

EDITORIAL:

Editor: Designer: Sub editor: Contributors:

Amy Saunders Ian Curtis Gerry Moynihan Editorial director: Kathy Moynihan Carlo Agdamag. Som Seuh Li, Sandra Wendelken

Editorial enquiries:

amys@kadiumpublishing.com Kathym@kadumpublishing.com Tel: +44 (0) 1932 481729

NEWS

12

- BSNL suffers second breach in 6 months
- DoT's 5G spectrum auction downer
- 2.6 billion remain offline Al could help
- Nepal Telecom expands 4G to tourist sites

WIRELESS BUSINESS

- Boost Bank launches mobile app
- Intelsat gains GEO licence for Philippines
- MEASAT to support SPOTV APAC broadcast
- · Symbio gains NSP licnce for Malaysia

17 **ON THE NETWORK**

Unlocking financial inclusion

FEATURE

Making money with AI

FEATURE

Non-Terrestrial Networks

INDUSTRY VIEW

Land Mobile Radio technology

WIRELESS USERS

- Myanmar's first LTE-only service for ACS
- Nokia upgrades IOH to 4G in Indonesia

WIRELESS SOLUTIONS

- Supporting NTN NB-IoT for GEO satellites
- Automatic switching between LMR and broadband
- · Site Visit Reporting for real-time information
- PlanAl to grow telco ARPU

WORLD NEWS

- Elisa starts XGS-PON buildout
- Deutsche Telekom expands coverage
- Namibia Space Port gets green light
- Luna Space picks Hughes for VSAT network

ADVERTISEMENT SALES:

Sales: Karen Bailey karenb@kadiumpublishing.com +44 (0) 1932 481731

Production & circulation: Karen Bailey karenb@kadiumpublishing.com Tel: +44 (0) 1932 481728

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

ISSN No: 2052-739X @ 2024 Kadium Limited. All rights reserved. The content of this publication may not be reproduced in part or in whole, including photocopying, scanning and/or recording, or transmitted in any other form by any means including electronic, digital or mechanical, or stored in any form of data storage, archival or retrieval system, without the prior written permission of the publisher and copyright holders. All enquiries should be sent to Kadium Limited, IC 113, Image Court, 328-334 Molesev Road, Hersham, KT12 3LT, UNITED KINGDOM, The views expressed in this publication are not necessarily those shared by the publisher or the editor. E&OE.



BSNL suffers second breach in 6 months, data held to ransom

BSNL has suffered its second data breach in six months - this time, the data has been priced at \$5,000 for anyone to purchase.

According to Athentian Technology, the BSNL data breach has led to the threat actor getting access to sensitive user data such as SIM card details, international mobile subscriber identity (IMSI), home location, and critical security keys. The threat actor -'kiberphant0m' - stole more than 27.8GB of data from BSNL.

This data can be misused by anyone to create duplicate SIM cards, and use in other criminal activities such as extortion, and more.

The nature of the data that has been accessed by the threat actor is 'critical.' The data leak can also be a threat to national security, as it can be used to target BSNL and other interconnected systems and networks. Having SIM information and authentication keys can also enable hackers to get access to financial accounts, leading to financial losses for the customers.



Infostellar to deploy antennas across APAC

Ground-segment-as-a-service (GSaaS) provider Infostellar is planning to deploy a network of Infostellar-owned antennas focused on serving its global clients' interests in the Asia-Pacific region.

The APAC ground station network is being rolled out in locations that support a wide range of applications, including maritime awareness, general Earth observation, and surveillance. The antenna locations will include Japan, Singapore, Malaysia, Indonesia, Australia and New Zealand. Availability is projected for the second half of 2025.

The network will benefit from Infostellar's cloud-based ground station control platform, StellarStation, through which ground segment services are to be scheduled and controlled on these new antennas. In addition to this new service, StellarStation provides access to the full range of the ground-stations-as-a-service offering that Infostellar makes

available to satellite operators from a network that includes Viasat RTE, Amazon Web Services (AWS-GS), and other ground stations around the world.

The ground station part of a GSaaS offering typically involves renting a satellite ground station to communicate with a satellite, rather than a company building its own infrastructure. This helps companies that may lack the funds or technology to build their own ground stations.

Philippines starts first phase of National Fibre Backbone

The Philippine government has launched the first phase of its National Fibre Backbone (NFB) project which aims to enhance public service delivery and drive economic growth in the country through reliable Internet connection.

The Philippine Department of Information and Communications Technology (DICT) led the kickoff of the (NFB) Phase 1 which comprises a 1,245km cable network from Laoag, Ilocos Norte to Roces, Quezon City, illuminating 28 nodes and delivering an initial 600Gbps optical spectrum capacity. This will connect 14 provinces Northern across and Central Luzon, Metro Manila, four Bases Conversion Development Authority (BCDA) eco-zones, and two National Government Data Centres.

"More importantly, we understand that for Filipinos to reach their full potential, we must invest in a fast and reliable internet. It gives me pleasure to lead the grand launch of Phase 1 of the first and only governmentowned National Fiber Backbone," said Philippine President Ferdinand Marcos, Jr.

Upon completing the remaining phases of the NFB by 2026, the DICT expects to increase the penetration rate from 33% to 65% and reach 70 million Filipinos out of the current 115 million population nationwide. This initiative will also lower the price of internet connectivity to as much as \$5 per Mb.

"The next phases of the National Fiber Backbone project will focus on broadening our network coverage, extending connectivity regions, across and providing broadband internet access to government institutions and public spaces. By extending the reach of our digital infrastructure, we are leveling the playing field and empowering every Filipino to participate in the digital economy," said DICT secretary Ivan John Uy.

Orbit Connect receives landing rights from IN-SPACe

Reliance Jio and SES joint venture, a Orbit Connect has received the crucial landing rights and market

access authorisation from IN-SPACe (Indian National Space Promotion & Authorisation Center).



IN-SPACe has granted the necessary approvals to Orbit Connect for offering commercial services to customers in India. Orbit Connect is looking to get the trial spectrum from the Department of Telecommunications (DoT) in the Ka- and Ku-bands. This will enable Orbit Connect to conduct advanced trials on its nationwide satellite broadband network with key clients.

Orbit Connect hopes to receive the trial spectrum soon so that it can proceed. Orbit Connect has become the second company after Bharti-owned Eutelsat OneWeb to receive this approval from IN-SPACe.

solutions.

trade," said Navin Pieris, group chief

The partnership between Dialog

Enterprise and UTECH Solutions

is expected to enable businesses

to maintain their competitive edge

Dialog Enterprise seeks to empower

corporations by integrating advanced

technologies such as 5G, AI, and IoT

technology

officer, Dialog Enterprise.

onto a unified platform.

Industry 4.0 partners to target IIoT

forming a cohesive technological

ecosystem that oversees all aspects of

industrial manufacturing operations.

This integration ensures real-time

data collection, analysis, and decision-

making, which enhances operational

maintains

alignment, and improves product

quality. The comprehensive framework

provided by these IIoT gateways not

only optimizes performance but also

budgetary

efficiency,

supports

reduces

scalable

manufacturing

market demands.

predictive

downtime.

growth, ensuring

both agile and robust in meeting

"With our industry experience and

our strategic partnerships from across

the globe, we are able to assist large, as

well as SMEs alike, with technological

solutions catered to their niche in the

processes

maintenance.

and enables

that

are

through

Dialog Enterprise has partnered with UTECH Solutions to develop advanced automation solutions specifically designed for Industry 4.0.

Through the partnership, Dialog Enterprise will utilize its expertise in various industries to develop cutting-edge and affordable technological solutions for the Industrial Internet of Things (IIoT) that integrate smart devices, data analytics, and automation systems, aiming to optimize operations and improve efficiency.

"Every business enterprise has its unique challenges in the digital transformation journey. At UTECH, we specialize in identifying specific requirements, and in turn, invest in cutting edge research and development to innovate solutions that solve specific problems at an affordable cost to all industries," said Riyad Ismail, managing director, CEO, UTECH Solutions.

The proposed solution stack features Industrial Internet of Things (IIoT) telematic gateways designed for the remote monitoring and control of plant and mechanical equipment. These advanced gateways seamlessly integrate with a variety of applications,

<image>

5G spectrum auction downer

The Department of Telecommunication (DoT) concluded its second 5G spectrum auction at the end of June, selling 141.4MHz of spectrum for INR113.4 billion.

Around 10,523MHz of spectrum in the 800MHz, 900MHz, 1800MHz, 2100MHz, 2300MHz, 2500MHz, 3300MHz and 26GHz bands were up for grabs, worth a potential INR963.1 billion.

However, in the end, India's three private telcos eschewed the 5G bands mainly in favour of renewing spectrum licences set to expire and beefing up their mid-band spectrum pool.

Bharti Airtel was the biggest spender, acquiring 97MHz spectrum in the 900MHz, 1800MHz and 2100MHz bands for Rs68.57 billion.

"In this auction, we have bolstered our sub-giga hertz and mid-band holding which will significantly improve our coverage especially indoor," said Airtel MD and CEO Gopal Vittal.

Powering the Networks that Connect People Everywhere

Our engineering innovations deliver essential connectivity to families, communities, businesses and governments around the world – because making connections is what we're all about.

Learn how at www.hughes.com

©2024 Hughes Network Systems, LLC. All Rights Reserved.

Smart Axiata safeguards network

Smart Axiata has announced the successful launch of the Next Generation Signalling Firewall (NGSF) and Intrusion Detection System (IDS) in collaboration with SecurityGen. These cutting-edge systems mark a significant milestone in Smart's ongoing efforts to safeguard its network infrastructure and protect customer data.

The NGSF serves as a bastion network security, ensuring of comprehensive protection for both voice and data services. By thoroughly inspecting the signalling controls for voice calls, data sessions, and Internet connectivity, the NGSF provides a holistic, deep, protocol-level inspection and intrusion prevention capabilities. Collaborating with SecurityGen, Smart has implemented a robust system that fortifies its subscribers against potentially advanced threats from anywhere around the globe.

One of the key features of the NGSF is its comprehensive crossprotocol signaling firewall platform, covering protocols such as Signaling System 7 (SS7), Diameter, and GTP. SS7 is responsible for connection setup, routing, and control, while Diameter handles authentication and authorization. GTP facilitates secured data transport over the network. The SecurityGen NGSF, also known as Telecom Security Guard (TSG), prevents a wide range of attacks, including data theft, identity spoofing, location tracing, and denial-of-service attacks.

"We are proud to be the first mobile network operator in Cambodia to successfully implement the Next Generation Signaling Firewall and Intrusion Detection System," said Ziad Shatara, CEO of Smart Axiata. "This achievement is not only a testament to Smart's commitment to digital security but also reinforces Cambodia's reputation as a nation that prioritizes and invests in the safety of its citizens' digital experiences."

The NGSF offers benefits to both Smart and its customers. For Smart, its implementation results in improved security, enhanced compliance with industry standards, increased agility in deploying new services and technologies, and proactive security backed by active intelligence. Telecom customers also reap the benefits of TSG, with increased reliability, reduced risk from cyberattacks and fraud, and the assurance that their telecom services are protected in an everexpanding digital landscape. It protects customers from bad actors that intend to steal their identities. which further allows them to perform malicious attacks on subscribers, such as SMS spamming, spoofing, and other serious threats.

India could gain \$27 billion in GDP from 5G by 2030

The GSMA reports that the widespread of 5G networks in the Indian market can contribute up to \$27 billion to India's GDP by 2030.

For this, the industry body advocated for the availability of the 6GHz spectrum for the telcos. The 6GHz spectrum could be delicensed for WiFi use or offered to the telcos in the spectrum auction for 5G deployment.

COAI and GSMA have advocated for the 6GHz spectrum to be used for 5G services. The mid-band frequencies in India are limited, and the telcos have access to frequencies in 3.3GHz to 3.67GHz for 5G, which is inadequate. The GSMA states that the telcos need at least 2GHz of bandwidth in the mid-range frequencies to spread their 5G.

"India's 5G momentum has global gained attention and respect. For it to continue, and for the full realisation of the Indian government's digital ambitions, a clear roadmap to deliver spectrum for growing mobile demand is needed. The upper 6GHz band must be part of that roadmap and bringing it into commercial use will require close collaboration between government and the mobile industry," said Luciana Camargos, head of spectrum for the GSMA.

Vodafone Idea to sell shares

Vodafone Idea is reportedly set to raise as much as Rs24.5 billion via a preferential issue of equity shares to the local units of Nokia and Ericsson.

Vodafone Idea's board has approved a scheme to issue around 1.6 billion equity shares – which have a face value of Rs10 each – at Rs14.80 per share to Nokia Solutions and Networks India Private Limited and Ericsson India Private Limited.

Nokia and Ericsson will take up to Rs15.2 billion and Rs.9.38 billion worth of shares respectively, which would give them respective stakes of 1.5% and 0.9% in Vodafone Idea.

2.6 billion remain offline – but Al could help

Around 2.6 billion people are still not connected to the internet, but artificial intelligence (AI) may be the key to changing that.

According to the Broadband Commission for Sustainable Development's 'The State of Broadband 2024: Leveraging Al for Universal Connectivity,' the number of internet users grew to 5.4 billion in 2023 and is projected to hit 5.5 billion by the end of 2024.

That leaves 2.6 billion people still offline, especially in developing and least-developed countries. An estimated 38% of the global population lives within mobile broadband coverage and not using it, while 5% of the population is not covered by mobile broadband at all.

The report says that AI solutions can help accelerate progress on the commission's seven broadband advocacy targets for 2025: make broadband policy universal; make broadband affordable; get everyone online; promote digital skills development; increase use of e-finance; get MSMEs online; and bridge the gender digital divide.

Indeed, Broadband Commission

for Sustainable Development's report said that telcos are increasingly using AI to reduce costs and optimize deployment and data traffic management across their network. as well as improve operations and the overall customer experience. By mapping network data and performance metrics to operations, customer care. marketing. and sales from a subscriber perspective, telcos can identify and address most network issues, before they affect subscribers.

The report says that emerging technologies stand to revolutionize the way decisions are taken and services are provided. Al is already reshaping the delivery of traditional services in sectors such as government, education, healthcare and finance. However. it also acknowledges challenges associated with AI and other emerging technologies, including energy consumption, misinformation, reinforcement of biases and gender discrimination. The key for telcos and policymakers is to figure out how to get the most out of Al while being realistic about its risks and finding ways to mitigate them.

Rwanda's minister of information communication technology and innovation Paula Ingabire said that emerging technology trends like Al are anticipated to add trillions to the global digital economy, but added that "the ability to harness artificial intelligence to revolutionize access to broadband and other services as well as boost productivity for different sectors will require massive investments in the building blocks including power, connectivity and computing resources, particularly in emerging economies."

"Having two thirds of the world's population now online is a cause for celebration But with only half as many connected in least-developed countries, and even less among women, the new report shows the urgent work still to be done," said UNESCO director General Audrey Azoulay, co-vice chair of the Commission. "We must also address the risks faced by those online, through better governance of digital platforms, ethical use of Al and massive upscaling in digital skills, including media and information literacy."

Nepal Telecom expands 4G to tourist destinations

Nepal Telecom (NT) has expanded its 4G network coverage to key tourist destinations, Machhapuchhre Base Camp (MBC) and Annapurna Base Camp (ABC). The expanded 4G services will benefit tourists trekking in the Annapurna region, as well as the local people and business community residing in the area.



Additionally, NT has upgraded Deurali, another tourist site near the Annapurna area, from a 2G network to a more advanced highspeed 4G network.

Machhapuchhre Base Camp, located in the Annapurna region of Nepal, serves as a gateway for trekkers heading to Annapurna Base Camp. MBC sits at an elevation of approximately 3,700m above sea level.

Annapurna Base Camp is situated in the Kaski district of western Nepal at an elevation of about 4,130m in the Annapurna Sanctuary, a high glacial basin in the Annapurna range. This is reportedly the first time that 4G service has become available at such a high altitude.

Thailand to gain mountain region connectivity

Gulf Energy Development, Advanced Info Service (AIS), Thailand's telecommunications provider, and the Highland Research and Development Institute (HRDI), have teamed up to improve connectivity in mountainous regions by building solar infrastructure in Thailand's remote areas.



Under the 'Green Energy, Green Network for THAIs' project, Gulf, AIS, and HRDI will deliver solar power-generated electricity to under-resourced communities and install solar-powered base stations to build out telecommunication systems that connect underserved areas to digital platforms.

Pilot programs were launched in two remote areas; Ban Dok Mai Sod community; and Moko Poke community. The aim is to progressively extend the project to other remote areas lacking critical essentials like electricity and telecommunications infrastructure.

"Our work with Gulf and HRDI reinforces AIS's commitment to sustainable business practices in all areas, including the development of digital networks to drive community economies. We are breaking down barriers to expand our network coverage, ensuring digital access for all Thais. By leveraging technology and renewable energy sources, such as solar cells, we can efficiently manage communication systems and deliver digital networks to targeted communities," said AIS in a statement.

Malaysia's ministries discuss second 5G network

Four ministries in Malaysia have met to discuss developing a plan for the country's second 5G network. Telecommunication providers are expected to finalise their investment in the first network, Digital Nasional Berhad (DNB), by the end of June.

By developing an additional 5G network alongside the existing one operated by Digital Nasional Berhad, (DNB), Malaysia aims to improve internet speeds and reliability, making the country more competitive in the global digital economy. This initiative is expected to drive down prices, improve service quality, and promote technological advancements, ultimately benefiting both consumers and businesses.

Additionally, the investment finalisation in DNB by the end of June marks a crucial phase in establishing a strong telecommunications infrastructure. This foundational step is essential for the success of the second network and will support Malaysia's broader goals of economic growth and technological innovation.

Communications Minister, Fahmi Fadzil, said that representatives from the Ministry of Communications, Ministry of Digital, Ministry of Finance, and Ministry of Investment, Trade, and Industry gathered to talk about their roles in implementing the dual 5G network model.

The Ministry of Communications has been working on launching a second 5G network to compete with DNB since May 2023. The launch is dependent on two conditions: DNB achieving 80% coverage in populated areas, which was achieved last year; and finalising share subscription agreements (SSAs) signed by major telcos in December 2023.



India gains 6,696 5G base stations in April

India witnessed the deployment of 6,696 5G Base Transceiver Stations (BTS) across various states and union territories (UTs) during April 2024.

The latest data reported by the Department of Telecommunications (DoT) reveals significant progress in expanding the reach of 5G technology, with Bihar, Karnataka, and Uttar Pradesh leading the deployment efforts.

Bihar recorded an addition of 864 BTS during the said duration. Karnataka, Uttar Pradesh, and Gujarat witnessed significant growth in 5G infrastructure expansion, with BTS additions of 709, 699, and 611 respectively. West Bengal, Madhya Pradesh, and Assam reported increases with BTS additions of 424, 397, and 332 respectively.

The surge in 5G infrastructure deployment across various states and UTs in India during April 2024 reflects a significant deployment of high-speed and high-capacity networks across the country.

The total number of 5G BTS in India grew from 435,720 to 442,416 during April 2024.



XL Axiata to deploy Ericsson's dualmode 5G core to combine services

XL Axiata has partnered with Ericsson to deploy its dual-mode 5G core solution.

Ericsson's dual-mode 5G core will bring XL Axiata's 4G and 5G services together in a single, fully integrated, container-based and cloud-native core network. This technology will first be deployed for new sites in East Java to cater to the growing data traffic in that region.

Based on the aggregation and expansion of 4G capabilities, along with the addition of 5G services in accordance with XL Axiata's operational and business needs, the new solution will bring with it significant improvements in performance. It will future-proof the network and lead to a reduction in costs associated with the core network as it rolls out new connectivity and services to subscribers.

Dual-mode 5G core solution takes advantage of cloud-native architecture to ensure XL Axiata has access to the latest software updates and features and can upgrade, as needed, when bringing new services to market.

Thailand to gain sovereign cloud services

Gulf Edge Company Limited and Google Cloud have announced a multi-year agreement to deliver nextgeneration sovereign cloud services in Thailand that meet the country's most stringent data residency, security, and privacy requirements.

This strategic partnership aims to empower organisations in Thailand's critical industries, particularly those involving sensitive data, such as healthcare, public safety, energy, and utilities, to accelerate their digital transformations with best-inclass Al and analytics capabilities, while offering data, operational, and software sovereignty.

Gulf Edge will be authorised by Google Cloud to operate Google Distributed Cloud (GDC) as a Managed GDC Provider (MGP), with a focus on air-gapped configurations for organisations in Thailand. GDC is a Google Sovereign Cloud solution that operates entirely within a customer's chosen environment, requiring no connectivity to a Google Cloud region or the public internet. MGPs are strategic partners that collaborate with Google Cloud to drive the adoption of GDC air-gapped, by providing expert deployment, operational, and managed services to end customers.

Gulf Edge will offer deployment options for GDC air-gapped onpremises or within a Gulf group data center, with flexible hardware options — including general-purpose central processing units (CPUs) and graphics processing units (GPUs) — to address organisations' specific workload requirements. This ensures that data, operations, and software remain entirely under the customer's control and within Thailand's borders, adhering to all legal and sovereignty frameworks, including the Personal Data Protection Act.

"Our partnership with Google Cloud on Thailand's first sovereign cloud solution with built-in AI and analytics Gulf's commitment reinforces technological leadership and to sustainable development. We chose GDC based on its unique ability to isolate operations from the public internet while providing powerful AI capabilities," said Sarath Ratanavadi, CEO, Gulf Energy Development Public Company Limited. "This will allow our mission-critical energy and utility systems to handle data-intensive tasks with enhanced security and resilience. The successful delivery of GDC in Thailand is a strategic imperative, as its adoption across regulated industries will not only boost our country's digital competitiveness but also create new revenue opportunities for our company. Looking ahead, we're eager to expand our partnership with Google Cloud, especially in areas where there are synergies between their technologies and our core competencies, to advance the growth of our business in Thailand and abroad."

"As part of our commitment to the Royal Thai Government to provide resilient and innovation-driven digital infrastructure for the country, we're very pleased to bring on board Gulf Edge as our first MGP in Thailand to deliver GDC air-gapped for local organisations. This next-generation, Al-enabled sovereign cloud solution will enable the public sector and other regulated industries to accelerate digital transformation on their own terms, even when faced with stringent digital sovereignty requirements. GDC empowers organisations to unlock new ways to analyse data, uncover insights, boost productivity, and build modern applications while ensuring they have complete control and protection of their sensitive data," said Karan Bajwa, vice president, Asia Pacific, Google Cloud.

Telkomsel and partners to explore biometrics

Telkomsel has signed a MoU with Tencent Cloud and local digital infrastructure company M Cash Integrasi to explore the adoption of palm scanning technology as a biometric tool to improve customer service.

Palm scanner biometrics identify individual customers based on unique patterns on the palm of the hand, to include fingerprints, skin patterns and vein mapping. Telkomsel sees this technology as a potential customer verification tool for Know Your Customer (KYC), which it says will make the KYC process 'faster, more efficient, safer and more comfortable.'

Telkomsel sales director Adiwinahyu Basuki Sigit said in a statement that palm scanners are part of its "commitment to increasing customer comfort, speed and security."

Palm-based biometrics offer several advantages over other biometric solutions - it's not affected by factors such as height, facial similarities between twins, and crowded conditions. Telkomsel also claims palm scanning is less prone to error because the process is caught on camera. Additionally, security experts have noted that palm scanning is potentially more accurate, as palms have more distinct identifying features between people.

Palm-scanning is also potentially less intrusive than facial recognition technologies in that palm scanners require active consent – the person must willingly and physically put their palm on the scanning device. This matters because – unlike a database full of facial recognition data – palm print data can't be used for more intrusive applications like surveillance cameras.

Telkomsel said that the technology is agnostic enough to be used across different types of hardware, software, and platforms, making it easy to implement. It will implement palm scanner technology in the work environment for customer service and B2B use cases.

"This technology will not only increase user comfort and security, but will also encourage innovation and digital transformation in Indonesia," said Jimmy Chen, VP of Tencent Cloud International and business director for Tencent Cloud APAC.

India: telcos not meeting QoS

Indian telecom operators are not offering services of adequate quality to customers, which has become a concern for the government.

The government thus wants to revisit the parameters set for the Quality of Services (QoS) that telcos have to adhere to. Reliance Jio, Vodafone Idea, and Bharti Airtel believe that there's no need to add new parameters or make changes in the area as the existing rules are sufficient. However, the government wants to see if new measures can be brought in to ensure that the quality of services provided by the telcos is good.

Since the deployment of 5G started in India, issues such as call drops have been frequent for customers. Just higher speeds and lower latency does not make for the

entire experience a consumer has with a mobile network.

The Telecom Regulatory Authority of India (TRAI) has kept quality of services as high priority area to improve upon and issued a consultation paper in 2023 on the services standards of the telcos, and the paper acknowledged that there are serious service qualityrelated issues in India today.

Mobile internet gender gap returns to pre-pandemic levels

Over 1.5 billion women in low-and middle-income countries (LMICs) across the world are now using mobile internet as more women adopt connectivity faster than men, a GSMA Mobile report showed.

In the latest Mobile Gender Gap Report, the GSMA revealed that the gender gap in mobile adoption narrowed among LMICs, from 19% in 2022 to 15% in 2023 — bringing the gap back to its pre-pandemic level.

Notable changes in India and Indonesia drove this year's shift where women's adoption rate exceeded men's. While in sub-Saharan Africa, the gender gap narrowed slightly for the first time in five years.

India, one of the world's largest mobile markets, saw a massive rise of 37% among women as adoption among men remains stable, cutting the gap from 40% to 30%. In Indonesia, the rate of adoption from women exceeded men with the gap now at 8% from 15%. The report also showed that there are now 1.4 billion (60%) women who own a smartphone device across LMICs.

In 2023, the gender gap in smartphone ownership narrowed slightly from 15% to 13%, driven primarily by South Asia which cut the gap from 41% to 34%.

"Once someone owns a smartphone, they are considerably more likely to adopt mobile internet and use it regularly which can unlock myriad socio-economic benefits. However, once women are online, they often face barriers to using mobile internet as frequently or for the same range of use cases as men," said the report.

According to GSMA, Addressing the mobile gender gap holds the

potential to deliver significant social and commercial benefits for individuals, societies, and economies. Connectivity is also critical to achieving the Sustainable Development Goals (SDGs) including those related to health, education, and financial inclusion. It estimates that closing the gender gap in mobile ownership and usage across LMICs could deliver an additional \$230b in revenue to the mobile industry over an eight-year period.

"Gender gaps stem from complex social, economic, and cultural factors, that require collective action from a broad set of organisations. We are calling on stakeholders including governments, MNOs and development organisations to work together to ensure digital and financial inclusion for women everywhere," said Claire Sibthorpe, GSMA head of digital inclusion.

U Mobile completes private 5G network PoC

U Mobile has successfully wrapped up a private 5G network proofof-concept (PoC) with Enfrasys Solutions to automate the container inspection process for Transocean Logistics.

The objective of the PoC was to assess the feasibility of automating Transocean Logistics' container inspection process using U Mobile's 5G private network capabilities combined with Enfrasys' industrial application 'Container Vision.' The PoC also used 5G RAN and 5G core



Telin and BW Digital join up for Hawaiki Nui 1 submarine cable system

BW Digital has partnered with PT Telekomunikasi Indonesia International (Telin) on the Hawaiki Nui 1 submarine cable system.

This initiative marks the first phase of BW Digital's submarine cable development program, boasting a capacity exceeding 240Tbps. The increased capacity can support the growing demand for high-speed internet services, facilitate data transfer between APAC countries and other global regions, and contribute to the region's economic growth by enabling seamless communication and data exchange.

Additionally, the development



of such high-capacity submarine cables underscores the region's commitment to advancing digital connectivity and positioning itself as a key player in the global digital economy.

The Hawaiki Nui 1 will link Australia, Indonesia, and Singapore, with potential extensions to the Solomon Islands, Papua New Guinea, and Timor Leste.

Spanning some 10,000km, the cable will follow a more efficient path northeast of Australia through the Torres Strait, improving connectivity, diversity, and security between Australasia and Southeast Asia. It will also establish the first direct cable connection between Sydney and Darwin, and from Darwin to Singapore, with additional branches to Jakarta and Batam in Indonesia.

BW Digital and Telin will jointly develop, procure, and construct the Hawaiki Nui 1 cable, anticipated to be operational by 2027, with Telin acting as the Indonesian landing party. This collaboration builds on a March announcement of a partnership between BW Digital and Citramas Group to develop a digital ecosystem at the Nongsa Digital Park in Batam, Indonesia.

This digital ecosystem will include an 80MW data center supporting regional businesses, governments, and communities, offering infrastructure-as-a-service (laaS) solutions such as landing infrastructure for new submarine cables, connectivity, data storage, and computing power for Al and machine learning (ML) applications.

The provision of landing infrastructure for new submarine cables enhances the region's connectivity to global networks, facilitating faster and more reliable data transmission. This is crucial for businesses and governments alike, enabling them to access international markets and collaborate seamlessly across borders.

The availability of data storage solutions within the data centre addresses the burgeoning need for secure and scalable storage capabilities. As data continues to grow exponentially, businesses require robust storage infrastructure to manage and analyse vast amounts of information efficiently. equipment supplied by ZTE.

The Container Vision app leverages AI as well as 5G's multiaccess-edge computing (MEC) capabilities to enable Transocean Logistics' inspectors to scan and detect defects in real-time on containers arriving at its depot site in Butterworth, Penang. MEC enables computation of heavy Al processes to be moved closer to the application usage source, enabling Transocean inspectors to detect and log defects instantly.

During the PoC, Transocean saw up to a 70% improvement in the time required to complete the detection process, compared to current practices. This also means improved turnaround times for defect filing and reporting. U Mobile said the PoC also demonstrated how Transocean can streamline its supply chain business operations by integrating various upstream business applications, which also promotes transparency amongst depot operators and container owners.

NBTC to tidy up Bangkok's cables

Thailand's National Broadcasting and Telecommunication Commission (NBTC) has launched a plan to tidy up the infamous urban tangle of telecoms cables hanging all over Bangkok.

The initiative aims to organise 440.21km of cables along 151 routes in Bangkok and nearby provinces, and install cables underground in 32 routes covering over 67km.

The project will be managed by the NBTC, the Metropolitan Electricity

Authority (MEA) and the Bangkok Metropolitan Administration (BMA), the report said.

National Telecom (NT), AIS (via subsidiary Advanced Wireless Network), True Corp, Interlink Telecom, United Information Highway and Symphony Communication will also take part. Each provider has been assigned specific routes for the initiative.

The tangled loops of telecoms

cables decorating Bangkok have long been part of the city's aesthetic, mainly because hanging them overhead is a faster, cheaper method of deployment. However, they've also long posed both an inconvenience and a safety hazard to residents. The NBTC said the project is intended to improve safety as well as aesthetics. The NBTC hopes to complete the project by the end of this year.

The NBTC and MEA will reportedly

streamline the process of deploying cables underground, although they will also implement tough new regulations to manage new installations of fibre infrastructure.



Dotgo to deliver RCS for India's enterprises

Vodafone Idea Limited (Vi) has partnered with Dotgo to deliver rich communication services (RCS) to enterprises. RCS allow Android phone users to interact with each other using the native messaging app of their devices.

Under the partnership, Dotgo will provide Vi with its Messaging as a Platform (MaaP) solution to manage services for Vi Business. This will help Vi Business in monetising messaging services nationwide.

Due to the presence of OTT platforms, operators are expected to lose \$2.5 billion in business messaging revenues as platforms such as WhatsApp, Wechat and Messenger contribute to this loss.

Accordingly, India's telecom operators have asked the telecom regulator to ask OTT messaging platforms to share a part of their revenues with the network service providers, because OTT messaging happens on top of the networks that telcos have invested in and built over the years. As network traffic is increasing because of the OTT platforms, they should contribute a part of their revenues which can be used to improve networks, say the operators.



Trusted, proven TETRA Now in VHF band

- Extend coverage
- Reduce operational costs
- Full accessory portfolio



India's operators call for level playing field in OTT

India's telecom operators have voiced their displeasure at not having a level playing field compared to the OTT texting platforms such as WhatsApp, Telegram, etc.

The Cellular Operators Association of India (COAI) has said that it hopes a level playing field can be ensured between the telcos and the OTT texting apps when it comes to meeting regulatory compliances.

OTT apps do not have to meet the regulatory compliances as telcos, which annoys telecom operators, who had previously asked the government to bring OTT apps under regulation. However, the government decided not to include the OTT platforms under telecom regulation in the new telecom act, 2023.

"COAI and its members are working closely with the Government and the Regulator towards addressing the issue of Unsolicited Commercial Communications (UCC)," said the COAI.

"TRAI's Telecom Commercial Customer Communication Preference Regulation (TCCCPR), was introduced in 2018, to address the menace of UCC. TCCCPR is based on a technological solution, Blockchain Distributed i.e. -Technology (DLT), Ledger to provide the best possible solution to curb UCC. This is the first and the largest use case of DLT in telecom, globally. This also involves multiple stakeholders, i.e. Telecom Service Providers (TSPs), Telemarketers, Aggregators, Principal Entities (PEs), etc,"

"While the industry continues to assist the DoT, the TRAI and the Department of Consumer Affairs etc. in addressing the UCC menace, we look forward to progressive action from the authorities to ensure a level playing field in regulatory compliance requirements between TSPs and other messaging platforms providing similar communication services," added SP Kochhar, director general, COAI.

Talking critical

A look back at CCW 24 and some of the innovations on show from Asia

Advancing critical communications in Asia

TCCA's Critical Communications World (CCW) 2024 concluded in May, hosted in Dubai – it was a hugely successful event with record attendance. Holding CCW in the UAE presented a great opportunity for visitors and exhibitors from Asia to join the show. Exhibitors from China, Hong Kong, India, the Republic of Korea and Singapore presented a range of innovative products and services, showcasing the work of Asian companies in the advancement of critical communications.

Long term TCCA member Hytera, headquartered in China, gives some perspective on the region:

"In the area of critical communications, Asia is complex, for countries vary greatly in their respective phases of technology adoption as well as in the technology itself. However, there are some trends and, to some extent, consensus across the region.

"First, Professional Mobile Radio (PMR), can't be skipped and is not skipped by the vast majority of Asian countries in their bid to modernize their communications infrastructures for their public safety and public protection authorities. This year China's PPDR authority, the Ministry of Emergency Management, accelerates its pace to deploy its own PDT system. In different stages of fulfilling nationwide coverage, the authorities in countries like Thailand, Indonesia and the Philippines are upgrading to or expanding TETRA or DMR Tier III Trunking networks.

'Second, convergence is the way forward. Of course, convergence itself refers to many different approaches of integrating or interconnectina heterogeneous systems in a bid to improve communications and collaborations across departments in an as-large-as-possible coverage. Vendors such as Hytera offer a total solution of convergent communications, which can be tailored according to different scenarios complicated by technologies, budgeting, and spectrum.

"Third, while proprietary Push-totalk over Cellular (PoC) is a shortcut to leverage LTE broadband, standardsbased MCX is gaining momentum in the market. Initially, the integration of heterogeneous systems relied on proprietary solutions due to the ongoing development of relevant standards and the lack of a standardized interworking function, which limited interoperability and hindered the establishment of a harmonized ecosystem. Thanks to the collaborative efforts of 3GPP, ETSI, and TCCA, particularly in the realm of MCX and the interworking function (IWF), it is expected that more Asian countries will embrace these standardbased approaches."

Consort Digital enjoyed a busy CCW, extending its MCX ONE Application portfolio by launching a Mobile Device Management (MDM) solution. MCX ONE Mission Critical Solution is a 3GPP-based open standard missioncommunication platform critical supporting Push to Voice, Data, and Video over public/ private broadband networks (LTE 4G/5G, Wi-Fi). The solution also integrates narrowband technologies such as TETRA and DMR. Consort Digital partner operators have access to a partner portal which facilitates subscription management, operational support systems, network monitoring and management tools, as well as streamlined billing and e-commerce functions.

"The critical communication landscape in Asia is experiencing a significant shift from narrowband to broadband networks for missioncritical communication requirements," says Consort Digital. "Railways and semi-high-speed rails are leading the adoption of broadband technology, driven by the need for high-speed, reliable communication for operational efficiency and passenger safety. In addition to the transportation sector, other segments such as airports, public safety, and urban management are increasingly embracing broadband solutions to enhance their operational efficiency and safety measures.

"The shift from narrowband to broadband is primarily driven by the convergence of multiple technologies and applications. Broadband networks can seamlessly integrate CCTV, IoT, and various data-intensive applications, providing a unified communication platform that significantly enhances capabilities. operational This evolution towards broadband in Asia's critical communication landscape underscores the region's commitment to adopting advanced technologies for improved connectivity, safety, and

operational efficiency."

Consort Digital showcased its MCX ONE solution tailored for the rail transportation industry at CCW, addressing the evolving requirements of modern rail transport systems. The solution caters to various use cases in rail transportation, including communication between train pilots and control rooms, public address in rolling stock from dispatch centers, interface with signaling systems, CCTV video streaming to control rooms among others.

Motorola Solutions had highlights of its safety and security ecosystem at CCW, including the new DIMETRA Connect solution and MXP660 TETRA radio that allows front-line responders to automatically switch between land mobile radio (LMR) and broadband networks. Further committing to Asia, in early June the company opened its new Research and Development Centre in Ho Chi Minh City, Vietnam, to advance data analytics and AI-enabled technologies that help fuel the company's safety and security ecosystem.

"One of the most crucial challenges facing public safety agencies today is the vast amounts of data that can stand between those in need and those who can help," said Mahesh Saptharishi, executive vice president and chief technology officer, Motorola Solutions. "Our innovation is focused on surfacing and centralizing critical insights from across public safety systems, so that first responders can better understand and respond to complex threats, helping to keep communities safer."

The Vietnam team is focused on designing and building solutions that can dramatically improve public safety outcomes by connecting people to critical information and focusing human attention where it's needed most. This includes cutting-edge software that leverages AI to create advanced camera systems, sensors and vehicle detection technologies that feed into command centres to improve decision-making and accelerate emergency response.



Boost Bank launches mobile app to serve the underbanked

its mobile app after gaining approval five months ago from regulators to launch digital services.

The app was approved by the Ministry of Finance and Bank Negara Malaysia (BNM), Malaysia's central bank. Boost Bank said that all existing premium wallet users on the Boost eWallet app will be able to open a Boost Bank account.

Boost Bank will work with local partners to launch promotions and rewards to 'meet the financial needs of the underbanked and

Axiata's banking unit Boost Bank has launched unbanked' in Malaysia. It will also run a promo of high interest rates for those that transact with launch partners.

> "The launch of Boost Bank is a key milestone as we improve accessibility of financial services for the people of Malaysia. Through Boost Bank, our goal is to enrich the digital banking landscape for those with limited to no access to traditional banking, thus advancing towards a more inclusive digital society," said Vivek Sood, Axiata Group CEO and managing director.

Telekom Malaysia and Nxera announce DC JV

Telekom Malaysia (TM) and Nxera have announced a joint venture (JV) to develop advanced data centres in Malavsia.

The JV aims to serve the needs of hyperscalers and AI application providers by developing data centres in Malaysia, starting with a sustainable, hyper-connected, Al-ready data centre campus in Johor.

The partnership will leverage the subsea cable networks of TM and Nxera. Located in Iskandar Puteri, 16km from Singapore, the new data centre campus will be the largest for both TM and Nxera. The initial phase will offer 64MW, scalable to 200MW to meet market demand. The facility will feature high-power density computing and AI capabilities, utilising advanced technologies such as liquid cooling.

The data centre will capitalise on its close proximity to subsea cable links between Singapore and Malaysia, ensuring the best local and international connectivity. The facility will be a LEED-certified (Leadership

in Energy and Environmental Design) green building, emphasising energy efficiency and sustainable practices.

"Establishing a hyper-connected Al-ready data centre marks the next phase in our longstanding partnership with Singtel, leveraging our strengths and commitment to elevate ASEAN as the preferred digital hub destination. TM brings the largest domestic network infrastructure, extensive international subsea cable systems, and the largest interconnected DC in Malaysia, providing a solid backbone for this project," said TM.

"We are excited to enter the Malaysian market with TM as our strategic partner. The development of this first data centre campus in Johor, which can be expanded in phases, demonstrates our ability to scale quickly in markets that are important to our customers," said Nxera.

TM and Nxera plan to expand submarine cable connectivity between Singapore and Johor, enhancing digital connectivity. Additionally, the joint venture will partner with Malaysian institutes of higher learning to nurture talent for the industry.

business for premium customers. Intelsat gains GEO licence for Philippines operations

Intelsat has become the first foreign GEO satellite operator licensed to sell products in the Philippines.

The Department of Information and Communications Technology (DICT) of the Philippines has granted Intelsat a Satellite Service Providers and Operators (SPPOs) license.

This allows it to provide satellite access and backhaul solutions to mobile network operators, telecommunications carriers and ISPs throughout the 7,600 islands of the archipelago inhabited by a population of over 110 million.

The licence will allow Intelsat's Philippine partners to expand cellular networks beyond their existing terrestrial limits to provide 4G

Rivada Space Networks announces new APAC deals

Rivada Space Networks has announced a series of new partners in the Asia Pacific region and has now lined up over US\$9 billion of business globally for its unique LEO network.

As the first unified global communications network, Rivada's upcoming global low-latency point-to-point network of 600 low Earth orbit (LEO) satellites is a unique next-generation constellation combining inter-satellite laser links with advanced onboard processing and routing to create a ubiquitous optical mesh network in space. This orbital network, in which data stays in space from origin to destination, creates an ultra-secure, private satellite network with pole-to-pole coverage, offering end-to-end latencies much lower than terrestrial fibre over long distances. By routing traffic on a physically separated network, it provides a layer of defense for any enterprise or government organization that needs to securely share data across Asia and beyond.

Connecto Network Systems Inc, will work with Rivada to improve connectivity for enterprise and government customers across the Philippines, ensuring seamless coverage, even in remote provinces. Connecto is spearheading the transformation of communities into smart cities, harnessing cutting-edge technologies to boost operational efficiency, facilitate public access to information and elevate the quality of government services.

NiAT, a key provider of connectivity services for the oil & gas sector in Brunei, experiencing an increased demand for high bandwidth connectivity from its customer base and sees Rivada's outernet as the ideal solution to provide enterprise-

grade, secure bandwidth combined with the high availability and guaranteed Service-Level-Agreements which underpins

is

anywhere in the country, allow ISPs to offer internet access to Philippine citizens living in remote Barangays (small territorial and administrative districts forming the most local level of government) and add redundancy and resiliency to their microwave and fibre networks

"We are dedicated to empowering a range of customers across the MNO, enterprise and ISP segments, by addressing their missioncritical requirements, offering service-level guarantees, and delivering comprehensive integration and operational end-to-end support, all customised to suit their distinctive and demanding operating landscapes," said Gaurav Kharod, regional vice president of Asia Pacific sales at Intelsat.

Cambodia's regulator warns against unregistered SIM activation

Cambodia's telecoms regulator has warned that are later used to commit crimes, the SIM card vendors and mobile operators to stop activating unregistered SIM cards or face prosecution.

The Telecommunication Regulator of Cambodia (TRC) gave the order after finding that some 'illicit' mobile operators have been activating mobile phone numbers for customers without obtaining the customer's subscriber identity information and supporting documents. The TRC also said that some SIM vendors have been renting SIM cards that are being used to fraudulently create bank accounts and social media profiles, among other illegal activities.

Such practices are in violation of a law enacted in February 2023 under which all devices using SIM cards must be registered in a national database established by the Ministry of Posts and Telecommunications (MPTC). The TRC also said that if SIM vendors activate unregistered SIMs (or SIMs registered with falsified documents)

Cellcard earmarks US\$180 million for 2024 Cambodia expansion

Cambodian telco CamGSM - which operates under the brand Cellcard - has earmarked US\$180 million for network expansion for 2024, with a particular focus on extending coverage to underserved communities.

Cellcard CEO Simon Perkins said the (PIDG) - with the bond valued at US\$20 million. network expansion plan has been approved by the Council for the Development of Cambodia (CDC) and reflects the company's strategic focus on utilizing its recently obtained sustainability financing to achieve long-term growth and positive social impact.

"ThisUS\$180 million investment underscores Cellcard's unwavering commitment to Cambodia's digital development," said Cellcard CEO Simon Perkins. "By expanding our network and focusing on the underserved communities, we aim to empower all Cambodians with the connectivity they need to thrive in the digital age."

CamGSM launched the sustainability bond on the Cambodia Securities Exchange (CSX) in November 2023, with parent company reverse tax accrued.

vendors can be held legally liable for colluding with criminals

The TRC ordered telcos and SIM vendors to immediately stop selling and distributing SIM cards without collecting and verifying subscriber ID documents. The telcos were also ordered to contact all subscribers using either unregistered SIMs or multiple SIMs under a single identity registration, and collect the required ID documents. Failing that, telcos have been ordered to deactivate all numbers without proper ID documentation

Royal Group as the sole underwriter and

financial advisor. Manulife and Prudential fully

subscribed to the bond backed by a 100%

guarantee from GuarantCo - a subsidiary of

the Private Infrastructure Development Group

In January, CamGSM secured a US\$70

million guaranteed loan from GuarantCo to

support the sustainability bond. At the time,

CamGSM said the money from both the bond

and the GuarantCo loan would be allocated

towards financing 4G telecoms towers,

energy-efficient 4G equipment and future-

proofing the network in preparation for its

Last month, CamGSM released its financial

results for the first quarter of 2024, which

reported a 66% year-on-year increase in

after-tax profit, although this was mainly

due to receiving a tax break in March

from the government covering the period

from 2023-2025, enabling CamGSM to

eventual 5G rollout.

ByteDance to invest US\$2.13 billion in AI for Malaysia

China's ByteDance, parent of social media app TikTok, plans to invest around US\$2.13 billion to set up an AI hub in Malaysia, according to investment, trade and industry minister Tengku Zafrul Aziz.

As part of the deal, ByteDance will also expand its data centre facilities in Malaysia's Johor state through an additional US\$317 million investment.

"This additional investment by ByteDance will undoubtedly help Malaysia achieve its target of growing the digital economy to 22.6% of Malaysia's Gross Domestic Product by 2025," said Zafrul.

Singapore's mobile service revenue to hit \$2.1 billion in 2028 ò

Singapore's overall mobile service revenue is forecasted to reach \$2.1 billion by the end of 2028, due to the growing adoption of 5G services in the country.

GlobalData revealed in its Singapore Mobile Broadband Forecast (Q1-2024) that mobile data service revenue in the country will increase at a compound annual growth rate (CAGR) of 4.7% between 2023 and 2028.

This will be brought about by the growing consumption of mobile data services and the projected rise in higher average revenue per user (ARPU) yielding 5G subscriptions as the service becomes more widely available across the city-state.

"Though 4G will remain the leading mobile technology, in terms of subscriptions, until 2024, 5G service will see its subscriptions surpass 4G subscriptions in 2025, occupying an impressive 88% share of the total mobile subscriptions by the end of 2028," said GlobalData Telecom Analyst Kantipudi Pradeepthi. "This growth in 5G subscriptions will be primarily driven by rising demand for high-speed data services, ongoing 5G network expansions by mobile network operators (MNOs), and a subsequent increase in the availability of 5G services across the nation."

MEASAT to support SPOTV APAC broadcast operations

MEASAT Global Berhad has signed with SPOTV to support its Asia Pacific playout operations from the MEASAT Teleport and Broadcast Centre (MTBC) in Cyberjaya.

The agreement entails the provision of MEASAT's world-class teleport facilities to enable SPOTV's Broadcast Production Suite and Data Centre services.

SPOTV had previously selected MEASAT for satellite capacity and uplink services on MEASAT-3d, whereby this new expansion of scope deepens the collaboration between the entities. SPOTV offers content via its two regional live and ondemand channels SPOTV and SPOTV2 through affiliate partners across the Asia Pacific, as well as on the SPOTV NOW multi-device streaming web platform and app.

"We thank SPOTV for their confidence in choosing the MEASAT Teleport and Broadcast Centre to host their playout operations, expanding from our previous service where MEASAT supported uplinking of SPOTV channels via the MEASAT-3a satellite since 2019 followed by MEASAT-3d in

early 2024. Through our holistic offerings of Data Centre, Teleport and Satellite uplink services, MEASAT is better able to support broadcast partners as a singlestop solutions provider in today's diversified media industry landscape. Viewers want to access content anytime, anywhere on multiple devices, and we are excited to play an enabling role in this ecosystem," said Ganendra Selvaraj, chief commercial officer, MEASAT.

"We are pleased to expand our partnership with MEASAT by locating our playout operations for broadcasting the best sports content across the Asia Pacific, at the state-of-the-art MEASAT Teleport and Broadcast Centre, supported by MEASAT's comprehensive Data Centre, Teleport and Satellite uplink services. With this one-stop solutions package, we can have playout collocation and uplink services in a single location, helping us avoid potential risks associated with last mile dependencies, besides also having the option of utilising MEASAT's broadcast centre facilities to produce exclusive content," said Lee Choong Khay, chief executive officer, SPOTV.

Symbio gains NSP licence for Malaysia

Symbio has been awarded the network service provider (NSP) licence by the Malaysian Communications & Multimedia Commission (MCMC) as part of its ongoing expansion in southeast Asia.

This development enables Symbio to add Tier-1 voice coverage within Malaysia to its existing offering, opening opportunities for global service providers and communication innovators in the region.

The NSP licence allows for the prominent voice communications software provider to broaden its Tier-1 voice coverage as a trusted voice partner in the Asia-Pacific region. This progress offers global service providers and innovators a scalable and high-availability platform to enter the burgeoning Malaysian market.

"For over 20 years we have been providing customers with choice, allowing them to unlock opportunities that serve them best," said Dylan Brown, CEO of connect division at Symbio. This development expands Symbio's Tier-1 voice offering in Malaysia, supplementing its existing domestic network in Singapore, both accessible within its South-East Asia (SEA) Regional Hub. The SEA hub allows global telecom and technology service providers to cater to customers across multiple countries via a singular Symbio interconnect.

"Offering access to multiple Tier-1 domestic voice networks via the SEA Hub further increases speed to market and reduces costs for communication providers without compromising on quality," added Brown.

Symbio aims to leverage this development to solidify and expand its full Tier-1 capabilities. Securing the NSP licence comes a year after Symbio introduced its initial offering in Malaysia, laying the groundwork for international clients to establish connections in the country through the provision of voice services, including the allocation of international numbers.

India: mobile voice service revenue to drop as data uptake expands

Mobile service revenue in India was predicted to yield a compound annual growth rate (CAGR) of 3% from US\$27.7 billion in 2023 to US\$32.6 billion by 2028, due to adoption of data services, according to GlobalData.

However, mobile voice service revenue will decline at a CAGR rate of 2.1% between 2023-2028 as consumers shift towards data-based services, which will offset this decline. Mobile data service revenue will increase at a CAGR rate of 7.1% in the same time period driven by availability of 4G/5G networks nationwide, and subscription of higher ARPU driving 5G devices.

"The average monthly data usage is forecast to increase from 16.4GB in 2023 to 37.4GB in 2028, driven by the growing consumption of online video and social media content over smartphones, on the back of data-centric packages offered by MNOs," said GlobalData telecom analyst, Hrushikesh Mahananda.

Despite the rise of 5G networks and device, 4G will stay the leading mobile technology throughout until 2028 as operators continue to expand their LTE coverage. However, the growth rate of 5G subscriptions is expected to be the fastest over the five-year period, driven by the ongoing 5G network investments and expansions by operators and proliferation of 5G-enabled smartphones.

"Reliance Jio will lead the mobile services market in terms of subscriptions through 2028 given its strong focus on 4G and 5G network developments and expansion across the country catering to the rising demand for high-speed services by customers," said Mahananda.

Sri Lanka to open tower market to independent companies

The Sri Lanka government is making moves to amend the country's telecoms laws to allow independent companies to build telecoms towers.

Under the current Telecommunications Regulatory Commission Act, towers can only be built by licenced telecoms operators. However, the government has tabled amendments that include opening the tower business to third parties. The amendments are needed to speed up tower rollouts to meet telcos to slash their budgets for tower government targets. construction. Consequently, only 50 towers

The Telecommunications Regulatory Commission of Sri Lanka (TRCSL) aims to build 276 towers to boost mobile broadband connectivity and support the rollout of 5G, both of which are needed to help facilitate the government's plan to expand the country's digital economy to US\$15 billion by 2030.

The country's economic crisis has forced

telcos to slash their budgets for tower construction. Consequently, only 50 towers were constructed in 2023, while another 150 towers are supposed to be built this year.

Parliament is expected to debate the amendments within two months. If the amendments pass, it could open up another market for regional and global tower companies that have seen tremendous growth in the past few years as telcos divest their tower assets.

Microsoft pledges US\$2.2 billion in Malaysia

Malaysia is set to receive a US\$2.2 billion investment from Microsoft over the next four years to advance the country's digital transformation.

The investment plan will include building cloud and Al infrastructure across the country. Microsoft's investment will also be used to strengthen its partnership with the Malaysian government and establish a national Al Center of Excellence (CoE) that could improve the country's cybersecurity.

"Our investments in digital infrastructure and upskilling will help Malaysian businesses, communities, and developers apply the latest technology to drive inclusive economic growth and innovation across the country," said Satya Nadella, chairman and CEO, Microsoft.

Malaysia's minister of investment, trade & industry, YB Senator, Tengku Datuk Seri Utama Zafrul Tengku Abdul Aziz, highlighted the significance of Microsoft's investment in the country over the past 32 years, which contributed to the development of the country's semiconductor ecosystem: "together with Microsoft, we look forward to creating more opportunities for our SMEs and better-paying jobs for our people, as we ride the AI revolution to fast-track Malaysia's digitally empowered growth journey.'

Microsoft's data infrastructure investment forms part of its "Bersama Malaysia (Together with Malaysia)" initiative, announced in April 2021, which plans to develop the company's first data center region in the country.

The newly announced investment will address the increasing demand for cloud computing services in Malaysia and will also allow the country to capitalise on the latest Al technologies.

Microsoft has also committed to supporting and promoting opportunities for the development of Al skills among 2.5 million individuals.

Talking satellite

The Konektadong Pinoy Act: a potentially giant leap for satellite and last-mile connectivity in the Philippines

The Philippines is making significant strides toward modernising its outdated telecommunications regulatory framework through the proposed enactment of the *Konektadong Pinoy* Act. In line with the country's digital transformation drive, the bill has been designated as a legislative priority. Having already passed the House of Representatives, it is now pending deliberations in the Senate.

The Act's main focus is on overhauling the country's data transmission sector by improving infrastructure and enhancing market competition. Its enactment is expected to address critical issues of affordability, speed, and accessibility. Ultimately, this will foster a more inclusive digital environment, bringing the Philippines' internet connectivity on par with its ASEAN peers.

Key reforms proposed by the measure

The Act proposes four key pillars of reform to ensure more reliable and affordable internet connectivity across the country:

1. Streamlining procedures and eliminating entry barriers - One of the most significant aspects is the removal of the legislative franchise requirement for those intending to build a data transmission network or hold spectrum, a century-old mandate that has hampered digital infrastructure expansion and allowed inflated internet prices. By removing this requirement, the bill will enable ISPs to deploy their own networks, encouraging investment and promoting the entry of more market Additionally, players. the bill simplifies the current licensing framework by shifting to a registration process, which could foster a more competitive and dynamic market.

Carlo Agdamag, manager, Access Partnership

2. Efficient use of radio spectrum - The bill proposes measures to optimise the use of scarce radio spectrum resources by developing a comprehensive and transparent spectrum management policy framework. This will institutionalise the conduct of spectrum auctions and the implementation of fixed periods for spectrum licenses to ensure these resources are allocated efficiently and fairly. Such reform will allow optimised utilisation of this finite resource, enhancing service quality and expanding coverage, particularly in remote and underserved areas.

- 3. Improving access to infrastructure The bill requires telecom companies to share infrastructure, which will lower operational costs and facilitate market entry for new companies. This is especially crucial in rural areas where small ISPs drive services due to telcos' limited presence.
- 4. Strengthening enforcement To ensure quality internet for all Filipinos, the Act strengthens the regulator's enforcement through performance standards holding companies accountable, creating transparency and accountability.

Addressing the state

The current sector state underscores urgent reform need. It is effectively a duopoly dominated by vertically integrated incumbents controlling most subscribers, while numerous smallscale ISPs rely heavily on incumbents' wholesale infrastructure often facing challenges accessing these networks.

A significant urban-rural divide exists. In urban centres, higher-income consumers and businesses drive broadband demand primarily served by large telcos. Rurally, areas depend on small ISPs for internet as major telcos offer limited mobile broadband and fixed broadband coverage, with only 33% of households having fixed broadband access below the ASEAN average. Although expanding, small ISPs' investments are limited compared to larger telcos.

Enhancing competition and services

The Act aims to address these issues by enhancing competition and breaking

incumbents' market power to create a more dynamic, competitive

telecommunications sector. By removing barriers to entry and encouraging new players, the bill seeks to foster innovation and improve service quality. This approach should benefit consumers by providing more choices and better internet services at competitive prices.

Satellite and last-mile focus

A crucial aspect is enhancing satellite technology vital for providing remote area access where traditional infrastructure is impractical, especially for an archipelago like the Philippines. The bill seeks to institutionalise the recent Executive Order on satellite liberalisation, fostering a more stable regime for satellite systems attracting significant interest from players like SpaceX's Starlink recognising Philippine market potential.

However, satellite connectivity often remains unaffordable for many households requiring substantial hardware and service costs.

Affordable fixed and mobile broadband are thus equally critical for broader accessibility. Increased competition can ensure better pricing, higher speeds and improved access across income levels. These networks generally offer faster speeds and lower latency, making them more suitable for densely populated areas and activities requiring real-time responsiveness.

A connected future

With enactment, Filipinos can expect affordable, quality internet services, particularly in unserved and underserved areas. Beyond creating a competitive market, it transforms digital infrastructure access by ensuring all have modern ICTs, aligning with digital inclusion goals bridging the country's divide.

The Konektadong Pinoy Act represents a bold, forward-thinking reform initiative creating a more dynamic, inclusive and connected Philippine society, setting the stage for significant connectivity advancements bolstering national progress and development.



P25

DMR

Together for a safer world.

The new TP9900 Multiprotocol, Multiband Portable enables multi-agency cooperation that significantly improves community safety thanks to the enhanced interoperability between P25, DMR and analog channels in multiple frequency bands.





A full suite of multiband mission-critical portables and mobiles, including the 9700 DMR and the 9800 P25 series.



tait

Nepal: unlocking financial inclusion



ome to the Mount Everest, the world's highest altitude above sea level, Nepal offers a wide array of extreme sport activities and culinary options to tourists flocking every year to the country; but when it comes to internet availability, the country is still striving for reaching sky-high performance, particularly in rural areas.

With 79% of the Nepali population living in rural parts of the country, delivering convenient and accessible ATM banking services to remote, rural areas is particularly beneficial for underconnected populations with no access to a reliable internet connectivity at home.

Government efforts for a digitally inclusive Nepal

In 2019, the Nepali government introduced the Digital Nepal Framework as a roadmap to leverage digital technologies to drive economic growth. Under the framework, the government has made it a priority to improve digital connectivity and make internet access a fundamental right for every citizen.

The measures and initiatives from this framework have significantly improved internet and mobile broadband penetration rates in the country. The Nepal Economic Forum reports that digital connectivity has been rising exponentially over the years with over 1.97 million households having internet subscriptions, as of 2022.

Financial inclusion is also at the forefront of government initiatives. The National Payment Gateway is set to enable cashless governmentrelated payments in a timely manner, contributing towards making financial services more accessible to the population.

Som Sueh Li, director, sales, enterprise & cloud, Asia, SES

Five years on, digitisation remains Nepalese government's top priority, with further initiatives from the Ministry for Communications and Information Technology to bolster digital transformation, with the ICT Exhibition and Digital Championship programs to support startups in IT and innovations.

Satellites bring financial services closer to rural Nepal

Some of the key challenges in connecting remote Nepal include a lack of reliable power supply and inadequate terrestrial infrastructure due to the mountainous geographical terrain, which makes it logistically challenging and costly to build and maintain communications infrastructure.

The lack of internet access means those living in remote, rural areas and other underserved communities are unable to access digital financial services like online banking and digital payment, which facilitates both day-to-day living and business activities for individuals and communities.

Building a reliable ATM network then became an urgent necessity for both residents and tourists with convenient, 24/7 access to their bank accounts and allow them to conduct banking services that cannot be done online from home - from cash withdrawal and deposit to bill payments and fund transfers - without having to visit traditional bank branches. The World Bank reported that the number of ATMs available to the Nepali population falls significantly behind the world average - 20.26 ATMs per 100,000 adults in 2021, compared to 51.89 ATMs per 100,000 adults.

To help close this gap and expand the ATM network in rural Nepal, SES has been delivering fast, reliable and cost-effective connectivity services via NSS-12, a satellite leveraging Ku-band spectrum and operating in geostationary orbit (GEO) to the benefit of a population needing urgently convenient financial services. Combining it to our quick and easily deployable terminals enabling large amounts of data in real-time, we are tapping the most performant, accessible and adequate technology in the sky and on the ground to bring financial services closer to rural Nepal.

Whilst one of Nepal's common sayings is "Bistare, bistare" (slowly, slowly), alluding to Nepalese culture of slow living, a speedy connectivity technology - both in the performance it delivers and the quickness of deployment - is a vital asset for the daily convenience isolated populations. of Delivering performant and reliable connectivity via satellites to those remote areas needing superior reach is an absolute must for the future of the nation.



FEATURE: AI



Making money with AI

Classical and Generative AI are reshaping telecommunications as we know it – so what do operators need to know to make the most of these new capabilities?

I has already significantly reshaped the telecommunications landscape in a very short period by helping telcos improve service quality, increase customer satisfaction and develop new products and services.

"Communications service providers (CSPs) are now showing a great deal of interest in AI and ML in general to accelerate the transformation of enterprises. AI has applications in literally hundreds of areas of a CSP's operations, but it is frequently unclear where those applications will have the greatest impact," notes Prianca Ravichander, chief marketing officer, Tecnotree. "The telecom industry has seen several changes as a result of the introduction of GenAI, including improved customer experiences, network management, and service delivery." While GenAl has gotten a lot of attention recently, "what's interesting about the latest Al innovations is seeing how they can accelerate outcomes and open new opportunities," shares Abhishek Sandhir, managing director, telecommunications, Sand Technologies. "For example, we've recently partnered with one of the world's largest MNOs to combine classical Al applications with GenAl to take their capabilities and growth strategies to the next level. Al has been reshaping the telecom landscape for many years, but the possibilities for new Al-related advances and Al-generated business opportunities are quite exciting."

Indeed, the opportunity to personalise the customer experience is rising to a new level with AI, and for telecom providers who have gold mines of customer behavior data and network

performance data, the impact of AI is limitless. "The ability to both customise offers and automate the execution of each customer's needs has the potential to drive new revenue and reduce costs," reports Joy King, vice president, Optiva.

Many telcos are deploying Al-powered chatbots and virtual assistants to provide instant customer support, resolving routine issues with little to no human intervention while freeing up human agents for more complex or higher value tasks.

"What's really exciting is how generative AI is now completely changing how CSPs can build and launch new products and services through its natural language and image recognition capabilities. This is transforming how CSPs translate new product ideas into commercial offerings, dramatically accelerating the process from concept to catalogue," adds Dominic Smith, marketing director, Cerillion.

Holistic optimisation

Al is playing a growing role in helping MNOs in southern Asia and the world at large address the constant challenges of network congestion, competition, churn, fraud, and sustainability.

"Al accomplishes nothing without a strong data foundation, and MNOs are some of the most data-rich organisations in the world," says Sandhir. "The sheer number of customers and the volume of network-enabled engagements

they generate present operators with a huge number of optimisation and improvement possibilities. Their challenge is capturing, analysing and gaining insights from that data, which is where Al plays an essential role."

The biggest challenge that MNOs face, especially the largest ones, is volume, asserts King, and since "network performance can be impacted by so many variables, with AI, the ability to evaluate and act on issues including fraud and cybersecurity risks becomes exponentially more achievable due to the scope, scale and speed of proactive AI evaluation and actions."

Indeed, network optimisation is an obvious use case for AI, but MNOs must go beyond simple adjustments to look more holistically at how their networks operate.

"Al can help identify ways to adjust azimuth, angles and power levels based on real-time demand, which helps to prolong equipment life while reducing energy consumption - a cost-saving AND a sustainability story," explains Sandhir.

"AI Predictive Analytics uses historical data to predict when network congestion is likely to occur and takes proactive measures to prevent it," confirms Ravichander. "It anticipates traffic spikes and manages resources dynamically to ensure optimal performance. Al-Driven Resource Management also allocates bandwidth and other network resources in real-time based on current demand and predicted future needs, distributing network traffic efficiently across available resources to prevent bottlenecks. Self-optimising networks (SONs) implement AI to continuously monitor and adjust network parameters for optimal performance. Deploying AI at the edge to process data locally reduces latency and congestion in the core network."

"Used in other ways, AI can review and analyse back-office data in a fraction of the time it takes a team of humans," adds Sandhir. "This delivers efficiency gains, but it can also generate insights that uncover new marketing strategies to reduce churn and illuminate trends that indicate (and mitigate) fraudulent behaviour."

Ravichander elaborates on the fraud factor, explaining that real-time monitoring with Al monitoring transactions and network activities enables the detection and prevention of fraudulent activities: "pattern recognition uses ML to identify patterns and anomalies indicative of fraud. Fraud prevention is bolstered by automated response systems that swiftly respond to detected fraud attempts, minimising impact."

Making money

Telecom operators have long sought more ways to monetise their networks, particular amidst increasing competition and falling core service revenues. Additionally, MNOs make significant CapEx investments to build market-leading networks, and finding new and faster paths to monetise those networks is critical.

"Oftentimes MNOs already have the data they need to identify new monetisation opportunities.



FEATURE: AI

What they're missing is the capability to unlock that data and gain business insights from it," explains Sandhir. "Al can help operators quickly generate business intelligence from data and combine those insights with demographic, population and demand projections that help shed light on new business opportunities. Specific recommendations will always vary by operator and location, but even the simplest insight can inform the development and launch of services that monetise networks in new and exciting ways."

Most telcos face significant challenges in translating a marketing idea for a new product or promotion into the corresponding BSS configuration needed for monetisation.

"In fact, many a new product never gets off the drawing board because everyone knows it will take too long to build, test and launch, stifled by legacy systems and processes," says Smith. "GenAl is a game-changer which allows telcos to build and launch new products and services faster than ever before by breaking down the barrier between the marketing and operational teams. Telcos can go straight from whiteboard brainstorming to product testing and validation, using GenAl to translate natural language and images into the required catalogue configuration in a matter of seconds."

"Today, when customers need new services, new plans, or new devices, they begin their own research and reach out to their current provider - or seek new options. With GenAI, identifying customers' interests and making proactive offers represents new revenue opportunities. Much like the ads that follow us all around the internet when we search for something or hover over an image for just a few seconds, telcos can capitalise on these early interest signs and take action," agrees King.

"CSPs can now take on the digital service providers at their own game, using GenAl to power a fail-fast approach to launching and monetising new products and services," adds Smith.

The conversation around AI often focuses on optimisation and efficiency, and while those are legitimate ways to impact the bottom line, there's no limit to the number of ways CSPs can use AI to generate new revenue.

"On the deployment front, Al can help operators predict with confidence the most-profitable fibre and wireless sites based on variables that can be further evaluated using a network digital twin," says Sandhir.

"By using AI to optimise network performance, outages that completely shut down operations can be avoided. AI can predict which locations would see the highest interest usage at a given moment, using predictive and historical data. The network can prevent slowdowns and failures by boosting service to areas where it anticipates a spike in traffic," adds Ravichander – again, increasing customer satisfaction and cutting churn.

Innovative CSPs are now pursuing a strategy that involves collaborating with ecosystem partners to provide additional offerings and expand into new and adjacent markets. "It is predicted that new go-to-market ecosystems, driven by partnerships and a move away from vertical integration and towards open ecosystems, will accelerate growth beyond connectivity. To onboard ecosystem services, CSPs will implement open platform architectures that are data-driven and user-centric," says Ravichander. "To increase long-term value, telcos are collaborating with companies in related industries to build next generation use cases."

Obstacles to adoption

Amongst all the headlines, innovations and fanfare, the real-world incorporation of Al into mobile networks has been limited to date.

"The technology still seems intimidating to a number of people. As a result, one of the biggest hurdles to broader Al adoption is simply fear of the unknown," explains Sandhir. "Some of the largest operators have deployed Al for years, but quite a few are still wondering how best to use Al. They're not questioning whether they should use Al; they're just not sure how to use it or where to begin. That inherently causes apprehension and delay. Finding an experienced partner that's worked at the intersection of telecom and Al is a great first step for an MNO to adopt Al to improve their business strategy."

King highlights that the talent needed to integrate AI into the telco network is in high demand – "and the telco industry isn't where most of the AI experts are choosing to go. Secondly, the regulatory scrutiny that MNOs face is difficult to navigate, especially because regulators themselves are still struggling to fully understand AI. And finally, the investment needed (both in human resources and technology) is significant, and with the slowdown in revenue growth and profitability, many MNOs are reluctant to take this important next step. But without moving forward boldly, MNOs risk losing another round of opportunity to new market entrants and the hyperscalers."

Ravichander believes that MNOs are reluctant to use AI to enhance their business strategy for several reasons, including the high cost of implementation. Many MNOs, especially smaller ones, may find it difficult to make the significant upfront investments in technology, infrastructure, and trained personnel that are frequently needed to deploy AI solutions. The complexity of integration presents an additional challenge as many MNOs have outdated systems that are difficult to integrate with current AI technologies.

"The management and quality of data pose significant challenges as well. Al is strongly dependent on high-quality data, but poor data quality, inconsistent data formats, and data silos affect many MNOs," says Ravichander. "These problems have the potential to reduce Al applications' effectiveness and impede their deployment."

Al adoption is further complicated by privacy and regulatory issues, adds Ravichander: "large

volumes of personal data are frequently handled during the implementation of Al, which raises questions around data privacy and compliance with laws. It can be difficult to navigate these legal restrictions, which could impede the use of Al technologies."

Operators beware

Integrating AI into the network is no simple task – and not one that should be viewed as a short-term project.

"Integrating AI into the network is a big step for operators, and to guarantee a successful deployment, they must first clearly define their goals and use cases such as network optimisation, customer service enhancements, and predictive maintenance," says Ravichander. "Setting high-impact topics as priorities can show early success and generate momentum. Yet another crucial component is data management. Poor data quality might result in ineffective AI models, it is imperative to ensure that data is clean, accurate, and consistent."

According to Sandhir, operators must keep in mind that any AI application must be built on a solid data foundation to be successful; if the data sources are low quality, the AI recommendations will be too. Secondly, successful AI implementation is as much about the human element as it is about the technology. Especially with AI, where people are concerned about job displacement, the operational and organisational mindset need to be mature enough to support the integration of AI in and around the network environment.

"Third, operators need to remember that Al is intended to complement, not replace, human ingenuity," emphasises Sandhir. "Classical Al and GenAl can present data in new ways and uncover new insights, but it's up to an individual or team to make the strategic decision. Al can empower MNOs to innovate, but it can't innovate on its own."

Understanding the benefits and real-world applications of AI networking in an organisation is beneficial, but it's also important to grasp the options for implementation.

"Successful AI networking deployment requires a seamless integration of hardware, software, and networking technologies. To achieve the desired results of AI networking, all these components need to operate together," says Ravichander. "It is crucial to invest in scalable and adaptable infrastructure that can meet the processing demands of artificial intelligence applications. Another crucial step is to guarantee that AI solutions can be smoothly integrated with legacy systems and current network infrastructure."

"One of the biggest opportunities that operators have is to use their own internal data goldmines from both BSS and OSS platforms but also include external market data. Choosing to implement AI using only their own internal data is a step forward, but it's not enough," warns King. "Operators must ensure that AI can be trained on both internal and external data sources to maximise the impact."



NTNs – a puff of hot air?

NTNs are being embraced by the wireless community as a way of provisioning reliable, universal connectivity...

on-Terrestrial Networks (NTN) are gaining traction globally. The southeast Asian region, however, is experiencing significant developments and is adopting such technologies to enhance connectivity and address the challenges posed by its diverse geography.

"Just a few years ago, you could still see telcos and MNOs on one side, and satellite operators on the other. The telco/MNO network and the satellite networks acted as distinct solutions," says Gaurav Kharod, regional vice president, Asia Pacific, Intelsat. "That is changing now as satellite payloads become software-defined, and in line with the Software Defined WANs (SD-WAN) on the ground. This ongoing convergence of satellite and terrestrial technologies, supported by regulations, standards and use cases, will have a profound impact on the industry, bringing scale and reshaping hardware, waveform and software strategies.'

Moreover, "with the diverse and often challenging terrains in southeast Asia, terrestrial networks struggle to provide consistent coverage and connectivity, especially in remote areas. This is where NTN, especially satellite technology, can play a crucial role in bridging the digital divide and ensuring connectivity everywhere," says Peng Zhao, vice president, policy & regulatory, GSOA.

With a growing focus on sustainability, southern Asia is focused on integrating NTN with green technologies to support sustainable development. Investments in NTN can support this transition by enabling more efficient energy management and reducing carbon footprints through better connectivity and data analytics.

"The integration of satellite technology with terrestrial networks can offer high-speed connectivity, enhance services, and connect urban as well as rural areas," opines Zhao. "This convergence technologies not only benefits citizens but also contributes to the overall development and progress of the region."

A network of networks

NTNs bring several advantages over traditional communications technologies, including extended coverage, disaster resilience, 5G integration,

FEATURE: NON-TERRESTRIAL NETWORKS



high mobility support, scalability/ flexibility, support for IoT/M2M, enhanced security and privacy.

"Moreover, the collaboration and nonbetween terrestrial terrestrial networks fosters a network of networks approach, integrating different industries and technologies for enhanced innovation and connectivity.' shares Zhao. "This convergence not only boosts the performance of communication networks but also ensures a seamless integration of services, ultimately benefiting users worldwide. As NTN platforms continue to evolve and integrate with terrestrial networks, they offer a future transformative connectivity of solutions that cater to the needs of citizens, governments, and enterprises alike while addressing challenges of traditional the communication technologies."

Partnerships between organisations like GSOA and the GSMA are advancing the adoption of NTN solutions globally. These collaborations explore innovative technologies that leverage the strengths of both satellite and mobile networks, unlocking new opportunities for consumers and enterprises.

"The inclusion of satellite and non-terrestrial networks (NTN) in 3GPP standards opens new growth markets for satellite operators including 5G, Direct-to-Device and IoT. This hybrid network will deliver ubiquitous coverage and bring universality values to customers." confirms Kharod. "5G NTN standards are helping to create a more open marketplace in which satellite and mobile service providers can collaborate. It is an enormous opportunity for both MNOs and satellite players, as it becomes clear that no single technology alone is going to solve the problem of access and universal coverage both, along with bringing value to customers."

"Overall, the current state of play in southeast Asia regarding NTN is characterised by active partnerships, regulatory discussions, and a focus on leveraging NTN to enhance connectivity and bridge the digital divide in the region," adds Zhao.

Getting the wavelength right

On top of the usual challenges – technical, financial, regulatory, and socioeconomic – the expansion of NTNs is further complicated by spectrum, and requires a multifaceted approach that involves regulatory reforms, technological innovations, and regional cooperation.

"The increasing NTN adoption will require spectrum regulation coordination between satellite and mobile," explains Kharod. "We work closely with regulators to ensure that NTNs are included in the universal service regulations, as well as with local telecoms operators."

Indeed, "southern Asia can manage spectrum limitations as NTN adoption increases by prioritising regulatory certainty and spectrum allocation for satellite services. The protection of Fixed Satellite Service (FSS) Mobile Satellite Service and (MSS) spectrum is crucial for enabling NTN services," says Zhao. "This entails ensuring that the satellite spectrum is supported by regulatory policies that promote collaboration between satellite network operators, mobile network operators, and policymakers."

To achieve success in the smooth deployment of NTNs, Asian countries must develop unified spectrum policies and regulations. Harmonising spectrum allocation across the region can reduce interference and optimise the use of available frequencies. Indeed, in its 'Southeast Asia's Green Economy 2024' paper, Bain reports that dynamic spectrum sharing policies would enable multiple users to access the same frequency bands without causing interference, maximising spectrum efficiency and supporting diverse applications. Likewise, S&P Global reports in 'ASFAN Economic Outlook 2024' that introducing flexible and adaptive licensing models such as secondary market trading and spectrum leasing can accommodate the evolving needs of NTNs.

Accordingly, regional cooperation and coordination are a must. The Association of Southeast Asian Nations (ASEAN) is expected to play a crucial role in fostering cooperation to streamline efforts in spectrum allocation and coordination. Since collaborative spectrum planning can ensure that resources are used efficiently and effectively, multilateral agreements on its use and management can address cross-border interference issues.

Zhao agrees that "it is essential for southern Asia to engage in discussions at international forums, such as the ITU and APT, to advocate for the allocation of spectrum for satellite services. By participating in these conversations, southern Asia can highlight the importance of satellite connectivity in bridging the digital divide and connecting underserved populations, but also industries like maritime, aviation, and mobility. Overall, southern Asia must focus on forming partnerships, implementing technology-neutral policies, and advocating for spectrum allocation to effectively manage spectrum limitations and facilitate the adoption of NTN in the region."

The next big thing?

NTNs promise transformative benefits for southern Asia and indeed the world at large.

"NTN are poised to be the next big thing in wireless communications," affirms Zhao. "The transformative power of NTN lies in their ability to bridge the digital divide, support a wide range of applications, and bring internet access to remote areas. The collaboration between terrestrial and NTNs has already brought significant benefits to citizens, connecting rural and remote areas."

"We believe that the integration of NTN and cellular networks will be a game changer and we have been investing in innovations across 5G, software-defined networks, universal terminals," agrees Kharod. "We expect satellite to become fully integrated within existing telco/MNO networks in a couple of years."

Industry experts believe that NTNs are crucial for achieving global connectivity, especially in remote and underserved regions, where they are complementary to terrestrial networks, filling coverage gaps and providing redundancy in case of terrestrial network failures. While upfront costs are high, technological advancements are making NTNs more feasible and attractive for investment.





Latest wireless communications news, views and technology from Asia

www.asianwirelesscomms.com



www.asianwirelesscomms.com

The continuing importance of digital Land Mobile Radio technology

Sandra Wendelken, market insights manager, Tait Communications



hile 5G technology grabs headlines around the globe and in Asia for its many extraordinary wireless advancements, land mobile radio (LMR) technology deployments continue to grow at a steady rate and provide mission-critical voice communications for enterprises and public sector agencies. Even with the continued growth of LMR, the importance of broadband technology for critical communications solutions cannot be overstated. Both broadband and LMR technologies have their place in our industry.

The transition from analog to digital LMR technologies is underway in many Asian markets. Globally, digital subscribers accounted for 72% of the total installed base in 2022, but Asia has the largest analog installed base, accounting for 50% of the world's active analog users in 2022. While shipments of analog LMR terminals are declining in Asia, digital LMR radio shipments are increasing at a 13% compound annual growth rate (CAGR), according to Omdia.

Advantages of LMR

There are many benefits of LMR technology for public safety agencies, utilities, oil and gas firms, transportation agencies, and many other organisations that require secure, reliable communications within a defined footprint. While private 5G networks are topping the list of potential future revenue drivers for mobile network operators, LMR networks were the first private networks originating decades ago and bringing many advantages.

Reliability. Two-way radio networks are one of the most reliable forms of communications networks. LMR sites are generally built to 99.999% reliability with backup generators for power during extreme weather events. Major cellular system failures have happened already in 2024 to several mobile operators around the globe including in Asia. During emergencies, LMR networks continue to work when other networks are out of service.

Security. Digital LMR standards have built-in security protocols to ensure secure communications. No network or technology is foolproof and bad actors continue to evolve their strategies, but LMR networks provide one of the most secure communications options for organisations.

Coverage. LMR networks are built to an organisation's specific coverage requirements. With strong network design, LMR sites are placed to maximize coverage where needed. Repeaters and other in-building systems enhance coverage in difficult places such as tunnels, mines, basements, and stairwells.

Diverse communications. Field workers often need to communicate within teams of colleagues. First responders talk with dispatch centers and with their fellow police officers, firefighters, and emergency management service

and services firms can offer ongoing managed services of the network and devices so the company or agency can focus on their mission.

Broadband options. Having access to reliable data is essential for police officers, firefighters, utility workers, transportation agency employees, field staff at energy firms, and many other employees in mission-critical industries. The number of options for broadband services is increasing, the technology is evolving, and new use cases will continue to help workers be prepared to do their jobs more safely and efficiently. LMR networks are evolving to include broadband technology or to be used seamlessly and effectively alongside broadband networks.

Digital LMR technology options

When an organisation's communications network reaches the end of life, there are several digital radio technology standards that can be deployed depending on the organisation's requirements. Digital standards are important because they ensure an open, flexible technology environment that contributes to a multi-vendor market with competitive pricing.

Project 25 (P25). P25 is one standard for the design and manufacture of interoperable digital two-way wireless communications products. Developed in North America with state, local and federal government representatives and

"Globally, digital subscribers accounted for 72% of the total installed base in 2022, but Asia has the largest analog installed base, accounting for 50% of the world's active analog users in 2022."

(EMS) technicians. LMR technology provides the benefits of quickly relaying information to a group or speaking directly with a colleague. In addition, two-way radios provide for direct mode communications, allowing radio-to-radio connectivity. This is an important feature for fireground communications and other emergency scenarios and one that has been difficult to replicate in cellular network services.

Control. Organisations that deploy LMR networks control the system and can make adjustments to best fit their requirements. If the organisation does not have the technical staff to maintain the network, LMR equipment providers

Telecommunications Industry Association (TIA) governance, P25 has gained worldwide acceptance for public safety, security, public service, and commercial applications. Radio equipment that demonstrates compliance with P25 can meet a set of minimum requirements to fit the needs of users. While the P25 standard was originally created for public safety professionals, the technology is also used globally by utilities, transportation agencies, and other missioncritical infrastructure entities. P25 systems can operate in conventional or trunked modes, with two phases of the technology.

The P25 Compliance Assessment Program

(CAP), overseen by the U.S. Department of Homeland Security (DHS), ensures interoperability between the equipment from the various P25 manufacturers. The TIA TR-8 Working Group that oversees P25 standards continually updates the standard, with recent enhancements to security for example.

Digital Mobile Radio (DMR). DMR is a digital radio standard specified for business mobile radio users developed by the European Telecommunications Standards Institute (ETSI) and first ratified in 2005. The primary goal is to specify affordable digital systems with low complexity. DMR provides voice, data, and other supplementary services. Products designed to the standard's specifications are sold in all regions of the world. Most mission critical DMR deployments are comprised of Tier 2 conventional technology and Tier 3 trunked systems. The Applications Interface (AIS) was developed by members of the DMR Association with the goal of enabling applications to benefit from interoperability between an application and DMR infrastructure from different vendors

The DMR Association also developed the DMR Interoperability Process (IOP) so that users and equipment suppliers benefit from a truly open multi-vendor market for DMR equipment. The interoperability process is a formal and consistent test mechanism allowing manufacturers to test that their products are compatible. The association lists more than 200 members on its website.

TETRA. The TETRA standard, also developed by ETSI, is a suite of standards covering different technology aspects, including air interfaces, network interfaces and its services and facilities. TETRA has been developed in releases (phases) known as TETRA Release 1 and TETRA Release 2. While the standard originated in Europe, with the first use cases in public safety, the technology is currently deployed in networks around the world across multiple vertical markets.

TETRA association TCCA also developed an Interoperability Certification process (IOP) to enable an open multi-vendor market for TETRA equipment and systems. The Interoperability Certification Process is managed by TCCA's Technical Forum (TF) with targets and priorities set jointly between users, operators, and manufacturers. TCCA has various working groups and releases white papers around topics related to the standard.

Sarawak goes green with DMR

The Malaysian state of Sarawak has been investing in modern equipment for its Security and Enforcement Unit, including a Tait Communications digital radio system. Officials in Sarawak understand that the benefits of digital LMR technology are numerous and are deploying a digital system to enhance the state's safety, security, and efficiency.

Sarawak State is located on the north-west coast of Borneo. As well as a substantial South China Sea coastline, it has land borders with Kalimantan (Indonesia), Brunei and the Malaysian State of Sabah. Sarawak is famous for its parks and incredible diversity of flora and fauna, but it should also be known as a modern, developing part of the world.

In fact, in many ways Sarawak is leading Malaysia in its adoption of new technologies, particularly green technologies. Sarawak is already producing hydrogen and is looking to export this. The state is also developing carbon capture and storage and recently commissioned

an autonomous rail rapid transport system powered by green hydrogen. Sarawak is also developing plans to sell green hydro power to Singapore by undersea cable.

Representatives of the Sarawak Security and Enforcement Unit (UKPS) selected a DMR network that includes three land-based DMR Tier 3 sites, six Tier 2 base stations fitted on patrol vessels and a number of terminals. Customised software enables rapid bridging between DMR Tier 2 (conventional) and Tier 3 (trunked) with zero loss of audio quality.

The six 25m Island-class fast patrol vessels were taken into service by the Sarawak Coast Guard, a relatively new service within the state's Security and Enforcement Unit. While the digital radio system was designed with the Coast Guard in mind, its shore-based sites would also be used to provide communications for land-based activities.

Of course, Sarawak and all organisations must assess their requirements and user needs before moving forward with any technology upgrade or deployment. Many factors will determine which digital LMR technology best fits an agency's requirements. Once a technology has been selected and deployed, the digital communications network can enhance the safety, productivity, and security of the organisation for years to come.

Onwards and upwards

Digital mobile radio is growing steadily in Malaysia and most South Asian countries. With the many advantages that LMR networks offer and the interoperable and cost-effective digital standards that can address many missioncritical requirements, that upswing is expected to continue through at least the end of the decade.



Alepo helps ACS launch Myanmar's first 4G LTE-only service

Mara Communications Co., Ltd. (ACS) was established in Myanmar in 2011 to meet the country's rapidly developing telecom market. While its primary business is constructing mobile infrastructure, reselling mobile connections, and selling mobile e-top-up and top-up cards, the company wanted to enter the service provider market with the launch of ananda, Myanmar's first 4G+ LTE service.

In addition to implementing a system that supports rapid service creation and monetisation, ACS wanted to ensure it could swiftly launch innovative offers as the market evolves. Other ambitions included the creation of unlimited and volume-based FUP plans, bonus policies, and win-back offers; delivering secure prepaid experience to subscribers; deploying MSO model to drive cost optimisation, resource efficiency, and innovative solutions; and implementing a disaster recovery plan to optimise its network functions. ACS needed assistance in selecting and integrating a third-party POS, as well as the ability to track and manage end-to-end inventory workflow and streamline business and network IT operations. Naturally, ensuring zero revenue leakage was also a priority.

Foolproof business continuity

Accordingly, Alepo was selected to deploy its nextgen Digital Business Support Systems (BSS), while its Managed Service Offerings (MSO) helped build a foolproof business continuity plan for ACS to quickly adapt to changing market trends.

The key modules deployed included CRM and billing; ERP and trouble ticketing; OCS

mara Communications Co., Ltd. (ACS) and PCRF; point of sale; voucher management; was established in Myanmar in 2011 to inventory management; recharge promotion meet the country's rapidly developing manager; product catalogue; payment gateway m market. While its primary business is API; and BI reporting.

> Alepo helped ACS launch high-speed internet services with differentiated and personalised offers, first in Yangon and then in Mandalay. The Digital BSS offers advanced analytics capabilities that helped ACS configure and launch locationbased plans and remain ahead of competitors.

> Addressing one of ACS' critical needs, the Global Technical Assistance Center (GTAC) team helped ensure uninterrupted services and quick disaster recovery. The ISO 20000-1 2011 certified technical support department handles service request management, scope change request management, incident management, and offers MSO.

The MSO oversees issues such as nearing disk capacity, high CPU utilisation, license expiry, and other server health-related issues like timely planning and execution of generic service, infrastructure management, configuration management, change management, and preventative management. This helped ACS in preventing data loss, identifying pain points, providing stopgaps, and achieving optimised productivity with reduced costs.

At the GTAC, a team of support professionals and engineers provide 24x7x365 support through multiple channels including Skype, email, and an online ticketing portal. ACS reported that it was satisfied with all aspects of Alepo's MSO and found the experts knowledgeable and capable of handling the system, including troubleshooting and swiftly resolving issues.



Beating out the competition

Alepo successfully helped ACS digitise the customer experience and ensure network excellence – and beat out competitors as the country's first LTE-only service.

Indeed, Alepo's Digital BSS helped ACS launch a wide range of prepaid LTE data plans, consisting of tiered service levels, volume-based quotas, and FUP plans for improved customer experience and congestion control. ACS introduced multiple bonus policies and win-back offers, achieving 60,000 subscribers within just one month. Meanwhile, Alepo's Digital BSS enabled on-the-fly offers and targeted promotions, so subscribers could enjoy personalised plans and rewards that improved customer satisfaction.

Key features of the Alepo solution include rapid monetisation, as well as advanced analytics and BI reporting, which helped ACS digitise processes to quickly bring several new offers and promotions to market, attracting more new customers. It also included real-time reporting, and network maintenance dashboards that use BI reporting to run graphically rich reports for various KPIs.

Further, Alepo customised reports to meet ACS's unique business goals. The integrated online payment gateway helps deliver a secure and easy recharge experience to subscribers, while Alepo's GTAC team ensured uninterrupted services by proactively monitoring risks, assisting ACS to achieve optimised productivity with accelerated disaster recovery. Moreover, the MSO helped configure custom reporting for ACS to launch contextual plans meeting evolving customer demands and enable revenue monitoring.

Alepo's Digital BSS increased network reliability and resulted in enhanced network performance. Since the launch, ACS has been able to ensure zero network downtime, and Alepo's GTAC team has helped ACS resolve highseverity issues with service restoration in under two hours. The cumulative customer satisfaction index (CSI) and service-level agreement achieved is above 90%.

Six months in, ACS additionally signed up for managed services from Alepo and launched new marketing campaigns, resulting in significant revenue growth.

"Thanks to Alepo, we're equipped to launch advanced data offers, and we've been able to expand our presence to our surrounding regions in a short span of time," said Aye Mya Mya Kyi, CEO, Amara Communications Co., Ltd. "Alepo's highly available MSO and GTAC resources are vigilant and competent in handling our requests and issues. I can confidently say that they are one of the finest support teams we have worked with."

Indosat consolidates merged networks with Nokia

ndosat Ooredoo Hutchison (Indosat) was formed in 2022 through the merger of Indosat Ooredoo and Hutchison Tri Indonesia to become the second-largest mobile network operator in Indonesia. As a result of continued customer focus during the merger, Indosat has increased its combined subscriber base to 100 million mobile subscribers nationwide between its two sub-brands, IM3 and Tri. Today, it runs 2G and 4G networks and has introduced 5G in several Indonesian cities.

Click here to register 🚠 🧰 🗙

Following the merger, Indosat faced the challenge of integrating the network and spectrum assets of the two merging operators. It planned to achieve a pole position in network performance and customer experience while also targeting a low total cost of ownership (TCO).

Indosat sought assistance with the integration, requiring its provider to understand and manage the customer experience KPI throughout the project; develop an optimal network consolidation solution and commitment to a short project timeline; and have proven expertise in completing complex digital planning and optimisation projects, including the orchestration of deployment service partners.

Nokia, as a key Radio Access Network (RAN) provider for Indosat, was chosen as the prime supplier and lead partner for the integration, modernisation and expansion of its network.

"At Indosat, our mission is to deliver worldclass digital experiences, connecting and 'empowering every Indonesian.' After we announced the formation of Indosat Ooredoo Hutchison in 2022, we selected Nokia as one of the strategic partners for consolidating our post-merger network and spectrum assets," said Sanjay Vaghasia, chief integration officer, Indosat Ooredoo Hutchison. "Another key aspect of the contract was the expansion and modernization of our 4G network for enhanced capacity and performance, which is directly impacting the mobile user experience. With the support from Nokia, we will continue expanding our network throughout Indonesia to accelerate Indonesia's digital transformation agenda and contribute to the industry and the Nation's economic growth."

A Least Disruption Matrix

Indosat set a target to complete the network integration project within 24 months.

During the planning phase, Nokia worked closely together with Indosat to ensure the maximised use of existing network assets while modernising the network and optimising the TCO. Key aspects of the integration included closing selected sites and retrieving the equipment from those sites; reusing the equipment at other sites



when possible; and upgrading, modernising and swapping the equipment at selected sites.

Nokia helped Indosat develop a Least Disruption Index, a matrix that was used to evaluate which scenario and vendor selection would cause the least disruption to the network consolidation at each phase of the project, considering the existing vendor landscape of both operators and the targeted site infrastructure. Managing the movement of materials between Indonesia's islands in the implementation phase represented a major challenge for the project.

Nokia established a comprehensive network consolidation framework that included strategic radio network planning including defining the best approach for network integration, deployment, optimisation and partner management. Nokia also helped Indosat define radio configuration parameters based on Nokia's Golden Parameter set. Nokia's advanced digital platforms that leverage Artificial Intelligence (AI) and Machine Learning (ML) driven automation as well as cloud-native analytics tools, such as GeoSynthesis for KPI measurement and optimisation, played a key role.

The driving principle for Nokia was the First Time Right approach, which ensured fast execution to meet the 24-month schedule. The key Nokia services involved in the network integration project include site design with the help of the Automatic Cell Planning tool, site and cluster optimisation, and expert consultation. Nokia supported Indosat in picking the best approach for capacity dimensioning based on the site traffic profiles, and orchestrated the work of deployment partners with its digital delivery platform. This included deployment partner acceptance, onboarding and accelerated competence development with online assessments, task assignment, project monitoring, quality verification and managing the health and safety-related aspects. Another key element was managing demand planning to ensure material availability according to the project roll-out plan.

Optimising spectrum resources

Indosat's large-scale network integration project to date covered more than 40,000 sites. With careful analysis and using the Least Disruption Index, Indosat was able to close 25% of the sites while improving the overall coverage and performance of its network both indoors and outdoors.

Optimizing the use of spectrum resources across the consolidated sites was another key target. Following the project, the 900MHz frequency band used by Indosat Ooredoo could now be taken into use at Tri Indonesia sites where relevant. This resulted in enhanced coverage and better indoor penetration.

After completing the network consolidation and optimization project including fine-tuning frequency layers with help from Nokia, Indosat recorded 52% higher downlink speeds, 34% increase in network capacity, 39% reduction in congested cells, and 25% growth in network traffic. As a result of the successful integration, Indosat was also able to see a concrete impact on its subscriber experience and an increase in customer satisfaction scores.

Supporting NTN NB-IoT devices for GEO satellites

Anritsu Corporation has extended the functionality of its Signalling Tester MD8430A with the introduction of a protocol test solution for Non-Terrestrial Network



(NTN) devices for geostationary Earth orbit (GEO) satellites.

With the upgrade, the MD8430A can now support NTN Narrow Band Internet of Things (NB-IoT) technologies.

Since the standardisation of NTN communications in 3GPP Release 17, the satellite communication service market has rapidly grown, and various verifications based on the standard specifications have become necessary. For GEO satellites, NTN device vendors need test environments that can simulate the communication delay over a distance of approximately 36,000km between satellite and device. Satellites must also transmit information over this distance to the device for delay compensation. To support these test requirements, Anritsu has developed a protocol test solution that boasts high reliability built on test experiences with market-leading customers and high flexibility in condition setting.

The MD8430A is a base

station simulator that can build a simulated network necessary for the development of chipsets and devices. With its software option NTN NB-IoT (GEO) MD8430A-043 and its control software option NTN over IoT Framework for RTD MX800050A-070, the MD8430A can be connected to an NTN device for GEO satellites, which makes it possible to test the connection with the NTN network and roaming between the terrestrial network and NTN network, among others.

GNSS and Power-over-Fiber meets enterprise needs

HUBER+SUHNER has launched the latest iteration of its Global Navigation Satellite System (GNSS) and Powerover-Fiber solution, which eliminates the need for a separate energy source to power the active antenna for applications that use GNSS for navigation, positioning, timing and geodesy. This avoids voltage spikes, minimises spoofing risk, and enables separate antenna positions for reliable signal transmission.

The latest version has been enhanced to meet the needs of companies, banks and trading firms which require precise time synchronisation. To achieve this, all the nodes in the database cluster must be consistent to ensure the secure transfer of data between data centers and from the cloud to the edge.

"For many companies, banks and trading firms, a software-based enterprise application for precise, time-based coordination and automation is essential for timely and accurate data capture for immediate data analysis." business said Dominik Tibolla, product manager at HUBER+SUHNER. "The success of companies operating across all time zones relies on precise time synchronisation to address challenges such as providing trading data, network component failure, and maintaining company databases."

Synchronising clocks via GNSS provides high accuracy and stability over long distances, with precise time calculation for every location on earth. It provides the most accurate time reference for Precision Time Protocol (PTP) and Network Time Protocol (NTP), two of the most common methods for setting network devices' clocks. Using fibre optics for synchronisation minimises the risk of errors compared to traditional reference methods.



Automatic switching between LMR and broadband

Motorola Solutions' new DIMETRA™ Connect solution and MXP660 TETRA radio allow front-line responders to automatically switch between land mobile radio (LMR) and broadband networks. Together, they help teams stay connected to their communications lifeline, supporting critical collaboration, productivity, and safety.

The design of DIMETRA Connect protects front-line responders' focus by automatically switching between Terrestrial Trunked Radio (TETRA) and broadband networks intervention without manual maintaining users' preferred features and talkgroups. The new MXP660 carries all the hallmarks of a Motorola Solutions missioncritical TETRA radio, with advanced including capabilities. built-in LTE, Al-trained background noise suppression for clear audio and high-power transmission for extended operational range.

PlanAI to empower telcos to increase ARPU

Totogi has launched PlanAl to empower telco marketing and business users to increase and protect average revenue per user (ARPU) with hyper-personalized offers using Al.

Totogi's PlanAl eliminates the need for cumbersome research, analysis, and IT reliance traditionally associated with plan creation, replacing them with instantaneous, Al-derived microoffers tailored to individual users.

Built on top of Totogi's Chargingas-a-Service, PlanAl ensures that individualized offers are both personalized and automatically implemented for maximum impact. Powered by Amazon Web Services such (AWS) technologies as SageMaker, PinPoint, Personalize, and Bedrock, PlanAl leverages a variety of AI services to create revenue optimization campaigns at the individual subscriber level. This advanced use of AI sets Totogi

PlanAl apart from manual plan creation methods and customer value management systems, which require human interaction to create pre-configured plans and offers or systems that are not connected to systems of action.

Traditionally, offers are built in advance using manual processes and rule-based decision-matching. PlanAl flips this process by using advanced machine learning (ML) algorithms and generative AI (GenAI) to analyze customer behavior in real-time and create plan details precisely tailored to individual needs. Plans are configured and activated automatically only once accepted by the targeted subscriber. This approach ensures that subscribers receive optimal and hyper-personalized offers, allowing communication service providers (CSPs) to increase and protect their revenue.

Hughes HL1120W Terminal approved for Eutelsat OneWeb

Hughes Network Systems, LLC new electronically steerable antennabased (ESA) terminal – Hughes HL1120W Terminal - has received Eutelsat OneWeb approval for operation in its low Earth orbit (LEO) satellite network.

This milestone enables Hughes to bring Eutelsat OneWeb's enterprise-grade, low-latency, highspeed connectivity to customers across the globe.

"Using our decades of experience with low Earth orbit systems and our detailed understanding of the Eutelsat OneWeb system, we are delivering a high-performance connectivity solution that brings reliable, enterprise-grade LEO connectivity to remote locations," said Dan Rasmussen, senior vice president and general manager, North America Enterprise Division, Hughes. "Our Managed LEO service currently supports customers in the military, government agencies and public safety communities as well as retailers and energy companies. This technology is a game changer, and we are proud to be working closely with Eutelsat OneWeb to bring our solution to the broader market."

The HL1120W is designed for the outdoor environment. It is lightweight, low-power, weather-tight and easy to install and maintain. It is constructed with a durable aluminium chassis and is configured to function right out of the box with self-pointing to the Eutelsat OneWeb satellite constellation. The HL1120W includes an indoor unit, which provides a WiFi 6 router and 2 GigE LAN ports.

For low-latency applications and service in hard-to-reach places, the Hughes Managed LEO service provides a reliable, high-speed option. As a OneWeb distributor, Hughes can deploy LEO capacity as a managed broadband service, a multi-orbit mobility or enterprise solution, or part of a multitransport Software-Defined Wide Area Network (SD-WAN) or highly specialised military network.



Site Visit Reporting app for real-time information flow

SmartCIC Global Services' new Site Visit Reporting (SVR) application provides real-time information flow from network engineers in field to global support centres.

All 25,000 of SmartCIC's certified network engineers have access to the mobile application with data from enterprise sites managed in a centralised platform. The mobile app enables SmartCIC to deliver information in real-time to its customers and digitalises what is typically an offline and manual reporting process.

The SVR app provides order confirmation, site addresses and hardware requirements to field technicians, with step-by-step instructions for proof of delivery, sharing site photos and templates. It provides a digital track record with GPS logs that confirm engineers are on site and meeting enterprise customer needs. The SVR app enables SmartCIC to check the status of deliverables and make instant changes while an engineer is on site, accelerating deployment times and avoiding costly delays.

"We're continually finding ways to work smarter and add value for engineers in the field, our carrier and their enterprise partners. customers. We developed the SVR app to add another layer of visibility and control to our 'Through the Line' connectivity offering and disrupt legacy field services processes. If you can't deliver critical data in real-time, you can't move at the speed of today's enterprises," said Toby Forman, CEO and co-founder at SmartCIC Global Services. "The SVR app is license-free and designed to remove the friction and complexity from deploying, managing and maintaining local connectivity across the globe."







O Look out for...

Boosting 6G speeds with curved beams

Future wireless broadband and home networks could be set for a significant speed boost after researchers discovered a way to curve light beams around objects.

The upcoming 6G standard is designed for peak data rates of up to 1Tbps and may be able to harness radio spectrum up to the TeraHertz (THz) bands, while using AI optimisations and new antenna designs to improve network efficiency.

Today's mobile networks usually operate within the lower and mid-frequency mobile bands, such as between 700MHz and 3.8GHz, which enables signals to travel further. This sacrifices speed due to limitations on the available spectrum amounts; however, one workaround is to push mobile and WiFi networks to harness higher frequency bands. The challenge is that these higher frequencies make for extremely weak signals that don't travel very far and are easily disrupted.

Researchers from Brown University and Rice University may have found a solution. The team has discovered a way of 'curving' light beams mid-air to help avoid physical obstacles, reducing the need for a line-of-sight connection. While light in the THz band prefers to travel in straight lines, the team found a rather more accessible approach to achieve a similar sort of outcome.

The researchers have introduced the concept of 'self-accelerating beams,' namely special configurations of electromagnetic waves that naturally bend or curve to one side as they move through space. The photons still travel in a straight line, but the THz signal effectively bends around the object.

Consequences from the curved beams like performance loss and distance limitations are still being worked on by the team, and quantification remains to be seen. However, the theory could prove an excellent boon to the upcoming 6G standard of mobile communications technology.

WORLD NEWS

BT Group implements 'cell sleep' across EE mobile sites

BT Group has implemented energysaving 'cell sleep' technology across its EE mobile sites nationwide, following successful trials in each of the UK's home nations.

'Cell sleep' software works by putting certain 4G LTE capacity carriers to sleep when the capacity is not needed, based on predicted periods of low traffic which have been established for each site through machine learning.

The system then automatically wakes up during busy periods and is also configured to react to unexpected surges which might occur during scheduled sleep modes – in which event, the carriers wake up within a matter of seconds to serve demand without any interruption to customers.

An even lower power state, 'deep sleep', can also be activated if required, for example during overnight periods of extremely low demand.

Both the 'cell sleep' and 'deep sleep' functionality is provided by the respective RAN equipment supplier on each of EE's sites. BT Group's site data is used to inform the statistical algorithms which then autonomously inform the functionality.

"There is huge potential for energy savings across our networks by dynamically matching power consumption against network usage. The optimisation and rollout of cell sleep technology to over 19,500 sites across the UK is a significant milestone in achieving this, and an important development in countering the massive growth in data consumption we're seeing across our networks," said

Greg McCall, chief networks officer, BT Group.

It is expected that the technology will deliver energy savings of up to 2KWh per site per day, or 4.5 million KWh per year across EE's estate, reducing BT Group's demand on the local Grid.

As the largest provider of fixedline broadband and mobile services in the UK, BT Group's networks account for around 89% of its total energy consumption. As such, increasing network energy-efficiency is integral to the group's ambition to become a net zero carbon emissions business by the end of March 2031.



Econet Wireless Zimbabwe targets 550 new core sites with 700MHz spectrum

Econet Wireless Zimbabwe plans to roll out 550 new core telecom sites across Zimbabwe in the coming months, reported James Myers, chairman of the board of directors.

For the deployment of new sites, Econet will rely on the spectrum that the government has allocated to it in the 700MHz frequency band. The company believes that this new resource will also allow it to expand the coverage of existing base stations to serve customers who are on the outskirts of the current coverage boundary.

The initiative is part of the broader framework of Econet's network modernization program. The company has already upgraded more than 1,012 sites with high-capacity 4G base stations and added more than 50 new base station sites.

"The company continues to experience sustained growth in demand for its products and services, shaped by evolving customer needs. We will continue to invest in our network infrastructure to meet customer demands and keep up with global trends, in line with our vision of a digitally connected future that leaves no Zimbabwean behind," said Myers.

The expansion of Econet's network coverage is expected to enable it to reach thousands more people, increase its market share and strengthen its market leadership position.

Elisa starts XGS-PON buildout

Finnish operator Elisa began building its fibre optic network using XGS-PON technology at the beginning of June, paving the way for 100Gbps internet connections.

The new technology is more energy efficient than traditional fibre optic networks.

Elisa noted that Finland is experiencing the biggest change in internet connections in decades as users switch from copper-based xDSL broadband connections to fibre optic and 5G networks. The company mentioned that XGS-PON technology will serve as the basis for data transmission speeds of up to 100 Gbps in the future.

This year, the capacity of Elisa's fibre optic network will increase to 10Gbps, and it will be gradually upgraded towards capacity speeds of 50Gbps and 100Gbps. By the end of 2024, tens of thousands of apartments will already be covered by the new high-speed fibre. The upgraded network will support applications in cloud services, augmented reality, and generative AI, which require significant network capacity.

Luna Space picks Hughes for VSAT network

新編制制

Luna

Telecommunications Co. Ltd., has purchased a JUPITER[™] System Gateway as well as 1,200 Hughes JUPITER Terminals to transform its VSAT network.

Space

Skyband can provide customers with higher speeds and throughput, reach even more of the kingdom's unserved and underserved areas, and introduce a new mobility offering.

"Skyband has been a valued customer of Hughes for over a decade, and we're grateful they have turned to us again to upgrade their VSAT network to serve their customers better," said Vaibhav Magow, vice president, international division, Hughes. "The Hughes JUPITER System is the de facto standard for satellite implementations worldwide. By upgrading to the latest JUPITER System technology, Skyband will be able to attract new customers and bring new capabilities to market."

Skyband provides the latest satellite network infrastructure through multiple hubs to enable the corporate and government sectors in Saudi Arabia to increase their productivity and help achieve their digital transformation goals. By migrating its existing network to the more efficient Hughes network, Skyband will expand into new government, financial, and oil and gas markets and offer new features such as software-defined wide area networking (SD-WAN).

"We've always been able to count on Hughes to provide us with leading satellite broadband solutions," said Fouad Nasser, chief business officer, Skyband. "Over that time, Hughes has been a true partner in helping us equip our customers with the connectivity they need to grow and achieve their digital transformation goals."

Deutsche Telekom expands mobile coverage at 651 sites across Germany

Deutsche Telekom has announced the expansion of mobile coverage at 651 sites in the past four weeks, up to 18 June 2024.

Telekom said this initiative includes the construction of 87 new locations capable of delivering both 4G and 5G frequencies. Additionally, the company has increased capacity at 564 existing sites, with 69 now transmitting 5G for the first time.

On the 3.6GHz frequency band,

Deutsche Telekom now operates approximately 11,900 5G antennas, providing coverage across over 900 cities and municipalities. Users can experience download speeds of up to 1Gbps, significantly enhancing connectivity across Germany.

Deutsche Telekom highlighted that more than 96% of households can access its 5G network, while 99% have access to 4G services. Looking ahead, Telekom aims to achieve 99% population coverage with 5G by the end of 2025.



Softbank completes nullforming trial for HAPS spectrum sharing

In April 2024, Softbank successfully conducted a field trial using its cylindrical antenna for High Altitude Platform Station (HAPS) stratospheric-based wireless communication systems at Hokkaido Spaceport, Taiki Town, in Hokkaido, Japan.

The trial successfully demonstrated the use of nullforming technology to achieve spectrum sharing between HAPS and a terrestrial base station.

The field trial was conducted as part of Softbank's R&D initiatives to enhance communication technologies used with HAPS. The company is conducting R&D on spectrum sharing to enable the deployment of communication services that use the same frequency for both HAPS and terrestrial base stations.

To effectively use finite spectrum resources, SoftBank is considering the use of cylindrical antennas as antennas for 'service links,' which handle data transmission and reception between HAPS and communication devices. The company is also developing nullforming technology, which significantly suppresses radiowave emissions in specified directions to reduce interference. By preventing interference, it is possible to achieve spectrum sharing between HAPS and terrestrial base stations, thereby utilising the spectrum effectively.

In the field trial, SoftBank placed a terrestrial base station within the communication area of a highaltitude tethered aerostat equipped with a cylindrical antenna (airborne base station). Mobile Device A was placed within the communication area of the airborne base station while Mobile Device B was positioned in a geographically close location within the communication area of the terrestrial base station. The same frequency was used for both the airborne base station and the terrestrial base station, and the communication speeds of Mobile Device A and Mobile Device B were measured based on whether nullforming technology was applied.

Through this field trial, it was observed that the application of nullforming technology improved communication speeds the of Mobile Device B without significantly degrading the communication speed of Mobile Device A. Furthermore, by applying nullforming technology, interference between both base stations was reduced, confirming that Mobile Device B achieved communication speeds equal to those in an environment without radio interference when the radiowaves from the airborne base station were halted to prevent interference.

According to the company, the field trial confirmed the feasibility and effectiveness of spectrum sharing between airborne base stations and terrestrial base stations using nullforming technology in actual outdoor environments.

NIDIF greenlights Namibia Space Port project

Eos Capital, manager of the Namibia Infrastructure Development and Investment Fund (NIDIF), has given the green light for the Namibia Space Port project.

The project will be spearheaded by Q-KON Namibia and will mark a significant milestone for the nation into the world of satellite communications.

Port "The Namibia Space represents a monumental stride towards harnessing the vast potential of space technology for the growth of Namibia and Africa's communication capabilities," said Namibia's minister of information and communications technology, Honourable Emma Theofelus. "The project shows Namibia's commitment to space exploration, innovation, and sustainable development. With a strategic focus on collaboration, capacity building, and technological advancement, the Namibia Space Port will make our country a worthy player in the African space arena."

With the development of the Namibia Space Port, Q-KON Namibia is set to become a significant player in the rapidly growing low Earth orbit (LEO) industry.

"We are honoured to lead this transformative initiative that will not only elevate Namibia's technological prowess but also play role in the growth of the LEO industry in sub-Saharan Africa," said Dawie de Wet, Group CEO of Q-KON.

The project will also serve as an important hub for satellite communication networks, offering ground infrastructure and cuttingedge services to global satellite operators. Initially it will provide select services including ground gateway terminal hosting; Earth observation downlink services; tracking, telemetry, and control (TT&C).



Do you want to be involved with the 24/25 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. For all editorial enquiries contact Amy Saunders – amys@kadiumpublishing.com



We have key sponsorship options within specific technology chapters and on primary positions.

For all advertising enquiries contact Kathy Moynihan – Kathym@kadiumpublishing.com

See the latest edition on www.africanwirelesscomms.com