TELECOM Review

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CITC:
LEADING DIGITAL REGULATION WITH RESOUNDING SPECTRUM MILESTONES

H.E. DR. MOHAMMED ALTAMIMI,
governor of CITC

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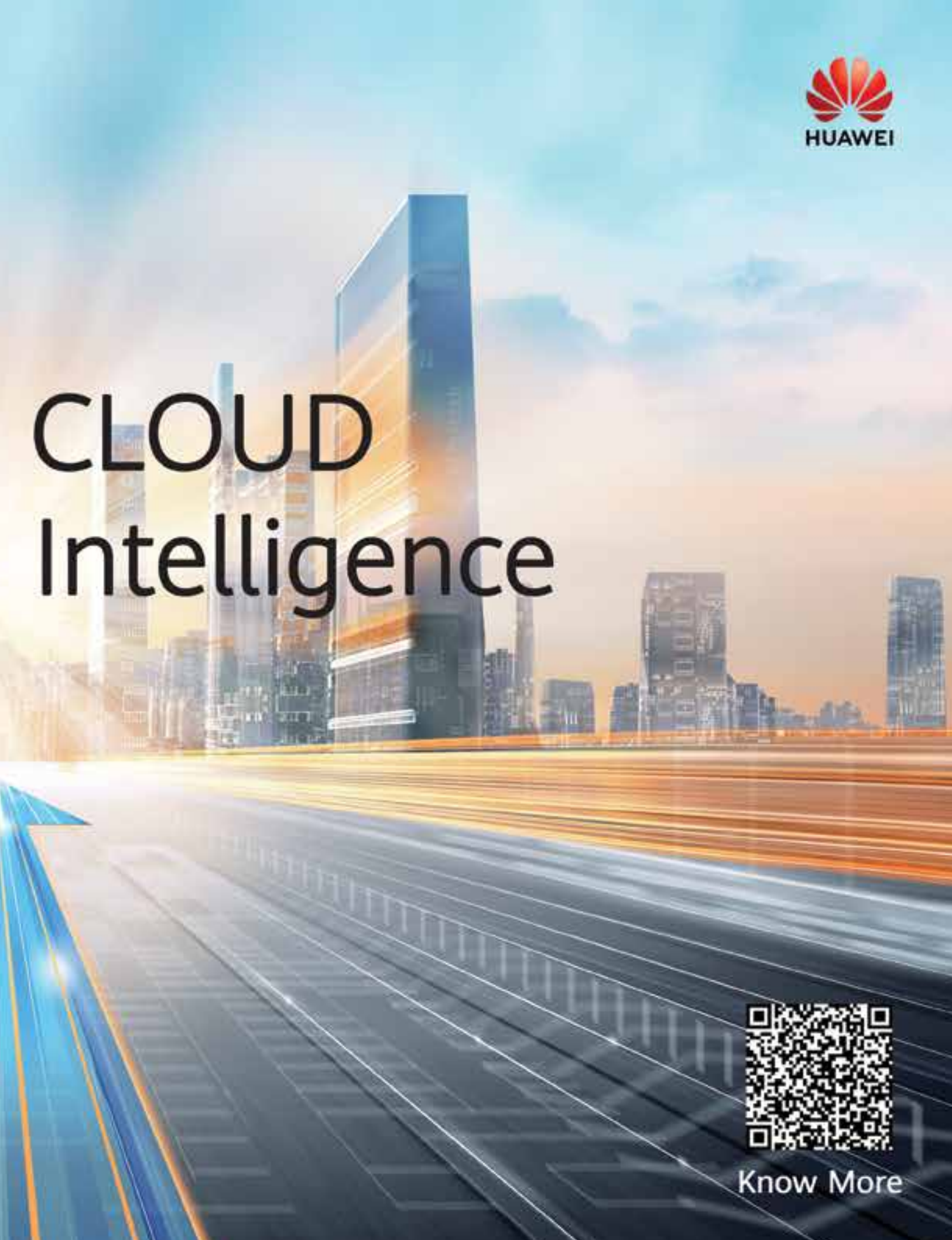
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News
Provided in cooperation with AFP, the global news agency

Published by

tracemedia Ltd.
www.tracemedia.info
Trace Media Ltd.
Zouk Mikael, Lebanon
Kaslik Sea Side Road,
Badawi Group Building, 4th Floor,
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Printing
United Printing and Publishing

Year 16 | Issue 170

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5G: A real opportunity for telecom operators

As we partner with leading vendors of 5G technologies such as Nokia, Huawei, and ZTE, and with leading telecom operators around the world, we are seeing clearly that 5G is not gaining ground only because of the low latency it provides, but also because of its important benefits such as huge network capacity allowing for more developments of 5G fixed networks - which we at Telecom Review have experienced during our hybrid Summit last November - or more 5G deployments for mobile services.

5G is not only faster than 4G. Let's focus on the support 5G networks can bring and what they can deliver in the fixed or mobile services.

5G can support a lot of advanced services such as security (video surveillance), smart services (in the health sector for example),multi-media, video on demand services, gaming, virtual reality (VR), and automated applications (robotics, autonomous vehicles) and it is also very important to the cloud services and real time response and connectivity.

The 5G network will transform business models as we know them and open new revenue streams for both enterprise services and consumers. It will create opportunities for telecom operators which hadn't been available ever since OTTs started cutting down the operators' revenues and income.

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H.E. Dr. Mohammed Altamimi, governor of CITC

CITC: Leading digital regulation with resounding spectrum milestones

Telecom Review managed to secure an exclusive interview with H.E. Dr. Mohammed Altamimi, governor of the Communications and Information Technology Commission (CITC), following the publication of a follow up public consultation on CITC's "Spectrum Outlook for Commercial and Innovative Use 2021-2023", whereby it plans to release more than 20 GHz of additional radio spectrum.

This progressive spectrum policy adopted by CITC aims to enable Saudi Arabia's transformation into a leading digital society, in line with Vision 2030 and CITC's National Spectrum Strategy (NSS). With this initiative, the Saudi regulator plans to make KSA the first country in the EMEA region to clear TV broadcasting in the 600 MHz and release band 71 for mobile operators; expand the 3.5 GHz 5G deployments in the 28 GHz band; and make the entire 6 GHz band license-exempt to enable WiFi 6e.

CITC is leading a global initiative to foster commercial and innovative use of spectrum, to capitalize on this finite resource. This initiative seeks to enable the digital transformation of the Kingdom and the world, and comes as

a part of CITC's transition to become a digital regulator.

In October 2020, CITC launched a new strategy to boost connectivity and drive innovation. Under this new strategy, the Saudi regulator launched a new brand identity that goes in tandem with its plan to become a fifth-generation regulator in the International Telecommunications Union (ITU) rankings, as it progresses from a telecom regulator to a digital regulator. ITU's fifth generation is reserved for the world's most advanced and high-performing ICT regulators. Another ambition for the Kingdom is to break into the top 20 countries for the telecommunications and information technology sector by 2030, improving the sector's performance and contribution to GDP.

Dr. Altamimi delved into the details of the new spectrum outlook and explained how the release of spectrum can put the Kingdom closer to achieving Vision 2030 and the National Digital Transformation plan. Furthermore, he highlighted the role that the CITC has been playing to protect the data of users and prevent cyberattacks that have highly increased due to the COVID-19 pandemic.

"CITC is placing Saudi Arabia's public sector at the forefront, ensuring that our regulations enable social welfare, public safety and data protection", he concluded.

CITC released its 2021-2023 spectrum outlook for public consultation last month. What are the main highlights?

Our spectrum outlook aims to provide transparent information for spectrum users. Most importantly, it provides a guarantee to investors in wireless

> "CITC's National Spectrum Strategy (NSS) has been designed to unlock the potential of radiocommunications in Saudi Arabia for a smarter and safer future"

technologies on spectrum availability across different bands while laying out the terms and regulations governing spectrum access and usage. It will boost investment incentives, ensure alignment of spectrum users and CITC and maximize the socioeconomic contribution of spectrum.

We have advanced our regulatory process to include innovative approaches which leverage databases to deliver greater sharing capacity and more flexible access. We have also introduced spectrum trading in a measured manner, which will allow the market to change spectrum ownership and usage. Another key innovation is that we made a variety of bands available for a range of new concepts, from trial licenses to shared and short-term access.

How does this initiative to release more than 20 GHz of additional radio spectrum put the Kingdom closer to achieving Vision 2030?

Transforming Saudi Arabia into a leading digital society is at the heart of Vision 2030 and connectivity and wireless technologies are core enablers for realizing this vision. CITC's National Spectrum Strategy (NSS) has been designed to unlock the potential of radiocommunications in Saudi Arabia for a smarter and safer future. By efficient management and regulation, we will ensure that all spectrum users in Saudi Arabia will have easy access to the required spectrum, allowing our nation to achieve its ambitions.

This outlook plans to make Saudi Arabia achieve several regional firsts. What are they exactly and how important would such achievements be for the Kingdom and the whole region?

CITC is pioneering a global initiative to foster commercial and innovative spectrum usage and capitalize on this valuable resource. The initiative comes as part of CITC's transition to a digital regulator driving the development of the region and seeks to enable the digital transformation of the Kingdom and the world at large.

We have backed up our intention to become a world class digital regulator by planning to license almost 4GHz of spectrum, the largest amount of spectrum to be licensed in the Europe, the Middle East and Africa (EMA) region, which include the 600 MHz and 3800-4000 MHz bands as a regional first. Further examples of Saudi Arabia leading the EMA region for spectrum management is our plan to enable licensing for innovative uses across more than 13 GHz of spectrum, including the 10.5 GHz and the 28 GHz bands, and are consulting the public on making 6.2 GHz of spectrum license-exempt, including the entire 6 GHz band. These achievements will be firsts for the EMA region.

The outlook released is for 3 years, but its impact will last for the next decade. In your opinion, how will such a step revolutionize the telecommunications sector in KSA?

The enhancement of Saudi Arabia's telecom sector can be attributed to Vision 2030. Over the past four years over $10 billion have been invested in the sector which has lifted Saudi Arabia to be among the top 10 countries in the world for mobile speeds and 5G performance. The implementation of our 2021-2023 spectrum outlook will encourage more investment over the next decade, leading to additional leaps in connectivity, speeds and the digitalization of various verticals in the Kingdom.

Will the release of spectrum be beneficial for new projects in the Kingdom such as NEOM? And how will it impact their success in the near future?

Supporting Saudi Arabia's giga projects, as laid out in Vision 2030, is a key pillar of CITC's 2019-2023 strategy. We are working closely with all parties to ensure the realization of these projects that will show the world Saudi Arabia's connectivity and digitalization capabilities. National spectrum, as a key enabler for 5G technologies, smart cities, the internet of things and automated vehicles will play an integral part in the success of the giga projects.

CITC is responsible for regulating the ICT and postal sector in the Kingdom of Saudi Arabia. What are the main

> CITC has issued the Cybersecurity Regulation Framework for Service Providers in the ICT and Postal sectors to regulate and empower cybersecurity practices

challenges that exist at the level of the ICT and postal sectors? How do you manage to regulate the sector to guarantee fair competitiveness?
We continue to work relentlessly to adapt to the new realities that challenge policy makers and digital regulators around the world, particularly as digitization has emerged at the forefront of our new norms. CITC aims to remain flexible while driving change and innovation. This is achieved by implementing market-friendly regulation and enabling Saudi Arabia's transformation into a leading digital society.

For example, the COVID-19 pandemic has placed new emphasis on the requirement for e-commerce which has become the primary method of retail and requires the most advanced logistics and delivery solutions for efficient and affordable services. We have moved swiftly and quickly to empower this vital sector by enabling the registration of 46 delivery applications that have processed more than 26 million transactions worth over SAR 2B during the 2020 lockdowns. Since then we have released a regulatory sandbox to allow such emerging businesses to blossom in a supportive regulatory environment, which demonstrates CITC's commitment to constantly update policies in accordance with global best practice and industry developments.

The COVID-19 pandemic has exposed vulnerabilities at the level of cybersecurity. What role does the CITC play here to protect the data of consumers and prevent cyberattacks?
Among CITC's key mandates is overseeing the cybersecurity and data privacy of the ICT and postal sectors. To deliver this mandate, CITC has issued the Cybersecurity Regulation Framework for Service Providers in the ICT and Postal sectors to regulate and empower cybersecurity practices and to increase the overall Cybersecurity maturity in the sector. Furthermore, CITC has issued the Cybersecurity Incident Handling procedure to regulate incident handling and improve the security readiness in the sector, which has enabled operators to block over 22 million spoofed calls. CITC has also issued personal data protection regulations in May 2020 and is actively overseeing data protection practices implemented by ICT and postal service providers.

The Kingdom is also working towards achieving the goals of its National Digital Transformation plan. How is CITC contributing to the achievement of the plan?
Over the past two years, CITC's mandate has evolved to reflect the changing technological landscape. We have laid out a path to become a 5th generation digital regulator, the most advanced category according to the International Telecommunication Union (ITU) and to connect our nation for a thriving digital economy. We are working towards these two goals in addition to increasing innovation,

inclusivity, sustainability, growth and partnerships with all stakeholders.

CITC's focus is on leveraging infrastructure investments, removing growth barriers and localization in the ICT sector. We are focusing on regulating the following areas to drive digital transformation at the national level: Ensuring adequate spectrum allocation for international mobile technologies (IMT) usage, fair competition, affordable prices and connectivity. As digitization becomes commonplace across a wide variety of sectors, CITC is exploring new and emerging technologies and markets such as quantum computing, IoT, automated vehicles, blockchain, AI, media convergence, and fintech.

In addition to the release of spectrum, what are your goals for 2021 and beyond?

CITC's goals are to safeguard the public, provide reliable digital services, ensure fair competition and balance the needs of multiple stakeholders. We will continue to move towards becoming a 5th generation digital regulator and collaborate with more stakeholders, shaping policy not only in telecom but across the broad range of sectors which have integrated ICTs, including healthcare, manufacturing, energy, education, mobility finance and retail. CITC is placing Saudi Arabia's public sector at the forefront, ensuring that our regulations enable social welfare, public safety and data protection.

In addition, we are continuing efforts to advance several UN Sustainable Development Goals, placing strong emphasis on sustainability by adhering to ITU's global standards on sustainability. As we continue to reach our goals and pass milestone after milestone, CITC is on track to be one of the most advanced 5th generation regulators in the world. TR

> We have laid out a path to become a 5th generation digital regulator, the most advanced category according to the International Telecommunication Union

ITC launches 5G for enterprise customers

Integrated Telecom Company (ITC), a leader in telecom and ICT services, has started its 5G wireless network service soft-launch. It intends to provide cutting edge Fixed Wireless Access services to enterprise customers. ITC is the first operator in the Kingdom to launch a 5G SA (standalone) network. 5G SA is the latest version of 5G, which works fully on a 5G core network without any legacy (4G or earlier) technologies used. Essentially, it is pure 5G end-to-end.

This comes as part of ITC's commitment to the digital transformation of industry verticals such as oil and gas, education, healthcare, IoT, gaming, and entertainment in the Kingdom. ITC has a wider deployment plan of Fixed Wireless Access (FWA) services across the Kingdom, delivered in stages, with various new services and applications.

"This new service is another milestone for ITC to address growing market demand in areas that lack fiber coverage and lead in a new generation of service offerings enabled by 5G." said Eng. Osama Al-Dosary, CEO of ITC. He continues, "We appreciate the enablement CITC has given for this initiative, which are in line with the Kingdom's digital transformation and increasing Internet coverage objectives, moving us closer towards the realization of the Kingdoms Vision 2030."

Infinet Wireless provides Oman's largest local bank with reliable and seamless connectivity

The National Bank of Oman (NBO), the largest local bank in Oman, recently chose Infinet Wireless' solutions for the deployment of its new national network, one that is reliable enough to connect all its mission critical applications and linking up the bank's local branches, its main training center and head office. According to the statement, the main criteria for choosing Infinet was its ability to deliver optimal connectivity, "always-on" and cost-effective. This new platform was also able to overcome previous challenges related to the bank's legacy network, primarily based on the Free Space Optics technology.

According to the statement, NBO's previous platform based on old FSO technology did not deliver on its promises, with many day-to-day challenges hampering the bank's operations and transactions. Coupled with the high cost of leasing, badly-needed capacity from a private operator, the laser-based platform was often disrupted by adverse weather conditions such as interference from the sun, dust storms, fog and heavy rain. After testing a number of alternative solutions, Infinet Wireless was approached by the bank, and was quickly deemed to offer the best price-performance ratio, whilst still allowing for future growth as and when the bank's needs change.

To address the challenges faced by NBO, Infinet Wireless deployed a Point-to-Point (P2P) solution across many districts of Muscat, over distances between 5 and 10 kilometers. Up to 3 branches per remote node were connected to the head office using the InfiLINK 2x2 and InfiLINK XG 1000 product families. The InfiLINK 2x2 is a highly diversified range of wireless Point-to-Point units which delivers up to 650 Mbps with a rich set of features and cost-effectiveness for high-capacity last mile connectivity. The InfiLINK XG 1000 is a range of products that offers unparalleled speed, reliability and flexibility. It can provide throughput of up to 1 Gbps over the air in license-free frequency bands. The InfiLINK XG 1000 was specifically designed to deliver superior performance over long distances and in extremely adverse environments, including nLOS and NLOS scenarios.

Open data policy tops TRA's 1st OSI executive team meeting of 2021

The General Authority for Regulating the Telecommunications Sector (TRA) organized the first meeting of 2021 of the Online Service Index (OSI) Executive Team, an indicator of UAE Vision 2021 National Agenda.

The meeting, held virtually, was attended by OSI team members representing 11 federal entities, including local electronic/digital governments. The meeting aims at reviewing best government practices for the year 2020, and international developments, especially with respect to the special circumstance that the world has gone through in recent months.

The meeting reviewed key achievements made by the UAE in Open Data, and the substantial development in the UAE Open Data Portal. The UAE advanced to the 16th place globally in the 2020 Open Data Inventory (ODIN) report, issued by the Open Data Organization, covering 187 countries, to record a jump of 51 ranks at once, compared to the 2018 report.

During the meeting, participants reviewed the big leap made by the UAE in Open Data, according to the Open Data Watch, which measures the inclusiveness and openness of official data and statistics. It also includes an assessment of UAE Open Data Portals across 3 key sectors, 22 categories and 65 sub-indicators.

Bahrain officially deploys commercial 5G services nationwide

The Ministry of Transportation and Telecommunications in Bahrain has announced that the kingdom achieved full national 5G coverage and two of its three operators are already offering services in the territory.

Commenting on the achievement, the Ministry of Transportation and Telecommunications said Bahrain is "one of the first countries in the world to provide complete 5G services".

Kamal bin Ahmed Mohamed, Bahrain's minister of transportation and telecommunications, said, "We are continually striving to ensure that the kingdom of Bahrain maintains its position among global leaders in this crucial sector. This includes ensuring availability and deployment of commercial 5G services and enhancing readiness for next generation ICT services such as the Internet of Things and Machine-to-Machine communications.

"This important milestone is also testament to our strength as a regional and global ICT leader. Moreover, it is a clear indication that our ongoing national digital transformation and Bahrain's Economic Vision 2030 strategies are on track. Both prioritise strong ICT infrastructure to support the growth of our digital economy while enhancing Bahrain's readiness to harness innovation," he continued.

He added, "We are confident that our potential to generate, use, and ultimately export innovation will be pivotal for the growth and diversification of our economy towards high value-added sectors such as content development and Artificial Intelligence (AI). Rapid access to information is essential to innovation, particularly for next-generation services. In this way, 5G is a crucial step in Bahrain's ongoing transition from net consumer to net producer of technological innovation."

With a population of 1.5 million, Bahrain's digitalisation has gained pace in recent years and, in 2020, the country became home to the region's first hyper-scale data centre when AWS launched services.

UAE ranked world's 13th best country to start online business

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Furthermore, the meeting addressed the Open Data Race, one of the open data team initiatives in cooperation with 14 government entities, which contributed to raising UAE's ranking to 16th in the Global Open Data Index. The meeting reviewed the achievements of UAE Hackathon in its previous sessions.

Priorities of the National OSI Team are to provide a sustainable environment and an integrated digital infrastructure and to achieve the goals set at the global level.

The Team acts in accordance with major global trends in the UN e-Government Survey, namely: bridging the digital divide, Open Data, promoting use, multichannel services, Connected Government (G2G), and e-participation.

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Combatting climate change with 5G

The planet is facing a climate emergency which, if not tackled immediately, threatens every aspect of life. 5G is being deployed at a time when energy efficiency is a matter of life or death, and it can play a significant role in helping every industry to hit sustainability goals by enabling them to transform their processes and behaviour. Recent years have seen many governments and international organisations – including within the MENA region – initiate sustainability and climate protection programmes, many with targets based on those contained in the UN Framework Convention on Climate Change, agreed in Paris in 2016. To date, 77 countries and major sub-national economies have set net-zero emission targets by 2050.

Government leadership is important, but not enough on its own. Modern lifestyles have driven a sharp increase in energy usage, 85% of which was still based on fossil fuels in 2018. Use of fossil fuels is one of the key factors driving higher emissions of greenhouse gas (GHG), which contribute to global warming. This, in turn, has multiple dangerous impacts on the environment and on human life, such as natural disasters and the destruction of human and animal habitats. GHG emissions rose by 1.5% per year between 2008 and 2018, according to the United Nations (UN) Emissions Gap Report 2019, and total GHG emissions reached a record high of 55.3 gigatonnes of carbon dioxide equivalent (GtCO2e) in 2018.

Every industry needs to define its own targets and a clear roadmap to reach them. The telecoms industry is taking a lead by addressing its own energy efficiency. The cellular industry was the world's first, in 2016, to commit to achieving the UN Sustainable Development Goals (SDGs), setting an industry goal of net-zero emissions by 2050.

The rising use of technologies such as cloud computing and mobile connectivity supports new

experiences in every aspect of business and personal life, but it is essential that these benefits can be delivered without any detrimental impact on the environment. National and international policies are targeting a dramatic increase in energy efficiency, and a sharp shift from fossil fuels to renewable sources of energy such as solar, wind and water. This will entail a completely new approach to energy use, which must be adopted by every industry and individual. This is where 5G is an important enabler.

The way that operators deploy 5G will play a significant role in this. For the first time, energy efficiency is one of the main considerations when planning and optimising new mobile networks, and many techniques – from smart power for base stations to artificial intelligence (AI)-enabled preventive maintenance – will make 5G networks the most sustainable ever.

5G will help other industries to hit their climate goals, known as the "enabling effect". According to the International Telecommunication Union (ITU) SMART 2020 report, the scale of the enabling effect, across all ICT, will be equivalent to 15% of all global emissions by the end of 2020. The 5G enabling effect arises from changes to processes and behaviour, which are supported by a high-capacity, ubiquitous and low-latency 5G network. Together with virtualisation, edge computing, AI-enabled analytics and cloud, 5G can help industries to implement new processes as an integral part of an energy efficiency programme, by supporting the most efficient and flexible allocation of resources. With enhanced mobile broadband (eMBB) underpinning many new ways to work and communicate, there has been considerable focus on ensuring that eMBB usage is as energy efficient as possible.

This intelligent use of resources can help to reduce energy consumption in many ways, such as: support for smart energy management; reduced requirement for office space and business travel; efficient just-in-time supply chains enabled by predictive analytics; and intelligent automated management of the movement of vehicles carrying people and goods.

Analysys Mason has conducted analysis of the impact of 5G on energy efficiency in three industries which require energy efficiency transformation most urgently – energy, healthcare and manufacturing – all of which currently have high GHG emissions. The modelling involved lifecycle assessment (LCA) and operation parameter comparison. The research and modelling showed that, in these sectors, 5G can have a significant effect, when combined with other technologies such as cloud, AI and the Internet of Things (IoT), plus other changes such as the adoption of renewable energy sources.

There are many other sectors where 5G and other related technologies can have a dramatic impact on sustainability. Some of these are particularly important because they affect every industry. For instance, transport contributes around one-third of total emissions in many regions, so there is considerable interest in using 5G to support rising levels of vehicle autonomy, so that vehicles, powered by renewable sources of electricity, have the real-time information they need to make the best decisions about routeing, parking and so on, and thus use power most efficiently and avoid traffic congestion and pollution.

Smart cities are among the best examples of how 5G can interact with other emerging technologies, including AI analytics, edge computing and massive IoT, to support a fully efficient, digital and sustainable way of living, working and travelling. Smart-city programmes, like those of the C40 Cities, have dramatic results, with connectivity as a key enabler. In Europe, for instance, London, Berlin and Madrid have reduced GHG emissions of motor vehicles by 30% each from their peak rates, and Copenhagen by 61%.

To achieve optimum energy efficiency through 5G, governments, regulators, mobile network operators (MNOs) and the industries all have a part to play. These stakeholders need to do the following to make this happen:

- Governments can facilitate cooperation between different stakeholders to adopt common platforms and best practice.
- Regulators can lower barriers to 5G deployment by making spectrum and city infrastructure available in a timely and affordable way.
- MNOs can work to form strong relationships with all other stakeholders, to set common objectives and roadmaps for 5G-enabled efficiency, and ensure these are central to 5G planning and deployment.

It is only by all stakeholders, countries and industries working together that 5G can fulfil its maximum potential to enhance energy efficiency and help avert climate-change disaster. TR

By Li Xiangyu (Spacelee), Vice President, Huawei Middle East

5G can help industries to implement new processes as an integral part of an energy efficiency programme

Mohamed Salama,
Head of Fixed Networks, MEA, Nokia

Nokia fixed and fixed wireless solutions address the increasing broadband demand in MEA

Amid the pandemic that hit the entire globe, the need for high-speed internet has become a necessity since everyone, or the majority of people, are now working from home. In this context, Telecom Review had the chance to speak with Mohamed Salama, head of fixed networks, MEA, Nokia about the fixed networks portfolio the company has offered.

Could you give our readers an overview of Nokia's Fixed Networks portfolio and your role as the head of the division at Nokia MEA?

Nokia is a global leader in the broadband business, running the most advanced fiber networks on the planet. Worldwide, roughly 750 million subscribers are enjoying broadband services over Nokia fixed networks solutions.

The demand for stable and high-speed broadband connections to the home has been very strong over the last years, but since the start of the pandemic, we've seen a significant acceleration. The lockdowns have reminded everyone that broadband keeps economies and societies operate smoothly. Also, the continuous growth of mobile traffic and the emergence of 5G will further accelerate fixed network deployments resulting in an even stronger convergence of fiber and wireless technologies.

As Fixed Networks Business Lead for MEA, my role is to help our customers in this region satisfy their growing need for superior high-speed broadband experience to the home and take the service beyond the network termination point inside the home.

You are a market leader in the fixed networks space. How do you see the fixed networks market across the MEA market going forward?

MEA is a very heterogeneous market in terms of local demography, economy or investment power. At the same time, no countries are left untouched by the trend of higher bandwidth demand. There is no doubt that fixed broadband deployments will keep booming in MEA, home to the world's most advanced FTTH networks. Nokia has deployed its FTTH network to key operators across the MEA region to bring ultra-broadband access and triple-play services to homes and enterprises.

In a large part of the region, we will continue to see an increased broadband momentum and copper-to-fiber transformation. Operators will stay focused on continuous network expansions, some will also move to the latest technologies such as next-

generation PON, low-latency Wi-Fi 6 or Software-Defined Access Networks. At the same time, we see in these same markets an increased push for fixed-wireless solutions that are strategically positioned to challenge local incumbents market share or growth. For example, Nokia is partnering with Zain in Saudi Arabia and Vodacom in South Africa to deliver a Gigabit experience to its subscribers using 5G fixed wireless while enabling Wi-Fi 6 inside the home through self-optimizing mesh technology.

In some MEA counties, fiber and 5G deployments will take more time. In such a scenario, 4G fixed wireless provides operators a short-term opportunity to offer increase broadband services. Our 4G FastMile solution has been designed to keep the overall TCO under control while optimizing radio resources and spectrum utilization.

Fixed wireless also provides an excellent opportunity to connect the unconnected. For instance, Nokia has teamed up with UNICEF and the Government of Kenya in a multi-partner collaboration to pilot internet connectivity and digital learning to disadvantaged Kenyan schools through 4G fixed wireless. Governments are also investing in fixed broadband for Industry 4.0 across the region.

What are the benefits that fixed networks offer compared to wireless networks?

In the context of broadband access, both fixed and wireless networks have certain trade-offs depending on the use case and how it fits in the specific CSP's strategy. Fixed broadband transformations – just like wireless networks – are driven by fiber densification. In general, fiber remains the most future-safe option as it provides virtually unlimited capacity upgrade capabilities. Today, XGS-PON deployments are becoming mainstream delivering 10 Gbps symmetrical line rate, with 25G symmetrical 25GS-PON option set to become available later this year. We're also very active in the specification work for technologies beyond 25G (e.g. 50G, 100G).

In addition, fixed networks provide stable and reliable symmetrical connection speeds. They are designed for massive consumption at home, with relatively low statistical multiplexing, allowing multiple users access to peak capacity at the same time. With the emergence of video-streaming services, online gaming, VR/AR, we also expect low-latency to become key design consideration for broadband networks. Increased symmetrical bandwidth demand is primarily driven by enterprise subscribers as well as home offices for video conferencing and VPN applications. These requirements have become even more outspoken during the pandemic as more devices got connected and bandwidth need increased.

Will fixed networks become obsolete with 5G or do you see a complementarity between the two networks?

Next-generation fixed broadband technologies and 5G have evolved separately in response to the growing bandwidth demand, yet they are increasingly interdependent. FTTH really is the gold standard – it delivers massive capacity at the lowest possible cost, its low power consumption makes it sustainable, and it will last – and evolve— for decades. If we want to provide a gigabit for everyone, then fiber is the technology of choice. When fiber and 5G join forces, that's really when the magic happens. Fiber and 5G complement each other perfectly and accelerate gigabit connectivity to the benefit of all.

Mobile networks demand a high-performance mobile transport network. This requirement will become even more outspoken with the evolution to 5G, with mobile users expecting much higher speeds, low latency and universal coverage. Our GPON, XGS-PON and Point-to-Point technologies are already being used successfully for LTE and 5G mid-haul and backhaul by multiple operators in the MEA region. Our Software-Defined Access Network solution enables a set of unique use cases, like 5G slicing, as we have demonstrated with some of our key customers.

Fixed networks could help to overcome the challenge of high-speed 5G indoor coverage. In the home, consumers switch from the cellular network to Wi-Fi, offloading the 5G traffic to Wi-Fi and, further on, to FTTH. This helps CSPs better manage RAN capacity and costs, free 5G capacity for critical applications, and still provide an exceptional customer experience for consumers at home. For this, we have upgraded our solutions with superior Wi-Fi 6 capabilities, including low-latency technology.

How has the Fixed Networks helped manage the COVID-19 pandemic impact on networks in MEA?

There is no doubt that broadband has played a vital role during this crisis, ensuring that millions of households have been able to work, learn, and live at home during extended lockdowns. The main impact on the network includes a significant increase in traffic during lockdowns, going up to 30 to 40% overnight.

Going forward, since periodic lockdowns could be part of the new normal for the foreseeable future, we are working with our customers to make sure that broadband networks allow every household not just to work or play from home but also access vital e-health and e-learning services. Broadband has become a fundamental right to protect citizens and economies. TR

> “Next-generation fixed broadband technologies and 5G have evolved separately in response to the growing bandwidth demand, yet they are increasingly interdependent”

Can ultra-wide band technology be the next big thing in wireless communication?

Ultra-Wideband (UWB) technology has been around for several years but its adoption by popular smartphone makers has put the high-spectrum technology at the forefront.

We have all benefited from using Google maps while driving out in the unknown outdoors, thanks to the satellite tracking (GPS) technology that makes it possible. However, in today's increasingly connected world that we live in, the need for indoor tracking devices to provide accurate geolocalisation of objects or people is undoubtedly generating global interest.

Responding to this growing demand and its specific requirements, manufacturers of the Industrial Internet of Things (IIoT) sector are developing more effective indoor positioning systems (IPS) for accuracy, cost-effectiveness, scalability, reliability and security. One such solution that is gaining steady recognition is the Ultra-Wideband (UWB) technology with its spatial awareness capabilities.

UWB technology provides both high bandwidth and short-range data transfer between electronic devices. This high-frequency spectrum technology, developed by the US military, was initially used for radar imaging. UWB can reach speeds of up to 100 megabits per second (Mbps), and provides the highest pulse shaping rates to enable accurate localization through a combination of UWB pulse frequency and its flight time triangulation information (TOA) device.

Another factor that makes it the tech of choice for indoor localization is its zero-interfere with radio transmissions to ensure interoperability with other devices and technologies.

The popularity of UWB climbed a notch up in 2019 when smartphone maker Apple used the technology in the iPhone 11 series via its U1 chip that allowed users to use the AirDrop feature to point their iPhone in the direction of the other U1 chip embedded device to transfer files. After which other phone makers such as Samsung and Xiaomi have followed suit.

What's so special about UWB?

One may wonder even other wireless technology such as Bluetooth can help in figuring out where something is located over short distances, so why do we need UWB? It turns out UWB is superior to Bluetooth in many ways:

Depending on how it is implemented, it can locate objects with a margin of as little as 5 millimeters as opposed to the 1 meter that Bluetooth allows. UWB can also update its position 10 times per second and UWB operates on a relatively low frequency with data transfer rates at low cost and low power.

For example, UWB is more secure than Bluetooth because of the support of time of flight which means UWB can be used to detect the proximity of someone attempting to send a signal. Think of a smart door lock that will only unlock when it senses that the homeowner's phone is right in front of it or a car's locking system that can beat relay attacks due to its jamming resistance capability.

It is ideal for devices in the home and business environments (laptops, mobile phones, TVs, DVDs, memory sticks, digital cameras, MP3 players) to be integrated for network wirelessly.

What is it going to be used for?

The global real-time location systems (RTLS) market is expected to touch $11.47 billion by 2026 growing at a CAGR of 22.8% from 2019 to 2026, according to reports.

UWB support can be used in positioning, geo-location, localization (accurate positioning and high multipath environments), radar and sensor applications (vehicular, marine, GPR, sense-through-the-wall (STTW) and surveillance systems), communications (high multipath environments, short-range communications, and high data rates) and roles of UWB in medical applications, medical monitoring, and medical imaging.

In other instances, US consumer electronics company Tile is coming up with a new tracker that will allow users to use the augmented reality (AR) feature in its app to open their camera to view an item's precise location.

Carmaker BMW recently announced plans to roll out Digital Key Plus feature whereby drivers can unlock and start their car without taking their iPhone out of their pocket or bag. The iPhone will need to be in proximity of the vehicle to unlock and start it.

Future of UWB

According to global tech market advisory firm, ABI Research, there will be 300 million UWB device shipments in 2021.

Factors such as rapid adoption of business analytics solutions, an increase in smartphone use, and the popularity of ultra-wideband technology are driving the growth of the market. However, lack of proper infrastructure is the biggest hindrance to its adoption. There is ample scope for antennae installation at project sites involving big capital investment.

Indoor 5G ultra-wideband installations within business customer facilities are crucial in the process to deliver a commercial private 5G solution for growth in business operations, manufacturing, and customer experiences across a variety of industries.

Although it all sounds great, there's a lot of work left to be done by developers writing software for UWB and other gadgets to incorporate compatible hardware. As of now UWB is enabled on Apple devices but is not able for developers. UWB access to the developer community is expected to take some time. UWB also faces threats from enhanced location accuracy with the new Bluetooth Low Energy 5.1 standard that will need less power usage and has a longer battery life.

All in all, UWB offers a unique model to wireless communications compared to traditional narrowband systems. The capability of these wide bandwidth wireless systems to produce low cost, low energy, short-range, high capacity wireless communications links will likely have plenty of takers in the coming days. TR

There will be 300 million UWB device shipments in 2021

In the post-epidemic era, cloud computing will accelerate the digital transformation of global industries

In 2020, the COVID-19 epidemic has brought a great impact on people's lives around the world. As a response to the impact, many enterprises are accelerating their digital transformation and maintaining business and production continuity through remote work and remote collaboration. Cloud-based collaboration software became ubiquitous during the epidemic, allowing billions of teleconferences to be held worldwide every day. Technology is critical to the survival of businesses, according to a new study by Global Data, a well-known research institution, with more than 80 percent of executives saying cloud computing and network are key to helping their businesses get through the crisis.

Fact, a perception is emerging in many industries that entrepreneurs have experienced a digital In enlightenment during the epidemic. In the post- epidemic era, all industries will accelerate digital transformation, either actively or passively, to better adapt to future market challenges.

Healthcare has always been an important industry for everyone, especially this year. Cloud computing and AI technologies have been widely used by medical staffs in the fight against epidemics and vaccine development, providing great value for people's lives and health. Researchers are using cloud computing-based AI technologies to analyze vaccines in the US, Europe, and Asia, they built models based on a small amount of genomics information about viral proteins, completed a large amount of high-performance scientific computing, used high-precision algorithms to simulate virus models and human cells, and started hundreds of thousands of CPU clusters for computing within half an hour, which effectively shortened the development process of vaccines.

Generally, the early drug discovery process takes 4 to 6 years. However, AI and cloud computing can shorten the process to 1 to 2 years. One of the greatest values of AI in combining the platforms and algorithms we have made for virtual drug prediction is that it breaks some of the linear constraints in drug development today. It turns out that some very important properties can only be studied in comparative later trials, such as the solubility of a certain amount of mass production. Now, AI prediction and cloud computing help drug scientists predict molecule activity, stability, optimal crystalline shape, toxicity, and solubility at a relatively early stage, helping drug scientists use algorithms for foresight, resolve some of the 'worries' that may come up with in the future.

On the other hand, with increasingly developed communications network technologies, people can access the healthcare cloud anytime, anywhere to obtain transparent, customizable, and cost-effective healthcare solutions and evaluate healthcare outcomes. Cloud computing is helping the healthcare industry move towards value-driven and consumer-centric patient care.

Digital technologies such as cloud computing are also playing an increasingly important role in another area that is closely related to us - the energy industry. In recent years, pioneers in the energy industry have begun to leverage cloud computing and AI, coupled with capability such as mobile network technology, to drive enterprise digital transformation. According to research from IEA, the large-scale application of cloud computing and other technologies will reduce oil and gas production costs by 10% to 20% and increase global oil and gas technology recoverable reserves by 5%. At the same time, digitization can also benefit clean energy technologies such as carbon capture and storage.

From now on to 2025, the digitalization and intelligence of energy technologies will undergo significant changes. By 2025, the global digital market in the energy industry is expected to grow to US$64 billion, including cloud computing, AI, machine learning and big data.

Specifically, cloud computing will transform the energy industry from five perspectives. First, data processing. Energy enterprises will increasingly apply cloud data centers, use cloud services more widely to improve existing computing capabilities, and provide support for business activities that rely heavily on data analysis, such as geological modeling. Second, enterprise collaboration. Energy companies need to leverage cloud technology to manage a complex, regionally diverse ecosystem of partners, suppliers, subcontractors and employees. Third, production and operation. Energy companies need cloud technologies to improve their performance, increase operational agility and reduce costs to cope with the growing competition, regulation and market environment. Fourth, customer interaction. Energy enterprises need to build deeper customer relationships and brand value with the help of cloud-based customer relationship management and social media tools. Fifth, new energy development. Cloud technologies will help energy companies transform to new energy sources such as low-carbon alternatives and renewable energy.

The transport industry is also a very typical example. Under the tide of economic globalization, large cities in various countries are becoming an important part of the world's urban system, and some international metropolises have become global productive forces, science and technology centers, educational and cultural centers and world trade centers. However, with the influx of population, large cities face more and more challenges in traffic management, which are difficult to solve by traditional means.

In many large cities around the world, traffic management departments are trying to improve the traffic conditions of cities by using various technologies, including updating intelligent traffic sensing devices to obtain clearer and more accurate traffic data. Building a unified traffic management system based on a cloud computing platform can coordinate the handling of traffic signals and emergency cases. Using multiple connection technologies, including 5G, will also optimize data connections between traffic sensing devices and the traffic management system, ensuring that massive data can be aggregated and analyzed in a timely manner. Advanced AI analysis algorithms can in turn analyze and support decision-making for congestion prediction, route analysis, and traffic signal control, then, the analysis result and decision-making suggestions could be sent to the traffic control department and frontline traffic police through the network. The integration of these new technologies effectively improves the urban transportation environment.

In addition to improving benefits for traditional industries and large-scale enterprises, emerging digital technologies such as cloud computing and AI will also provide new opportunities for small and medium-sized enterprises to improve operation efficiency, promote innovation, expand market and financing channels, and facilitate remote operations during the epidemic. In the Middle East, SMEs account for more than 90 % of the total size of enterprises and contribute 70 % of GDP. Helping small and medium-sized enterprises accelerate their digital transformation will bring significant benefits to local economic development.

Now, with the development of vaccines in various countries, the epidemic will gradually be effectively controlled. As businesses move from addressing COVID-19 epidemic to driving sustained business growth, they must focus on the three main areas that shape the trend this year: consumer oriented, business independence, and intelligent delivery. These trends will have a greater impact when combined, and businesses must focus on meeting social and individual needs around the globe for optimal practice.

Digital transformation is entering the next stage as "intelligence", which is the key strategy for the future development of global cities, industries and enterprises. Research by Gartner, a leading research firm, shows that the need for business resilience has never been more intense. CIOs are trying to adapt to changing circumstances and design future-oriented businesses. This requires that the enterprise organization be sufficiently intelligent and reorganized and reformed plasticity.

The intelligent business architecture and anywhere operations mode that is implemented based on the cloud computing platform, AI, 5G, and IoT technologies is the key to future enterprise development. Only companies that take advantage of the combination of these technologies for continuous digital transformation will have the chance to be the winner of business competition over the next few years. TR

By Li Shi, President of Cloud and AI Business Group, Huawei Middle East


Bob Whitman, vice president of market development for carrier networks, Corning Optical Communications

Corning enabling optical connectivity in space-constrained environments

Bob Whitman, vice president of market development for carrier networks at Corning Optical Communications discussed, in an interview with Telecom Review, the company's latest solution, Evolv™ Hardened Connectivity Solutions with Pushlok™ Technology.

As we enter the new year, what are your expectations from the market for cabling and IT infrastructure in 2021? What new technologies do you expect to come to our attention this year?

As we navigated the pandemic in 2020, it became clear that technology was central to maintaining a sense of normalcy and ensuring business continuity. The digital transformation of the IT infrastructure and the demand for a strong network became a key priority within all sectors globally.

Last year, bandwidth demand surged due to the shift to remote working, online learning and e-commerce. As such, there has been an increase in demand for high-speed internet connection due to which telecom operators are upgrading their network infrastructure. Advanced technologies such as 5G, artificial intelligence, and the Internet of Things are also driving the providers and data center operators to evolve day by day as these technologies are putting a lot of pressure on the networks and data transmission needs.

These developments over the last year have led to carriers and network operators to look for the most efficient way to increase bandwidth. More and more often, this means installing fiber connections in novel locations or tight spaces not originally designed for network connections. To meet that need, Corning in October introduced Evolv™ Hardened Connectivity Solutions with Pushlok™ Technology, consisting of fiber optic terminals and connectors that are miniaturized to accommodate more fiber connections in smaller spaces.

These optical solutions are a prime example of Corning's innovation portfolio in action. We are constantly investing in our R&D efforts to keep up this high level of innovation. We're leveraging our expertise in optical physics and material science to co-innovate with our customers to solve their toughest technology challenges. That's why we are able to continuously introduce new products and solutions for this quickly changing and advancing market.

As we look ahead, we see significant new 5G and Hyperscale Data Center opportunities emerging for passive optical solutions. Corning has been a market leader within the technology sector for decades, and hence will be able to bring its deep-rooted legacy and expertise to support the growth of these new opportunities.

Tell us more about the new product Corning has now added to its portfolio?

We introduced out latest innovation Evolv™ Hardened Connectivity Solutions with Pushlok™ Technology to help telecommunications network operators meet exploding demand for bandwidth: Miniaturized terminals and connectors that support converged networks and can accommodate more fiber connections in smaller spaces. It allows installers to connect up to three times faster and it has other advantages that in general can minimize the associated cost and time of deployment.

As connectivity requirements continue to grow, network operators must deploy more fiber in space-constrained environments. This need will accelerate with the increase in 5G deployments across the region. Smaller terminals will need to be placed in many novel locations throughout our cities, which leads to several practical challenges in zoning and access. That's why we've developed pre-connectorised solutions that make it faster, easier and less expensive to build these networks. The product is designed to simplify fiber deployment for all types of communications networks.

Why did Corning introduce this new technology? Will the new product play a role in supporting 5G networks?
Corning's engineers designed the product for the kinds of spaces we'd associate with 5G deployments such as: concealed holes, street furniture, inside lamppost monopoles, or on building facades. The design is notably aesthetic and discrete so that it can be installed with minimal visual impact – particularly important for listed buildings – and this can often speed up approval times.

It includes a field-friendly connector with dual compatibility that is up to four times smaller than existing offerings, with a full array of terminals – 4 ports, 8 ports and 12/16 ports. These will be available stubbed for a centralised split application, and also available as a distributed split. When it comes to the drop cables themselves, we accommodate customer or regional preferences for cable types. Last but not least, the accessories include port cleaners, connector convertors, terminal brackets and terminal covers.

This region has been a leader in the implementation of 5G technology, with countries like the UAE aiming to have all inhabited areas of the country under 5G network coverage by the end of 2025. This brings about the need for technology that will allow operators to shrink their footprint and put optical connectivity in places they couldn't have before. The Pushlok technology developed by Corning is a key enabler on this front. The miniature size allows it to be installed easily in constrained spaces and it has a very intuitive interface for operators that may not be as familiar working with fibre optics, which eliminates the need for skilled technicians. There's also a variety of ways to enable cost savings in the placement of these terminals and the connection of the terminal to the device which helps build the business case. I would definitely call the new solution from Corning a game-changer for the future of converged and 5G networks.

2020 was a year which brought technology to the forefront and the pandemic highlighted the importance of fast networks and digitization. What can the industry do to support this increase in demand in the coming year?
2020 was the year which emphasized the importance and growing need for a strong network infrastructure and we can expect increased investment from the regional governments to support this need in the coming year. This is a time for industry players to lead from the front and support the ambitions of the region when it comes to network densification and the roll-out of 5G. We have a responsibility to increase our efforts in R&D to boost innovation, as well as share our global expertise supported by our local knowledge, all of which will enable the technological aspirations of the region to become a reality. TR

> We're leveraging our expertise in optical physics and material science to co-innovate with our customers to solve their toughest technology challenges

SatMENA: Bridging the connectivity gap in Lebanon and MENA region


Dr. Saad al Jamal, CEO, SatMENA

SatMENA is a newly established satellite service provider offering internet over satellite, in addition to other services for residential, enterprise, and government customers in Lebanon. Partnered with the leading industry providers such as SES, SatMENA provides the best and most innovative solutions to the Lebanese commercial market as well as the MENA region. Telecom Review spoke to Dr. Saad al Jamal, CEO, SatMENA to know more about the main services the company offers.

Can you give us an overview of SatMENA and the services you offer in Lebanon and the region?

Telecommunication market structure within the MENA region demands a satellite service provider entry into broadband and differentiated information and communication technology (ICT) services in a market which is substantially underserved by this technology. Currently, governments are investing in broadband telecommunications by building a country-wide fiber optic network enabling both higher-quality and enhanced fixed and mobile broadband service. Such investments will help in generic economic growth through access to new technology for existing enterprises. However, fiber optic network market penetration is still low and insufficient to cover the needs of end-users given the inadequacies arising from financial infeasibilities, technological limitations, landscape boundaries, and general design mishaps. Satellite services require minimal installation and consumer setup time, granting an additional competitive advantage.

In the fourth quarter of 2020, SatMENA started its journey to bridge the gap present in terms of connectivity reach to unserved markets, enhance service quality to underserved markets, and provide differentiated ICT services and packages to expand the product offering available. Our services include satellite connectivity to end users, satellite solutions such as backhauling, airlines inflight connectivity solutions, and other ancillary services such as cloud solutions. Our solutions are catered for residential consumers, enterprises, oil & gas firms, government ministries and embassies, military, telecom operators, news broadcasters, airlines, marine applications, and others. The current competitive landscape is suffering from lower quality of service and contracted, sometimes negative, profit margins which signals that the current internet and related services' pricing are not sustainable and are geared to being altered in the near future, thus giving satellite technology an additional edge over traditional terrestrial solutions which are highly saturated and plateauing immensely.

SatMENA is the first satellite operator to get the license in Lebanon. How important is this step to you and to Lebanon?

SatMENA is the first operator to get the satellite ISP license in Lebanon and we are very proud of this massive stepping stone leading Lebanon into a new technological and economic era. This step is vital for expanding telecom services to underserved markets in Lebanon and in the MENA region, ameliorating military and government applications as well as residential, enterprise, airline, marine and other services, rendering connectivity widely available and increasing security and reliability.

SatMENA has built the very first SES partnered MENA commercially open geostationary (GEO) satellite gateway and satellite hub hosted at Jouret El Ballout within Ogero's premises in Lebanon to serve as a market differentiator for the MENA region and accelerate satellite technological trends. To ensure the highest quality of service (QoS) and robust connectivity, we have partnered with the world's leading satellite owners, operators, and service providers to capitalize on their collective expertise in the satellite market both in terms of geographical and application expertise differentiation. TR

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The path ahead for telecom in the Middle East 2021

Following a tumultuous year, telecom operators in the Middle East have begun to identify the technologies and business models that will define their next decade of growth. With new challengers entering the market, and consumer expectations that are much different than they were a year ago, operators must continue to innovate with the digital consumer in mind. As we look towards 2021, we see a few key trends that will impact how CSPs establish a business model that accommodates the ever-evolving dynamics of digital transformation.

5G finally comes to life

To date, most 5G news has been around initial deployments and trials. Despite challenges with network and service reliability, the Middle East has become a leader in 5G implementation, with the networks commercially available across six countries. As 5G-enabled devices become more widespread, we will start to see real use cases. This will include a mix of new and emerging trends such as virtual reality and self-driving cars, as well as specific vertical use cases including the oil and gas industry, and intelligent security.

This will naturally lead to discussions around how to monetise 5G capabilities, which will require an ecosystem of partnerships and collaboration – without these capabilities, the ecosystem will be impossible to build. Monetisation will also require proven scalability that seamlessly manages the billions of events per day at ultra-low latency, and processes charging volumes with single-second latencies. In any case, operators will need their digital solutions to be flexible and need to know that they are future-proofing their billing for current and forthcoming 5G services.

Enhanced customer experience will continue to be in demand

5G will accelerate new opportunities for telcos, particularly in terms of customer experience (CX). Thanks to the global COVID-19 pandemic, we already witnessed major changes in CX through 2020, which forced customer services to quickly move online. The end of the pandemic will not change this. Customers are now demanding more self-service and omnichannel options, so telcos will need to reassess how they do everything – from selling phones to offering contactless or self-service payments – to servicing customers online as well as over the phone.

The pandemic also accelerated the move to the public cloud, which has had a big effect on CX. Who would have thought that call-centre operators would be working from home, dealing with sensitive customer data? In 2021, this will mean an enhanced focus on conversational artificial intelligence (AI) to support the increased influx of customer calls as storefronts remain closed – and even long after they have reopened.

Conversational AI is not just about voice, it is a generational shift beyond chatbots to meet customers where they want to interact, regardless of the communication platform (SMS, voice, text, chat, IVR, smart home devices), and in a conversational, smart, and personalised way. It

improves customer satisfaction, call containment, first call resolution, and cost control, and shortens customer service representative (CSR) training cycles. This means that contact centres can deploy an AI-powered virtual assistant in their IVR, chat, social or text interfaces to resolve a large chunk of inbound inquiries.

Embrace digital or face the consequences

Following Covid-19 lockdowns, most companies had no choice but to address digital transformation, and to do so quickly. Those who have not yet started will need to catch up quickly in 2021, or else they will get left behind. These companies will need to move toward digital business models that allow for more flexibility and, enable them to expand their offerings or adapt to the new global market conditions.

Others took incremental steps toward transformation, addressing digital CX and other digital use cases as needed, but can no longer keep up due to legacy infrastructure. Those companies will need to think long term and adopt big evolution projects, especially as other operators go all in on transformation, gaining market share on the back of digital investments.

While some countries in the Middle East still suffer from network congestion and service quality, 5G will become a reality for most. However, as customers demand more digital services, the service provider of the future ought to embrace digital transformation, including migrating to the cloud/ hybrid cloud, wholeheartedly. Without wholescale change and the acceptance that innovation must be ongoing, the path ahead will be much less clear. TR

By James Kirby, SVP and Head of EMEA, CSG

> We're leveraging our expertise in optical physics and material science to co-innovate with our customers to solve their toughest technology challenges

Etisalat, du increase foreign ownership limit to 49 percent

UAE telecom operators Etisalat and du have raised foreign ownership caps to 49 percent in a move to lure external investors.

"Etisalat Group's Board of Directors discussed increasing the ownership limit of the Non-UAE Nationals in the Company and resolved to increase such limit from 20% to 49% of its capital," the company notified the Abu Dhabi Securities Exchange, where its shares are traded.

However, the decision is subject to approval from the company's general assembly and regulatory authorities.

Etisalat shares jumped roughly 15 percent on Wednesday as the company called a board meeting to discuss increasing the foreign ownership limit in the firm.

In a statement to the Dubai Financial Market, du said that "non-UAE nationals (whether individual or legal entities) are entitled to own shares up to 49 percent of the company's capital".

"Local and international telecommunication companies are not permitted to own a stake in the company," du said.

"No individual or legal entities are allowed to own (directly or indirectly) more than 5 percent of capital, with exception of existing shareholders owning more than 5 percent as of the date of resolution," it said in a statement to the exchange.

Shares of du also surged over 14 per cent earlier in the week following the board meeting announcement to consider increasing ownership percentage of non-UAE nationals in the company.

A higher cap on foreign ownership will allow index providers such as MSCI Inc. and FTSE Russell to consider an increase of the stock's weight in emerging-market equities benchmarks, triggering passive inflows.

stc publishes financial result for Q4 and 12 months period of 2020

stc announced the company's preliminary financial results for the period ending at 31 December 2020. Revenues for the 4th quarter reached SR 15,213m with an increase of 14.69% compared to the corresponding quarter last year. For the 12 months period of 2020, the revenues reached SR 58,949m, registering an increase of 8.43%.

Gross profit increased 1.54% for the 4th quarter reaching SR 8,489m compared to the corresponding quarter last year. For the 12 months period of 2020, the gross profit reached SR 33,997m with an increase of 4.96%.

Operating profit registered SR 3,290m with an increase of 37.08% compared to the corresponding quarter last year. For the 12 months period of 2020, the operating profit increased 2.69% to reach SR 12,816m.

Earnings before Interest, Taxes, Zakat, Depreciation and Amortization (EBITDA) for the 4th quarter reached to SR 5,716m with an increase of 14.62% compared to the corresponding quarter last year. For the 12 months period of 2020, EBITDA reached SR 22,175m with an increase of 4.28%.

Net Profit registered an increase of 15.60% and reached SR 2,683m compared to the same period last year. For the 12 months period of 2020, the net profit reached SR 11,085m with an increase of 3.94%.

Commenting on these results, Eng. Nasser bin Sulaiman Al-Nasser, stc Group CEO, stated that the company has achieved the highest annual revenue in the past 8 years. This achievement was primarily due to the increased demand for stc's various services & products, and the company's ability to meet this demand promptly and efficiently, especially during COVID-19 pandemic.

stc appoints new group CEO

stc announced appointing Eng. Olayan M. Alwetaid as group CEO effective March 28th 2021, following the resignation of Eng. Nasser al Nasser on November 28 due to personal circumstances.

Eng. Olayan has more than 20 years of experience. He initially worked at Aramco then joined Saudi Telecom Company and has gradually worked his career within stc; he recently was the senior vp for consumer sector, before that he was the CEO of stc Bahrain. He heads the boards of directors of several stc subsidiaries such as Channels, Integral, and CCC. He is also the vice chairman of the BoD of stcPay and the chairman of several committees related to the mentioned Boards.

Eng. Olayan has a Bachelor's Degree in Electrical Engineering from King Fahad of Petroleum and Minerals University and has many certifications in the field of ICT, leadership and strategic planning.

Etisalat builds region's first open and autonomous network

Etisalat announced that it is building the region's first open and autonomous and secured network. Cisco AI/ML automation is used to simplify Etisalat Emirates Internet Exchange (EMIX) operations with a set of innovative use cases aimed at providing an intent-based and closed-loop automation solutions to EMIX network.

As Etisalat advances in the automation journey, the network intelligence and refined analytics will improve operational decision making and reduce time-to-outcomes, which is critical in preparing the network for future 5G capacity demands and service agility to deliver always-on connectivity to EMIX customers and partners.

The new automation framework is built on the proven foundation of open APIs in Cisco Network Services Orchestrator (NSO), Cisco's WAN Automation Engine (WAE), and Cisco AI/ML Platform to incorporate big data consolidation, machine learning, event correlation, and closed-loop change automation.

With the support of intelligent 'capacity planning' application, Etisalat will manage to quickly scale the infrastructure which will translate into being able to maintain service levels when traffic levels are in flux. While predicting network capacity demands based on the recent usage patterns and trends, which can be very unpredictable during peak utilisation times, and maintaining a high level of the service quality by automatically routing the critical applications using AI to predict the best network paths for high applications quality and customer experience.

stc Group launches world-class cybersecurity services and solutions company

Given the growing demand for cybersecurity and in response to market needs in light of digital transformation, stc Group launches the Advanced Technology and Cybersecurity Company.

stc Group announced the launch of the Advanced Technology and Cybersecurity Company; a new company dedicated to providing advanced cybersecurity services and solutions in the business sector.

The recently announced launch comes to keep abreast of the growing demand for digital services in parallel with stc's DARE Strategy, which aims to foster digital transformation, pave new paths for development, and achieve the objectives of Saudi Vision 2030.

This new effort is part of the response to the exceptional circumstances the world is witnessing, circumstances which led many businesses and government agencies to resort to digital solutions for business continuity.

The Advanced Technology and Cybersecurity Company has a cybersecurity operations center that provides the most advanced services. The center is managed by capable national talents, observes the highest levels of professionalism, and adopts international best practices to monitor, respond to and protect against advanced cyberattacks. In addition to conducting proactive digital intelligence research, the center is supported by advanced and integrated services and platforms to address and respond to cyber incidents. Not only that, but one of the strategic objectives of the company is to provide young national talents with training and development in technologies and cybersecurity.

Zain KSA launches 1st 5G B2B leased line for enterprises

Zain KSA announced the launch of leased line telco services that are enabled by the 5G technology for the business sector, characterized mostly by their low cost and high efficiency and reliability, which is identical to the efficiency and reliability of fiber networks.

Amongst the leased line features is the "dedicated access services" which telecom networks can be equipped with, to provide high-speed connections to areas where fiber networks are not available.

Businesses in today's world have increasing dependency on internet and require a reliable and robust connectivity. A leased line or private line caters to these requirements by ensuring dedicated high-speed communication amongst teams. Apart from exclusive connectivity, a leased line is also able to meet service level requirements for critical end-use applications.

According to a recent survey in the Kingdom, 5G is able to meet the requirements of more than 80% of typical leased line enterprise customers with its high speeds, low latency and ultra-fast deployment. It will also enable the launch of new products for end customers at competitive rates which is instrumental for new digital growth areas in line with the Kingdom's recent digital economic policies.

Opensignal announced in a recent report that Zain KSA won all three awards of the Saudi Arabia 5G User Experience report on: "Best 5G Download Speed," "Best 5G Availability," and "Best Download Speed Experience - 5G Users."

The company was also recognized by Ookla which granted Zain KSA through its globally acclaimed Speedtest award, the Kingdom's "fastest fixed Network" award for the year 2020. The company's 5G network was also granted Telecom Review's awards for "Best 5G User Growth," "Best Infrastructure/5G Deployment," and "Best Cloud Provider."

Telecom Egypt signs agreement with the Ministry of Social Solidarity for telecom services

Telecom Egypt and the Ministry of Social Solidarity signed an agreement to provide telecommunications services to the Ministry and the beneficiaries of social protection programs, namely the "Takaful and Karama" program. This cooperation comes in line with the Ministry's endeavor to automate all the services it provides to the enrolled families and individuals across all Egyptian governorates through the implementation of a highly responsive and effective communication mechanism, in line with the envisioned digital transformation strategy of the "Digital Egypt" vision. Such a mechanism will lead to an improvement in data governance, reflect on service quality, and ensure that all requests and complaints are addressed promptly.

According to the agreement, Telecom Egypt will provide 3.5mn mobile SIMs to the beneficiaries of the Takaful and Karama program including a bundle of minutes, text messages, and megabytes per month at a nominal cost. The company will also support the Ministry by providing over 2,600 landlines for its social units, in addition to a bundle of text messages, and minutes for its hotline numbers to be used to communicate and follow-up with the beneficiaries of the program.

Adel Hamed, TE's Managing Director and Chief Executive Officer, commented, "We are very pleased to have signed this agreement with the Ministry of Social Solidarity and to support such a large project like Takaful and Karama, as it comes in line with Telecom Egypt's strategy to facilitate national digital transformation, and support all the projects that serve Egyptian citizens. This agreement also emphasizes the vital role of telecom services in establishing effective management systems, and linking databases to improve the services offered to citizens. Last year, we witnessed how necessary telecommunications services are in the daily life of citizens, and we are now very happy to enable the provision of such services to vulnerable groups through this partnership."

Ooredoo Kuwait, NBK seek to enrich customer experience with new MoU

National Bank of Kuwait (NBK) and Ooredoo Kuwait are set to develop digital services, products and solutions, in the framework of a memorandum of understanding that they signed recently, with the aim of enriching customer experience in both entities.

The MoU is part of a strategic partnership between NBK and Ooredoo that provides their customers with the opportunity to benefit from an exceptional experience in both the financial and telecommunications sectors thanks to cutting-edge digital services and solutions that both institutions offer.

Commenting on the signing, Salah Al-Fulaij, CEO of National Bank of Kuwait - Kuwait, said: "We are pleased to sign a cooperation agreement with an institution of Ooredoo's stature, as part of our endeavors to create partnerships with the leading brands with a view to meeting the needs of all our customers, and enriching their banking experience."

"We are keen to accelerate the implementation of digital transformation roadmap in line with our strategy started years ago, which contributed to our success in providing the most advanced digital services and payment solutions to our customers," Al-Fulaij added.

Abdulaziz Al-Babtain, CEO of Ooredoo Kuwait, expressed his pleasure for signing this MoU with NBK, saying: "Given its leading position, especially in the IT sector, Ooredoo Kuwait seeks to establish effective partnerships with renowned institutions that contribute to the development and progress of Kuwait. This partnership stems from the Company's effective role, most notably by providing the unique 5G technologies. This also helps improve the quality of customers' digital experience by providing more innovative products and services that redefine both the digital telecommunications technology and the banking sectors in the country."

Vodafone officially becomes third telecom operator in Oman

Vodafone has obtained the license to establish and operate public telecommunications services in the Sultanate of Oman based on Royal Decree No. 4/2021, making the company the third telecommunications operator in the Sultanate of Oman.

Vodafone Group and Oman Future Telecommunications ("OFT") had announced in 2019 a strategic partnership agreement in the Sultanate of Oman as part of Vodafone's Partner Markets program. The third telecom operator will join Vodafone Partner Markets, which provides access to a variety of special Vodafone services, while Vodafone Group will not own a share of the company's capital.

Sayyid Hamad bin Ahmed al Busaidi, Chairman of the board of directors of the Oman Future Communications Company SAOC (Vodafone), stated that the Royal Decree No. 4/2021 " represents a significant step into the future of the telecommunications sector in the Sultanate, whether in terms of providing cutting edge technologies in this field, or offering more options for the citizens and residents of the Sultanate, affirming that Vodafone Oman will work on providing the most advanced technologies in the field of information and communication, which, in turn, will contribute to the implementation of the government's strategy represented by Oman Vision 2040".

Diego Massidda, CEO of Vodafone Partner Markets, added "The strategic partnership between Oman Future Telecommunications Company SAOC and Vodafone ensures that Vodafone Oman receives the right infrastructure and advanced technologies. Through partnerships and projects, especially with small and medium enterprises, the local community will also benefit from Vodafone's global expertise."

It is noteworthy that shareholders of the "Oman Future Telecommunications Company SAOC" include many Omani institutions such as government pensions and investment funds, as well as a group of private investors.


Hakan Ekmen, CEO Telecommunication, umlaut

umlaut 'adding something on top' through benchmarking and advisory services

umlaut is a global, full-service, cross-industry, end-to-end company that offers advisory and fulfilment services to clients all over the world. Telecom Review spoke to Hakan Ekmen, CEO Telecommunication at umlaut to know more about the company's benchmarking activities and its plans for the Middle East region.

Can you please tell us a little bit more about umlaut?
umlaut is a very technology-driven and future-oriented company, providing services to numerous sectors and industries, like automotive, energy, aviation, rail and telecommunications. We transfer our expertise and knowledge across the industries.

Our value is defined by the added value we create for our clients, their companies and their products.

In 24 years, umlaut has grown from a startup, made in Germany, to a multinational, globally active company with thousands of highly specialized and experienced experts.

We support our customers worldwide in changing their technological capabilities and organizational culture for the better. In doing so, we always offer them something beyond regular. Following our credo: Add something on top!

In the telecommunications sector we are well known as global leader in mobile and fixed benchmark services.

umlaut's benchmarking results are used by network operators, equipment suppliers, regulators and official authorities worldwide.

What makes umlaut's mobile benchmarks special?
Thanks to our sophisticated and standardised methodology, the results are comparable across all countries and operators. Our benchmarks provide transparency and are pushing the network quality and performance. Ultimately, that leads to improvements for every customer.

Network operators consider them to be the most relevant assessment of their networks, fairly and transparently assessing digital infrastructures.

Our yearly update brings significant upgrades of our methodology framework. Last year, we have implemented the visibly growing crowd of 5G mobile broadband users and featured more user- and service centric evaluation of broadband coverage, speed and latency.

For 2021 we plan to further upgrade our framework to cope with constantly increasing network capabilities and changes in user behaviour.

How does the pandemic influence mobile networks?
We have analysed the mobile networks as well as the fixed line during the global crisis. In most countries the crisis had no larger impact on the mobile network performance. Working from home has shifted traffic from mobile to fixed networks. Regarding the development of 5G networks, we have seen an initial delay in building up the 5G infrastructure. In the second half of 2020 we have seen an uptake and a fast implementation of 5G infrastructures in many industrial countries. The observed data rates in our 5G measurements all over the world are really impressive, promising a great development of digital capabilities in the upcoming years.

The trend to work from home accelerates the digitisation of the world of work. It can be assumed that working from home will not disappear anymore.

Therefore, we have checked and ranked fixed lines worldwide in a global comparison: Most of the Asian and European countries are operating in the upper third of the score, countries in the Middle East rank in the mid field. Globally we see, internet is still far away from being everywhere.

Are there any highlights with regards to the global 5G development?
Our crowd sourcing methodology allows us to see where 5G is already in use. In the NGMN Forum in November 2020 we have presented the results of our first 5G global benchmark, giving an overview over the development of 5G during 2020. Since Q1/2020 the number of 5G samples were continuously increasing, starting in the Asian region, followed by North America and Europe. Overall, the results for the 5G global benchmark were quite heterogeneous - the top ten countries in our benchmark came from all over the world. From MEA region Saudi Arabia, United Arab of Emirates and Kuwait were among the top ten. On top we have executed drive tests in many cities around the globe, showing quite impressive rates for data speed as well as for 5G availability in metropolitan areas.

What are your future plans in Middle East?
We plan to increase our business also in this region and want to support network operators to provide superior network quality and performance. Benchmarking is only the first step to improve networks. Based on the results and the derived insights, umlaut supports its customers to get the most out of their investments to provide cutting edge services.

Furthermore, our Middle East team will further push digitization in other industries.

In automotive we see a lot of potential for electric vehicles. Besides the cars and their connectivity itself, a stable and convenient charging infrastructure is essential. We are permanently contributing to the development in this sector. Our latest charging infrastructure reports from Europe and the US show a huge improvement potential.

We also operate a very successful remote emergency telehealthcare service in Germany. With our solution, already more than 20.000 emergency cases have been handled. We will find out how this system could also improve the medical care situation in Middle East.

In addition, we are working in the area of smart cities, the airline industries and many other sectors.

So, there is still a lot to come. TR

> We support our customers worldwide in changing their technological capabilities and organizational culture for the better

Telecom Review hosts virtual panel on the opportunities of 5G fixed wireless access

Telecom Review organized a virtual panel which saw the participation of 300 registrants, to discuss the opportunities offered by 5G fixed wireless access networks to consumers and mobile operators. Abdulrahman AlMufadda, CTO, Zain KSA and Ali Jitawi, customer business team head Zain, Nokia talked in depth about the importance of this technology. The panel discussion was moderated by Amer Mdanat, general manager (KSA), NXN.

The panel addressed the importance of 5G fixed wireless access in serving digital transformation goals in KSA, and how end users can benefit from 5G fixed wireless access and the main 5G fixed wireless access offerings and solutions.

5G: Leadership and partnership

The moderator of the panel discussion entitled "Opportunities of the 5G fixed wireless access", Amer Mdanat, general manager (KSA), NXN, kicked off the conversation with general questions about the Zain KSA's 5G journey and the partnership between the operator and Nokia.

When asked about the value that Zain KSA is adding to the ICT sector

in Saudi Arabia, Abdulrahman bin Hamad AlMufadda, CTO, Zain KSA said, "We are transforming from a traditional telco operator to a digital service provider of choice with the aim of better serving our customers in a digitally connected world. Including our efforts in offering the best Customer experience journey which we regard as the competitive edge we can offer to customers, empowered by a rich and strong 5G network infrastructure we've built over the year - recently adding 5G FWA solutions to enable a full digital experience.

Zain KSA and Nokia have partnered on 5G in 2018 but their partnership goes well before that year.

"We value our partnership with Zain KSA which started off with the provision of voice and data services with GSM, 4G, 4G LTE, and now with 5G. Our engagement with Zain in terms of 5G started in 2018. We have been able to offer 5G fixed wireless access to our customers in the Kingdom thanks to Nokia's engineering knowledge and Zain's expertise in the Kingdom", said Ali Jitawi, customer business team head Zain, Nokia.

NXN's general manager in KSA, Amer Mdanat then asked Zain KSA's CTO about their vision in relation to 5G and the progress the operator has reached thus far in its deployment.

"The early adoption of 5G allowed us to add new services to our 5G portfolio and becoming a pioneering name in this field, where people now associate Zain KSA with 5G, and 5G with Zain KSA. In addition to our vision of being the Kingdom's operator of choice, which the early adoption of 5G supported us greatly towards this endeavor and positioned us as a regional leader," he said.

"We've introduced 5G services in all Saudis 13 administrative regions, and in 50 cities across the Kingdom, enabled by 4,700 towers which was paid off by regional and international recognitions; in fact, we won last month three Telecom Review Excellence Awards for the "best 5G user growth," "best cloud provider," and "best 5G infrastructure deployment." Also, Ookla's Speedtest award for fastest fixed internet in 2020. In addition, most recently, OpenSignal latest report on KSA where it showed that Zain KSA won 3 major 5G awards (5G Availability, 5G Download Speed, and Download Speed Experience - 5G Users), Zain KSA CTO added.

The benefits of 5G fixed wireless access

In the framework of the discussion on 5G fixed wireless access, the panelists explained what they have been working on in terms of 5G FWA technology.

"From the start were we were committed to providing our customers with the most innovative solutions. Specifically with 5G, we focused on building the infrastructure to have a reliable network which we can build on to have more use cases. 5G FWA has allowed us to offer more services and have the capability to support different use cases such as AI, IOT, and automation", said Abdulrahman bin Hamad AlMufadda, CTO, Zain KSA.

One of Nokia's unique solutions is its FastMile fixed wireless access gateway that creates a better and faster Wi-Fi experience within consumers' home. When asked about what makes this solution so unique, Ali Jitawi said, "FastMile 5G FWA gateway's main differentiating feature is the ease of installation – customers are guided by a mobile app through the entire installation process. The look and shape of the CPE are also one of its unique features. In addition, it has been designed to guarantee the best reach and coverage and outperform the other products. In addition, its open-standards capabilities are the first in the world to enable eSIMs and WiFi 6."

He added, "For operators and CSPs, Nokia's 5G FWA solution allows them to reduce OPEX and increase revenues while offering the best customer experience."

Deploying fixed wireless access comes with its own challenges, mainly related to capacity and coverage. But the KSA has been able to ease some of the restraints.

"The amount of spectrum allocated in KSA in the mid-band is very unique and allowed operators to match their mobile footprint and unleashed the capability to have FWA in cities and sub-urban areas, coupled with 5G beamforming and MIMO capabilities," Jitawi said.

He finally concluded that with all of those capabilities, operators and CSPs will be able to uplift their ARPU and enrich their portfolio with new services which would allow them to better monetize their 5G investment.

Saudi Arabia equipped with the right regulatory environment for the roll out of 5G

In the framework of the panel discussion organized by Telecom Review on the opportunities of the 5G Fixed Wireless Access (FWA), the moderator Amer Mdanat, general manager (KSA), NXN addressed the question of the regulatory environment and challenges specific to Saudi Arabia for the roll out of 5G services.

In this context, Ali Jitawi, customer business team head Zain, Nokia commented, "The development that has been happening in Saudi Arabia is unparalleled when it comes to the regulatory involvement in fostering the 5G roll out. This started by making the most relevant spectrum available for operators specifically on the mid-band and allocating the right size of spectrum."

He added, "We have seen Saudi being among the top countries worldwide in making the spectrum available for the CSPs. And this is what stimulates the operators to better invest in 5G as a leading technology. Fixed wireless access is one of the many use cases that came, capitalizing on the extreme broadband capability of 5G, not to forget the ultra-low latency and the massive machine communication enabling 5G applications especially for smart cities."

For Abdulrahman AlMufadda, CTO, Zain KSA, "It goes without saying that without having the right support from our governmental entities MCIT and CITC respectively, and without having the right partnerships, including the ambitious and clear vision, little would have been achieved. So, when we talk about Zain KSA being in a leading 5G position, it's a combination of all of the above."

He continued, "Similarly, for the first time in the world Zain KSA offered its customers an ultra-fast 5G speed of 2.4 Gbps enabled by its carrier aggregation feature."

Zain and Nokia putting Saudi at the forefront of 5G innovations

During the 5G fixed wireless access panel organized by Telecom Review, Ali Jitawi, Customer Business, Team Head Zain, Nokia, and Abdulrahman AlMufadda, CTO, Zain KSA addressed the future of Saudi Arabia in terms of 5G, FTTH, and smart cities.

When Amer Mdanat, general manager (KSA), NXN asked about the Saudi Vision 2030, AlMufadda commented, "One of the main enablers to achieve this goal is the ICT sector. And being one of the leaders of this market, we are building our strategy to compliment and achieve Saudi Vision's 2030 goals and targets by having the right 5G infrastructure and the latest services and solutions that go with it.

Our efforts were recognized national and international globally acclaimed entities, for having a pioneering 5G experience, the 4th largest 5G network in the world and the biggest 5G network in Saudi, the Middle East, Europe and Africa." As such, Zain KSA positions itself at the core of Smart City developments, such as Neom, that would create thousands of jobs, attract global and regional investors, and generate immense revenues."

According to AlMufadda, "One main game changer this year was the 5G FWA solutions of CPE's which are first in the world to be powered by eSIMs and Wi-Fi 6 and we are open to new opportunities and more capabilities using the 5G network in cooperation with our partners where we aim to develop new use cases and solutions to capitalize on our 5G network capabilities."

Commenting on the subject, Jitawi said "standalone 5G network will unleash new set of opportunities mainly leveraging ultra-low latency 5G capabilities. At Nokia our mission is to enable all kinds of critical communication services, which will enable smart cities application as an example. 5G Standalone will be the next big thing coming in this market."

In addition to 5G, AlMufadda also highlighted Zain's cloud service, where it is providing a secure local cloud hosted in Saudi Arabia adhering to the international standards and providing the most efficient and secure solutions. In addition, Zain Drones solution offers new potentials and capabilities to the governmental and the business sector as well.
As part of its Vision, Zain wants to provide the best services for all its customers along the different regions and especially within the country.

"Connectivity, telco, and digital services are no longer a luxury, they are in fact a necessity. So, having a reliable and ultra-fast connectivity with good quality is a must for individuals and enterprises. And this is what we are trying to provide for our customers in the region," AlMufadda added.

Moving forward and looking into the future, Zain as a CSP in Saudi Arabia and Nokia as a multinational vendor are driving the national plan at a large scale. According to Ali Jitawi, mega- and giga- projects are taking place in this very interesting market. "As a multinational technology company, we are closely interlocking with the operators in Saudi Arabia, Zain in particular. We are also working closely with the MCIT and the CITC to better serve the country and the demands of this ambitious market. We are eager to fulfill the requirements and demand on the consumer side as well as on the smart cities and enterprise markets side." TR

TELECOM Review virtual panels

Infoblox
NEXT LEVEL NETWORKING

Infoblox SP Virtual Summit

THOUGHTS AND CONSIDERATION FOR DESIGNING NEXT GENERATION SERVICE PROVIDERS NETWORK

February 17
3:00 pm (Dubai time)

PANELISTS

Ramy Boctor
CTO,
Vodafone Qatar

Hani Mohammad Yassin
Sr. Director/ Technology Strategy, Etisalat Group

Günther Ottendorfer
CTIO,
Ooredoo Qatar

Mohamed Farag
Customer Experience & Technical Strategy Director, Etisalat Misr

Yasser Najeeb Alswailem
Cyber Security VP, stc

MODERATOR

Jay Srage
CEO,
Centrigent

KEYNOTE SPEAKERS

Dr. Cherif Sleiman
Senior Vice President of International Business, Infoblox

Paul Adair
Principal Product Manager, Infoblox

David Ayers
Product Marketing Manager, Infoblox

Cisco and Acacia merger deal gets China's conditional nod

Cisco and Acacia Communications have been granted conditional approval of their merger from China's antitrust regulator.

According to news agency Reuters , the condition is that both companies ensure fair competition in the market. This includes both companies continuing to fulfil existing contracts in China and continue to service customers in China "in accordance with the principles of fairness, reasonableness and non-discrimination".

The State Administration for Market Regulation's (SAMR) approval was the only remaining condition needed to for the recently renegotiated $4.5bn deal to go through. The deal has already been approved by the US regulator.

Announced back in July 2019, the two entered into an agreement for $2.6 billion as Acacia Communications attempts to strengthen its switching, routing and optical networking portfolio.

Under the terms of the amended agreement, Cisco would acquire Acacia for $115 per share which equates to approximately $4.5 billion on a fully diluted basis, net of cash and marketable securities.

The news comes as SAMR, the Chinese equivalent of European Commission in its ability to approve M&A involving multinational corporations, has been curbing anti-competitive activities in China's internet market, as evidenced by the antitrust probe recently launched into Alibaba Group.

Interxion collaborates with PCCW Global to deliver submarine cable gateway to Europe

Interxion, A Digital Realty Company, a leading European provider of carrier- and cloud-neutral colocation data center solutions, has signed an agreement with PCCW Global to locate the Pakistan and East Africa Connecting Europe (PEACE) subsea cable system's termination and interconnection equipment in Interxion's MRS2 data center in Marseille, France. The collaboration will enable low-latency access to over 160 connectivity providers along with multiple content, cloud, gaming and video streaming platforms.

The high-speed, 15,000km PEACE subsea cable system will offer high capacity, low- latency routes connecting China, Europe and Africa. In addition to France, the cable will land in Malta, Cyprus, Egypt, Djibouti, Kenya, Pakistan and other countries and regions, with onward terrestrial connectivity to China.

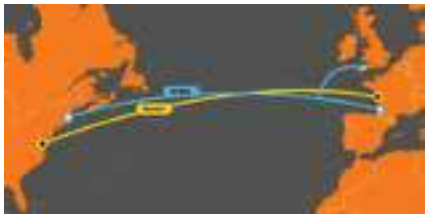
The PEACE subsea cable will be the 15th subsea cable system to land in Marseille, further enhancing the value of network hubs deployed on PlatformDIGITAL®, Digital Realty's global infrastructure solution, in the region as enterprises seek greater resiliency and performance for interconnecting global workflows. The collaboration represents a strategic expansion of both PlatformDIGITAL® and Console Connect, PCCW Global's Software Defined Interconnection® platform. Both platforms enable new and existing customers to deploy and manage hybrid IT services quickly and efficiently.

Console Connect is available to Interxion customers at MRS1, MRS2 and MRS3, providing them with instant access to a global ecosystem of cloud, SaaS, UcaaS, IX and IoT partners, as well as extended coverage to more than 400 data centers in 47 countries worldwide. Interxion customers in Marseille can also access Console Connect's new Internet On-Demand service, which offers high performance Internet access on-demand across PCCW Global's leading tier 1 IP network.

Interxion's Marseille campus is one of the world's leading digital hubs for intercontinental data traffic with a thriving community of numerous connectivity providers, digital media and cloud segments along with local as well as global enterprises, providing customers with a strong foundation to execute their digital transformation strategies and scale globally.

The PEACE subsea cable will provide the most direct and high-capacity route from Asia to Europe. These features, combined with the exceptionally low-latency, are vitally important for a wide array of commercial and consumer applications. Moreover, PEACE deploys a state-of-the-art "system-within-a-system" configuration that gives each party the required flexibility to design its own subsystem with reconfigurable bandwidth for different points over the lifetime of the cable.

Orange reinforces its leading role with two new generation submarine cables



After the landing of the Dunant cable, a Google project announced back in March 2020, Orange announces it is now ready for service for its wholesale and business customers. With 12 fibre pairs with over 30 Tbps of capacity each, multiplying by three the previous generation of transatlantic submarine cables capacity.

Orange also announces the signature of a partnership on the AMITIE cable planned to be ready for service at the beginning of 2022. Pending the approval from the local authorities in the US, the cable shall link Massachusetts to le Porge near Bordeaux.

The Atlantic Ocean is one of the world's busiest routes in terms of connectivity with over 80% of internet traffic generated in France coming from the US. The traffic between North America and Europe doubles every two years on average, and this route has supported an unprecedented traffic surge during the first lockdown period of the current Covid pandemic.

Owning capacity on this route is therefore strategic to support traffic growth in the coming years.

The AMITIE submarine cable with its 16 fiber pairs of up to 23 Tbps of capacity each, will ensure resiliency and traffic continuity on this vital and important axis. Both these cables will have more capacity than all existing systems currently in service on the transatlantic front.

Furthermore, both cables are designed to evolve at the same pace as future generations of optical transmission technology and will be able to maintain high-level performance for at least the next 20 years.

Orange will benefit from two fibre pairs on both transatlantic systems, with a total capacity of up to 100 Tbit/s, which represents 15 million HD movies downloaded simultaneously.

Orange is responsible for the French part of these two cables, as the "landing provider", and is in charge of the operation and maintenance of the landing stations. With the arrival of a new mega cable near Bordeaux, the area will transform into a new international digital hub, fostering the implantation of new datacenters to support the region's digital ecosystem.

The French operator will supply land links for both systems from the landing station to Bordeaux and then to Paris and Lyon for one, and will offer capacity between Ashburn, the Datacentre alley and Paris, will the latest Point-to-Point optical transmission technology.

OAC to complete cable installation by December 2021

SUB.CO founder Bevan Slattery has updated the market on the progress of the Oman Australia Cable (OAC), with installation due to complete in December of this year.

According to the company, the 9,800km system connecting Muscat, Oman to Perth Australia, has completed its manufacturing process with load 1 of 2 assembled, tested and now being loaded onto a freighter to transfer to the main-lay ship to begin installation from March 2021.

"2020 has been an extraordinarily challenging year to commit to building a cable of this scale, but I am delighted that we have achieved 100% of cable production and completed the first load system assembly testing within the original product schedule. This could not have been done without the assistance of our fantastic partners: SubCom," said Slattery.

"Now with the marine program about to commence, our attention is moving towards landing station readiness, including constructing the terrestrial fronthaul networks and fitting-out cable landing station locations."

The marine route survey started in October 2020 and the final cable route for load 1 was finalised in December 2020. The full marine route survey is due to be completed in February 2021 and any changes to armouring on load 2 will be made prior to the loading of the cable later that month.

In addition, the Perth seaward cable landing infrastructure construction started in October 2020 and was completed in December 2020. The project entered contract in force status in March 2020.

"We knew that this was going to be a task when we committed to the program back in February 2020, but we also knew we would be up for the challenge," added David Coughlan, CEO of SubCom,

"Despite everything that has been thrown at us, our team has done an exceptional job to keep this project going, on time, on budget and most importantly, safely.

NetEvents CIO roundtable:
Achieving growth through adversity

NetEvents organized a CIO roundtable discussion, with CIOs as well as some representatives from the technology industry itself, to tackle predicting and preparing for the new normal, achieving growth through adversity.

If 2020 was about surviving and adjusting to harsh new realities, then 2021 is about predicting and preparing for the new normal and achieving growth through adversity. So pronounced Jeremiah Caron, global head of research and analysis with independent consulting firm Global Data, who was the chair of the session.

Caron thinks that if we are looking for inspiration on resiliency and survival, then it important to acknowledge how technology, particularly network technology, performed heroically during the COVID-19 crisis: "It did so and continues to do so alongside health care and emergency services, and all the other key worker areas," he said. "We knew how important these technologies were to our lives, but it has really been brought home. After some initial expectations of a complete collapse, none of that happened, and it all worked out very well so it's quite a proud year to be in this industry."

"We'll see more use of disruptive technology," predicted Caron. "As companies reprioritize and think about where they are going to spend their money an obvious thing to do is to improve operational efficiency - make the business processes work better, cut costs, allow for less human intervention in processes. We found increased priorities around things like AI, machine learning, automation, IoT, which all stands to reason. We'll see if these areas explode in 2021, as many expect they might."

To help assess this possibility, Caron asked a panel of leading tech experts for their thoughts. Adhir Mattu, chief information officer, Marvell Semiconductor said that for the last three or four years the company has been on a transformational journey, "But as COVID hit, we started paying attention instead to things like employee health and safety. Working closely with our facilities and HR teams we wanted to ensure that that was taken care of, and that it was our highest priority."

The next priority, he said, was to ensure that employees were collaborating with each other, able to function not only in basic operational work but also carry on with key initiatives: "Now we're still investing in those collaboration tools and productivity tools but in an

accelerated way," he claimed. "In some areas, for example network bandwidth, we have accelerated the rollout of chat platforms as a way to ensure that everybody feels connected, enabled and able to work efficiently together."

Ron Abreu, global IT director, SWM International, a company with a stake in diverse markets, particularly plastics and paper. He said his priority has been how best to integrate and communicate between different sites, and sustain manufacturing developments while under travel restrictions: "We have found ourselves starting to rely on augmented reality, in order to give us the ability to communicate better from site to site," he said. "Our engineers can stay connected as we shift production lines from one location to another."

He added that security has been a big focus with so many people working from home on personal networks and devices. "Also, we have embraced operational analytics, to help a lot of the automation at the front line," he concludes.

Pathmal Gunawardana, head of Americas with leading network operator TATA Communications believed it is a good time to ask questions concerning the various initiatives that people have been involved with over the last six months, as we head towards a post pandemic phase. How much was on roadmaps and how much was a course correction?

Mattu of Marvell Semiconductor said the company defined a transformational roadmap around three years ago, helping it navigate much of the disruption, and is now investing according to a schedule. "We have accelerating the platform we intend to use as our collaboration hub," he said. "And to ensure connectivity from home, we upgraded network bandwidth. Now we're looking at more automation and our Robotic Process Automation initiative, which is turning out well for us."

SWM Intl's Abreu said he is also accelerating RPA opportunities and trying to automate some mundane tasks in order to free up people to focus more on value added processes and activities.

Kevin Deierling, senior vice president with NVIDIA, agreed that the hot topic of the moment is the acceleration of digital transformation. "Microsoft has said that three years of digital transformation happened in three months after COVID," he noted. "But it's been very uneven, and most small and medium enterprises have suffered on that side. Where automation and security and data centre infrastructure investments have been happening is in the cloud and public cloud area. I think we'll see things normalize and everybody move in the direction of automation and analytics and AI."

Steve Berez, partner with Bain & Company, a leading management consultancy based in Boston believed that too many companies still view transformation as a cost centre, and something to be minimized when times are tough. "They should be viewing technology as the best approach to saving money across all their functions, using advanced automation," he pointed out. "It's also about being able to serve customers more effectively. It all means some companies have been able to respond better to changing needs than others. A lot of companies actually have not done a good job of helping their employees work remotely or respond to their customer needs or shift to online channels. It has been quite mixed. Even though a lot of companies have increased or maintained their technology spending, a lot of that has been just tactical spending around enabling remote work or increasing transaction capacity for digital transactions, and hasn't been about more strategic improvements or helping customers deal better with changing circumstances."

When it comes to changing technology priorities, Gunawardana of TATA Communications said he has seen enterprise customers go through three phases: "The first was 'react'. Next came the recovery phase. And then the restore phase. I would characterize where we are right now as being on the recovery or restore phase, contemplating what that post pandemic world is going to look like. I think we have a good idea as to where this is evolving – towards automation, AI, ML. All those technologies are coming to the forefront. We see CIOs building platforms, building applications, moving to the cloud, automating workflows, improving security. Now all of us are accelerating the roadmaps, achieving growth through adversity."

Deierling of NVIDIA is convinced that we're all in the middle of a Schumpeter's Gale of creative destruction. "It's an economic theory that really resonates right now where businesses are being destroyed, and new businesses and new capabilities arising," he said. "It's really important that businesses understand this, and start to see AI as central to it. Every enterprise will become an AI business because those that don't will fail. Analytics, robotics, 5G, IoT, this whole notion of a secure Private Cloud, investments in networking and security and automation, those are here to stay."

Mattu of Marvell Semiconductor said that to meet this demand, the company has moved a lot of workloads to the cloud. "In the next couple of years, I don't want any hardware on prem. Everything will become software managed."

Last word to Gunawardana of TATA Communications: "I think the underlying key messages are very consistent across the board," he concluded. "We need agility to drive the acceleration and adoption of next generation innovative technology. We are adopting AI in many areas of our portfolio. We're asking things like how do you stop DDoS attacks by learning from past use cases. How do you apply AI to avoid this going forward? How can you automate as much as possible to drive the end user security experience? For those moving applications to the cloud how do we as a service provider serve customer requirements in automating all those workflows? How do we apply AI and ML into those scenarios?" TR

Huawei Digital Quick gets first TÜV SÜD certification for optical distribution network products

Huawei Digital QuickODN (DQ ODN) has recently been granted the first TÜV SÜD Certification Mark for optical distribution network products. The certificate indicates the high quality and long-term reliability of Huawei's DQ ODN products, which enable operators to build quality and reliable optical distribution networks (ODNs).

TÜV SÜD is an international third-party testing organization founded 150 years ago that is dedicated to professional testing, inspection, and certification. It has extensive experience in communications product certification, with a panel of authoritative industry experts and first-class testing platforms.

The global mark for optical distribution network products launched by TÜV SÜD strictly complies with IEC and ITU standards in testing and certifying the mechanical reliability, environmental reliability, and optical performance of the products and components. In addition to product testing, the certification process also involves factory quality assurance capability check, product consistency check, and post-certification supervision.

Huawei strives for excellence in technological innovation and product quality, and strictly complies with international standards throughout the entire product development process from raw material selection, design, development, verification, to manufacturing. The products that have recently achieved TÜV SÜD certification mainly include connectors and pre-connected closures, which are vital components of the Huawei DQ ODN solution.

The innovative Huawei DQ ODN solution uses pre-connection and digital technologies to provide operators with a full-process splicing-free network construction solution, boosting network construction efficiency while reducing construction costs.

In addition, AI image recognition and optical iris technologies are used to automatically collect ODN GIS, link topology, and loss information, achieving accurate and visualized resource management.

With accurate resource statistics in hand, operators can implement fast service provisioning and accurate fault locating, cutting OPEX. Huawei will continue to innovate in the ODN field and provide customers with more leading ODN solutions that feature precise planning, fast deployment, and digital O&M. By enabling operators to quickly build high-quality, visualized, and manageable ODNs, Huawei shows its commitment to developing thriving business for operators.

Nokia, Zain KSA to provide 5G-powered FWA and Wi-Fi 6 to Saudi homes and offices

Nokia today announced an expansion of its strategic 5G partnership with Zain KSA to rollout 60,000 FastMile 5G Gateway 3.1 with eSIM across Saudi Arabia over the next 12 months. The gateways will deliver stronger signal, better connectivity and ultra-high data speeds to every corner of homes and offices in the Kingdom. The move allows Zain KSA to support smart home and office adoption in the country with enhanced connectivity for smart devices through 5G and Wi-Fi 6, which altogether guarantee an improved customer experience.

Nokia FastMile 5G gateways take advantage of the company's self-optimizing mesh Wi-Fi 6 solution for real time Wi-Fi performance optimization. The gateways ensure a much quicker and easier account setup by using the latest eSIM technology that allows users to avoid the process of acquiring and installing a physical SIM card. This deployment is the first time eSIM has been used in a 5G fixed wireless access solution.

Both companies are committed to extending their cooperation on 5G to achieve the best possible coverage, stability and bandwidth for Saudi Arabia. Zain KSA, one of the world's pioneering 5G network operators, ranked as the largest 5G rollout out in Saudi, the Middle East, Europe, Africa, and fourth globally. It has an established relationship with Nokia where in June 2019 the two companies announced a three-year deal to rollout 5G to thousands of sites using Nokia's comprehensive portfolio, introducing 5G using 2.6 GHz and 3.5 GHz along with massive multiple-input multiple-output (mMIMO) to deliver enhanced network capacity and coverage with enhanced data speeds. The deal also introduced E-Band microwave in certain areas to allow for ultra-high-capacity backhaul networks.

Huawei releases 7th annual Global Connectivity Index report

Huawei released its Global Connectivity Index (GCI) 2020, the seventh annual GCI report the company has published. For the first time in a GCI report, the 2020 release proposed five key stages of industry digital transformation: task efficiency, functional efficiency, system efficiency, organizational efficiency and agility, and ecosystem efficiency and resilience.

A key finding of the GCI 2020 is that the digital transformation of industries will help countries increase productivity, spur economic recovery, and develop future competitiveness. GCI research has suggested that economies which could increase productivity and go digital with intelligent connectivity generally enjoy higher gross value added (GVA) per worker or per hour worked.

This report has analyzed the changes of each country's GCI score since 2015. The average scores of Frontrunner, Adopter, and Starter economies have all increased since 2015, with Starters showing the highest compound annual growth rate (CAGR) followed by Adopters and then Frontrunners. This suggests that Starters are catching up with Adopters and Frontrunners and narrowing the digital gaps.

The 2020 report has also shown that Starters have made significant progress in broadband coverage. Their average mobile broadband penetration went up by more than 2.5 times, their 4G subscriptions went from 1% to 19%, and their mobile broadband became 25% more affordable. These achievements have enabled Starters to offer better comprehensive digital services and embrace new opportunities in economic development. In addition, their e-commerce expenditure has almost doubled since 2014 to over US$2,000 per person. Some Starters were moving up the GCI cluster, increased their GCI scores by up to 17%, and managed to raise GDP to a level that was 22% higher than some peers. Vietnam and Peru have both become Adopter economies in 2020.

Organizations in Frontrunner countries want to maintain IT expenditure

Research shows that the willingness of companies to invest in IT varies depending on where they are based. Organizations in Frontrunner and Adopter nations are prioritizing maintaining their IT budgets over non-IT budgets. They have also cut their IT budgets by 2.5 to 3.5 times less than organizations in other countries on average. Nations with more mature digital infrastructure are better positioned to minimize the economic impact of the pandemic, recover faster, and ensure the continuity of their transformation into higher-order productivity models.

The digital transformation of economic sectors will help economies develop "higher-order" productivity to spur economic recovery and future competitiveness.

Countries need to make ICT investments based on their unique set of existing factor endowments in order to produce a multiplier effect. In general, economies are made up of a combination of different sectors with one or two tending to dominate. The GCI 2020 report suggests that a country's ICT strategy should be built around its accumulated sectoral strengths. Regardless of the industry, more digitalization means more added value.

CommScope files patent infringement lawsuit against South Korea-based DAS manufacturer

CommScope, a global leader in infrastructure solutions for communications networks, filed an additional patent infringement lawsuit in Germany against SOLiD, a manufacturer of distributed antenna systems (DAS) based in South Korea.
The complaint asserts German part of European Patent No. EP 2290850B1 relating to CommScope's digital DAS innovations against SOLiD's Genesis DAS product. CommScope asserted the United Kingdom part of this patent against SOLiD's Genesis DAS product in the U.K. last year.

CommScope also enforced the US counterparts of EP 2290850B1 in separate US patent infringement actions against Dali Wireless and SOLiD. The U.S. action against SOLiD was filed in May of 2020 and, after noting that SOLiD withdrew its Genesis DAS product from the U.S. market, CommScope voluntarily dismissed that action.

"CommScope has invested heavily in innovation in the field of digital distributed antenna systems to benefit its customers and reinforce its position as a global leader in wireless and wireline network infrastructure. This leadership was recognized when Kathrein took a royalty-bearing license to CommScope's digital DAS patents in 2017 and again in the 2019 U.S. case against Dali with a jury finding CommScope's patents valid and that Dali willfully infringed. We continue to vigorously protect these valuable assets, and this additional action against SOLiD is a necessary step to prevent unauthorized infringement," said Matt Melester, chief technology officer, Venue and Campus Networks, CommScope.

The new German action was filed December 18, 2020 in the Munich District Court. The German part of EP 2290850B1 is subject matter of nullity proceedings pending with the Federal Patent Court (docket no. 4 Ni 7/20 (EP)). The pending action before the U.K. Patents Court is Claim No. HP-2020-0017 and asserts both EP 2290850B1 and EP 1570626B1.

Nokia and M1 partner to drive Singapore's 5G standalone network

Nokia and M1 have signed a partnership agreement to deploy Nokia's cloud-native Core software in order to drive Singapore's 5G standalone network launch in 2021.

Nokia 5G standalone Core, developed with open-source and licensed software components, and consisting mainly of 5G cloud-native Core and Cloud Packet Core software, will offer M1 the reliability, scalability, flexibility and performance needed to efficiently deliver network capabilities like cloud gaming and immersive experience applications for Singaporean 5G customers.

With enhanced machine learning and artificial intelligence, Nokia's 5G standalone Core with Nokia Network Services Platform (NSP) allows operators to design and automate network slices in order to drive the development of industrial uses cases like unmanned aerial or road vehicles, remote operations, wireless e-health, digital banking and smart manufacturing.

Nokia's professional services teams will also deploy Network Exposure Function to enable application developers to connect to the 5G standalone Core and Communication and Security Edge Protection Proxy Function to enhance 5G roaming.

Nokia 5G standalone Core software Components will be hosted on Keppel Corporation's (Keppel) data center infrastructure powered with Nokia's Airframe servers and spine leaf switches. They will be interconnected through Nokia's high-performance 7750 Service Routers equipped with the Nokia FP4 chipset. Several critical cyber-security solutions like firewall and certification management from Nokia NetGuard suite will fully secure the 5G Core infrastructure.

Manjot Singh Mann, Chief Executive Officer, M1, said: "5G standalone is going to be the real game changer for 5G. With Nokia's 5G standalone Core integrated into our 5G network, we are well positioned to harness the endless possibilities that 5G standalone can bring about. Being at the forefront of 5G standalone use cases development, we are excited to leverage 5G standalone's low-latency, as well as its responsive, secured and high-throughput mobile connectivity to deliver high performance and reliable 5G services for our consumers and enterprises, as well as play a pivotal role in Singapore's Smart Nation digital transformation journey."

Raghav Sahgal, President of Cloud and Network Services at Nokia, said: "With Nokia 5G standalone Core, we are pleased to be expanding our long-standing partnership with M1, enabling Singapore's transformation to 5G by providing a host of new capabilities. It will deliver a greater customer experience, superior serviceability and important operational efficiencies. In addition, we are excited and looking forward to developing and testing pioneering industrial uses cases together with M1 and industry leaders in Singapore."

Qualcomm acquires chip design firm for $1.4 bn

Qualcomm announced that it is acquiring server chip designer Nuvia for approximately $1.4 billion. Qualcomm said the acquisition of Nuvia's CPU and technology design team will help the company "meet the demands of next-generation 5G computing", as it is a new step in Qualcomm's efforts to expand beyond the mobile phone market and challenge Intel's lead in the semiconductor market.

Building on its Snapdragon processor, Qualcomm will integrate Nuvia's CPUs across its entire portfolio of products, including smartphone chips and next-generation laptop processors, as well as Advanced Driver Assistance Systems and infrastructure networking systems. Nuvia founders Gerard Williams, Manu Gulati and John Bruno, and their employees will join Qualcomm once the takeover is completed.

In its press release announcing the deal, Qualcomm provided a list of executive quotes from its partners, all applauding the combination of the two companies. Those included come from Panos Panay, chief product officer of Microsoft; Hiroshi Lockheimer, senior vice president of platforms and ecosystems at Google; TM Roh, president and head of mobile communications at Samsung; Xiaomi CEO Lei Jun and executives from Bosch, Continental, General Motors, HMD, Honor, HP, Lenovo, LG, OnePlus, Oppo, Panasonic, Vivo, Renault, Sharp and Vivo.

"Compute performance, connectivity and power efficiency are critical ingredients that make the billions of Android and Chrome OS devices shine," Google's Lockheimer said. "The addition of Nuvia extends Qualcomm's capabilities in these three areas, and we're excited to see the next generation of Snapdragon with Nuvia."

Nokia and Vodafone mark breakthrough in fiber broadband

Nokia and Vodafone have announced the successful trial of a new Passive Optical Network (PON) technology capable of delivering speeds up to 100 gigabits per second (Gb/s) on a single wavelength 10 times faster than the most advanced networks available today. This marks the latest industry-first in fiber access for Nokia, following breakthroughs in 10G PON, TWDM-PON, universal PON and 25G PON. The trial, which took place in Vodafone's Eschborn lab in Germany last week, is the latest milestone in a long-standing collaboration between Vodafone and Nokia to accelerate the potential of fiber broadband. The demand for broadband connectivity continues to grow exponentially in terms of the service types, number of connected devices and the bandwidth consumed. It is essential that future fixed access networks have the capacity to absorb this growth.

To deliver 100 Gb/s on a single wavelength, Nokia Bell Labs leveraged cost-effective 25G optics in combination with state-of-the-art digital signal processing (DSP) techniques. 25G class optics are based on mature eco-system and available today. Going beyond 25G requires advanced DSP capabilities demonstrated in this trial. Once this DSP is adopted, the steps to 50G and 100G are straightforward and could be commercially available in the second half of the decade.

The Nokia Bell Labs 100G PON prototype is the world's first application of flexible rate transmission in a PON network. Flexible rate transmission works by grouping fiber modems (ONUs) that exhibit similar physical network characteristics (e.g. loss or dispersion) and makes data transmission more efficient. Using flexible rate transmission results in lower latency on a PON and cuts power consumption in half — two essential characteristics for fiber networks that have a rapidly growing role in the massive delivery of fixed and mobile broadband services.

Vodafone has a history of pioneering state-of-the-art access technologies, having been the first operator in Europe to trial TWDM-PON, also with Nokia. The operator has the largest next-generation access network capability in Europe, covering 140 million homes. Vodafone's strategy is to push fiber deeper to customers and evolve to a unified fiber-based network for access, aggregation, backhaul of cable nodes and mobile transport. Vodafone see 100G PON as a potential way to create highly flexible and scalable PON networks that will mitigate the risk of future peak-hour congestion and enable densification of cable and mobile networks.

Google Cloud, Nokia join hands to provide 5G solutions for enterprise digital transformation

US cloud giant Google Cloud and Nokia has inked a global strategic partnership to provide a slew of new cloud-based 5G solutions to telcos around the world.

Under the agreement, Nokia and Google Cloud will work together to develop a range of solutions that will allow telcos to redefine their network infrastructures and build on a cloud-native 5G Core. It will also allow them to develop the network edge as a business services platform for their enterprise customers.

Nokia will supply its voice core, cloud packet core, network exposure function, data management, signaling, and 5G core, as part of the agreement. This includes Nokia's IMPACT IoT Connected Device Platform, as well as Nokia's Converged Charging solution.

Google Cloud's Anthos for Telecom will serve as the platform for deploying applications, enabling CSPs to build an ecosystem of services that are deployable anywhere, from the edge of the network, to public clouds, private clouds and carrier networks.

Telcos around the world are looking to fast track their network transformation and digitalisation initiatives, particularly as they readjust to life in the post-pandemic world.

Role of robotic process automation (RPA) in the telecom industry

The telecommunications industry is constantly faced with umpteenth challenges in its mission to provide communication services to its customers.

As per the EY digital transformation (2020 and beyond) report, disruptive competition from vendors in the technology, service management, and other spaces, is the biggest challenge facing telco companies in the present times.

The increased competition in the market from the Over The Top (OTT) players such as Facebook, Amazon and Google, cutting into the profit pools, has made it mandatory for telcos to focus on their core competencies and understand the competitive market environment.

One surefire way of getting that done is by realigning the internal management by harnessing the capabilities of robotic process automation (RPA) to streamline

time-consuming and cumbersome operational processes, monitoring data, controlling cost, increasing business agility, improving workforce, and developing new products and services.

RPA allows companies to transform operational processes, achieve organizational growth and leverage customer service by enhancing agility and scalability, improving data communication and transmission with high levels of data security and cost-effectiveness.

A report by Forrester suggests that RPA will be worth a $2.9 billion industry by 2021. By integrating RPA to override the complexities of legacy systems, telecom companies can focus on better managing operational tasks and generate sustainable revenue streams by offering fast high-quality and affordable services.

RPA use cases in telecom cover extensive services such as on-time billing, payment processing, customer service, number portability, simplifying document verification and SIM allotment process, data entry, data processing, data management, and much more. The key areas where ICT companies could benefit from PRA are:

Customer satisfaction

Telcos are constantly collaborating with complex technologies from various suppliers and bringing them to the market. End users both consumers and enterprise require simple solutions in complex fields such as Machine to machine (M2M) and sensor networks, cloud and network security. The high reliability and accuracy of process outcomes is a must for telecommunication companies that are keen on boosting their customer service.

RPA can help companies in customer relationship management by providing assistance in after-sales support, behavioral data analysis, and allowing employees to offer accurate and timely functional solutions. It can also be beneficial in the development of better technologies, product and business model improvements to support customer relationship function.

Today's customers have a low tolerance for drops in quality and performance. The ability to monitor data in real-time and check the quality of call traffic will be critical if communication companies serious about making a difference in their offerings. Communication services need to be faster, more agile, and more dependable than ever.

Security and the risk of data breaches

For telecommunications companies, data security and privacy are a key priority. Sensitive customer data form the backbone of its telcos core operations. Organizations capture data containing personally identifiable information (PII) and need to recognize procedures to ensure they are compliant. RPA and intelligent capture solutions can auto-classify a document and extract data and apply a record policy to help meet General Data Protection Regulation (GDPR). If PII data does not meet an established policy, an alert could be generated to intercept and resolve the issue.

RPA will allow volumes of data from multiple systems to be managed more easily by using interactions with user interfaces that mimic human mouse clicks and keystrokes.

Competitive positioning

The market landscape in the telecommunications sector is anything but stable, thanks to the emergence of various disruptive technologies, changing customer demands, and increasing competition. In such a situation, telecom operators should constantly look for new competitive positioning strategies that will give them the edge to be on top of the market.

With reduced repetitive, time-consuming tasks to take care of, telecommunication employees are better positioned to focus on high-value tasks that add to successful deliveries. From accurate comparative price analysis to competitor insights, RPA can monitor and analyze at individual, category, and brand level that provide added value to the competitive outlook.

Furthermore, telecom companies are dependent on third party brokers to promote their services. A lot of communication takes place before a deal is finalized. Since RPA based software robots are designed to respond to simple queries, read emails, and redirect complex questions to humans making the overall process of query resolution much simpler. RPA also assists in customer service as it can automate call sharing to human employees instantly so that they can serve the customer immediately to ensure better work efficiency, increased profits, and overall enhanced customer service.

The telecommunication environment is no doubt becoming sophisticated and heavily interconnected by the day. The ability to monitor and analyze data in real-time will be critical for the growth strategy for communication companies. To stay ahead, companies have to deliver the results that their customers and shareholders expect. Instead of embracing the latest trends just because they are available do not guarantee success. However, planning growth through intelligent automation seems to be the way forward for the telecom industry as it would lead to a big reduction of manual processing effort, improved information flow, reduced costs, elimination of human error and streamlining of the processes. TR

Robotic process automation will be worth a $2.9 billion industry by 2021

Why agtech could be the next big market for ICT companies?

The world grows enough food to feed more than 9 billion people which is ideally sufficient for the current population of 7.6 billion. However, almost one-third of the produce is wasted during harvesting, distribution, storage, and transportation.

Especially in the times of the COVID-19 pandemic where an increase in food shortages has been predicted, farmers, businesses and government entities focusing on the offerings of artificial intelligence (AI) to help an important industry such as agriculture is a move in the right direction.

Over the years, there have been major developments in the traditional agricultural processes but the capabilities that AI technology brings are hard to ignore. The globally connected agriculture market size stood at $1.84 billion in 2018 and is projected to reach $7.22 billion by 2026, exhibiting a CAGR of 19.1% during the forecast period. Through collaboration, various connected agriculture solutions, farmers and businesses can enjoy the fruits of cost-effective and efficient food security management through AI.

How does AI work?

In a normal agricultural process, a farmer gathers information about the needs of the plant, assesses the soil condition and according to his estimates, uses the available resources such as pesticides, fertilizers and water to ensure the plant's growth. AI follows the same process but with revolutionary

capabilities through data processing and enabling decision-making. Digitization of data collection processes in the crop fields remains at the core of the agricultural revolution.

Sensors detect the actual needs of the plant such as ideal soil moisture, pH, temperature, humidity, and sunlight that is formatted as a model. The model is processed and the exact requirements for the plants are determined with the emphasis on reducing the use of pesticides and fertilizers.

With a combination of AI and the data gathered by many enabling technologies, farmers and industry experts can act based on accurate information and deep analysis of the entire food production process including harvesting, storage, and transportation facilities to ensure that the produce is not gone to waste.

What's in it for ICT companies?

Artificial intelligence, predictive analytics, and other technologies are rapidly being adopted in Agtech (agriculture technology). According to data, VC funding for agtech startups worldwide stood at $4 billion in 2019. Despite the economic slump in 2020 due to Covid, investment in agtech is only growing.

"AgTech market will be the next big frontier of growth for the UAE. It's pretty early currently but shows tremendous potential. We estimate that with rising adoption of AgTech, a substantial portion of the country's food imports will decrease aiding better food security," opines Shahnawaz (Shan) Kadavil, founder and CEO of Freshtohome.com – the largest vertically integrated e-commerce company in the Fish and meat space in the world.

Information technology and network infrastructure service providers today have a golden opportunity to deliver real value by providing a one-stop-shop for all the networks and infrastructure services that are needed to enable the processes related to agtech. Telecommunication companies need to channel their attention in upgrading their offerings of enabling technologies such as sensors, cameras, robots, and drones to deliver high quality and quantity data. To complement AI capabilities of handling large amounts of data and manage multiple datasets, the role of quantum computing is also crucial.

For instance, as part of its national food security strategy to reduce 90 percent of food imports, the UAE government is investing heavily in AgTech for the country's agricultural sector. Drones or unmanned aerial vehicles (UAVs) have been used extensively for mapping farming areas across the country. The adoption of sensors in the UAE's agricultural sector has resulted in increased yields in large agricultural projects and a growing number of organic farms. Sensor-equipped gyroscopes, accelerators and GPS monitors are utilized to enhance crop production by making the most of land and water use along with precision irrigation that is highly effective in reducing water waste.

Other technologies such as deep learning algorithms, computer vision and the Internet of Things (IoT) are most suited for agtech. Furthermore, automation combined with artificial intelligence can greatly reduce the use of manual labour for various repetitive work and increase productivity and efficiency.

AI benefits phases

AI can assist farmers to analyze weather conditions, temperature, water usage, or soil conditions collected from their farms to better inform their decisions planning, crop and seeds selection, and resource use to ensure better yields.

The introduction of precision agriculture technologies has helped farmers in detecting diseases in plants, pests, and poor plant nutrition on farms. AI sensors can detect and target weeds and then decide which fertilizer to apply within the right buffer zone. This greatly reduces the over-use of herbicides and excessive toxins that contaminate our foods.

Companies such as Variable-rate technologies (VRTs) are helping farmers with customized crop field management operations and maximizing the benefit of seed selection, reduction of pesticide and fertilizers use whilst making the process cost-effective.

Will AI replace agronomists and robots replace farmers?

The ideal situation would be that the machines should take up all the repetitive activities and humans should take business decisions to provide the most suitable solution for agriculture.

Industry experts suggest that the knowledge of expert agronomists and farmers to provide input for artificial intelligence is crucial to achieving the best results albeit with a slight change in the working patterns.

As intelligent systems continue to disrupt business processes, including agriculture with increased productivity in terms of manual labour, cost-cutting, and time management, ICT companies will be at the forefront of finding and exploring new possibilities. Powerful technologies of cloud, AI, machine learning, and automation are truly the engines of greater profitability and sustainability. TR

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New CEO to lead BICS

Due to different views on the company's strategy, the board of directors of BICS and Daniel Kurgan, CEO since 2007, came to the mutual conclusion to end their collaboration. The board of directors of BICS has approved the appointment of Matteo Gatta, currently director network strategy, innovation and partnerships at Proximus, as new CEO of the company.

In his role as CEO, Matteo Gatta will accelerate BICS' growth and diversification strategy by building the company's global leadership in digital communications, cloud services, mobility and IoT, while reinforcing BICS' market leadership in wholesale carrier services. He will report to the board of directors, presided by Guillaume Boutin.

Matteo Gatta has a University Degree in Electronic Engineering from the University of Pavia (Italy), a Master in Information Technology from Cefriel - Polytechnic of Milan and holds an Executive Master in Finance at Solvay Business School (ULB, Brussels).

Matteo joined the Carrier division of the Proximus Group in 2002 after having held various product management positions in Italy and in the UK, especially in mobile and internet access services and software development. He can rely on an impressive track record, having built his career in product management, strategy and innovation while also driving M&A files and partnerships. He has acquired an intensive group-wide expertise over the years, within BICS and Proximus and also as CEO of Scarlet (2008-2011). Over the last years, he has played a crucial role in the definition of Proximus' long-term technological and business strategy, innovation and partnerships, more particularly in the 5G and Fiber domains. Matteo was already a Board member of BICS, but also of Proximus Luxembourg (Tango – Telindus) and Tessares, as well as founding director of LoRa Alliance (IoT).

Singapore grows adoption and commercialisation of 5G solutions with $30 million fund

Singapore's Infocomm Media Development Authority announced a new $30 million fund to accelerate the adoption and commercialisation of 5G solutions.

The fund is part of IMDA's 5G Innovation Programme to create a vibrant 5G ecosystem that offers exciting opportunities and benefits to individuals, workers and businesses. Building on earlier efforts to trial 5G use cases, the new fund will support enterprises' efforts to adopt 5G solutions to address sector challenges or enterprise level needs. The fund will also support solution providers and technology developers commercialising 5G solutions, to help make the benefits of 5G more accessible to more companies, including Small and Medium-sized Enterprises ("SMEs").

As part of its earlier 5G innovation efforts, IMDA supported seven 5G innovation use-cases in strategic areas such as cloud gaming, urban mobility, smart estates, industry 4.0 and maritime operations.

In 2019, IMDA has partnered Singapore's maritime sector leads, the Maritime & Port Authority of Singapore and PSA Singapore, to identify problem statements and explore how 5G technologies can be applied in the maritime sector. The technology call to develop 5G use-cases at Pasir Panjang Terminal was awarded to M1 and Singtel to test 5G for Automated Guided Vehicles (AGV) and Automated Rubber Tyred Gantry Cranes ("aRTG"). Phase 1 trials results have been promising, with PSA's AGV and aRTG operations enjoying enhanced performance due to 5G's faster speeds, lower latency and higher reliability. Phase 2 of the trials, to test use cases based on new updates of the 5G network are currently underway.

CSG names new chief operating officer

CSG announced it has appointed Ken Kennedy as chief operating officer and president of its revenue management and digital monetization solutions unit. Previously president of technology and product, Kennedy has dedicated the last 15 years of his career at CSG to leading the company's product management, engineering, and platform operations across CSG's solutions portfolio.

"Ken's innovation and vision has helped CSG become the leading global provider of digital monetization and customer engagement solutions that help our clients compete and thrive in an ever-changing world," said Brian Shepherd, president and CEO of CSG. "He continues to strengthen our platform-based business model that supports our customers' most complex business requirements, while delivering agility, flexibility and long-term profitability through cloud-based solutions."

A forerunner in cloud technology, Kennedy will leverage his expertise to accelerate the growth and development of CSG's cloud-based software-as-a-service ("SaaS") platforms and solutions. He will also continue to grow the company's vast network of ecosystem and systems integrator partners to enhance its holistic approach to solution development.

"The industry is undergoing a tremendous amount of change and transformation. However, CSG's mission remains the same – to be customer obsessed in our relentless focus to solve their most pressing business challenges," said Kennedy. "I am honored to be selected for this new role, maintaining my solid commitment to optimizing our customers' cloud-based go-to-market strategies alongside the industry's most talented team of technology professionals."

MTN drives COVID-19 vaccinations with significant contribution

In a unique public-private partnership, MTN, Africa's leading mobile network, has announced a donation of US$25 million to support the African Union's COVID-19 vaccination programme.

The donation will help secure up to seven million doses of the COVID-19 vaccine for health workers across the continent, which will contribute to the vaccination initiative of the Africa Centres for Disease Control and Prevention (Africa CDC).

"The devastating impact of COVID-19 has been unprecedented and profound. Public and private partnerships are needed if we are to succeed in the fight against the pandemic and restore social and economic norms for our continent and our communities," says Ralph Mupita, president and chief executive officer of MTN Group. On 14 January 2021, President Cyril Ramaphosa, Chairperson of the African Union, announced that the African Union had secured a provisional 270 million COVID-19 vaccine doses on behalf of its member states, through advance procurement commitment guarantees of up to US$2 billion to the manufacturers by the African Export-Import Bank. This was an important milestone in efforts to ensure equitable access to the COVID-19 vaccine for Africa's people. However, with a population of about 1.3 billion, Africa requires many more doses to achieve at least 60 percent herd immunity. Contributions by private organisations, like MTN, are therefore essential to help the continent reach its target.

"Our goal is to ensure that all those who need the COVID-19 vaccine have access to it very quickly, but the biggest hurdle in Africa has been financing of the vaccines, and the logistics of vaccinating at scale. We therefore welcome the right partnerships, like the one with MTN, to achieve our minimum 60 percent vaccination target," says Dr John Nkengasong, director of Africa CDC.

Qualcomm opens new R&D Centre in France to spur 5G innovation

Qualcomm Communications SARL, a subsidiary of Qualcomm Incorporated announced its plan to open a new 5G research and development (R&D) centre in France to work on the future evolution of 5G and beyond. The announcement comes after a meeting between Qualcomm Incorporated's president and CEO-elect, Cristiano Amon, and Agnès Pannier-Runacher, minister delegate for industry in the French Government. The new internal R&D facility joins Qualcomm Incorporated's extensive R&D network and will play a key role in Qualcomm employees driving the de velopment of 5G locally, regionally and globally.

The 5G R&D centre builds on Qualcomm Communications SARL's strong presence in France, as the company has had existing facilities both in Paris-Region and Sophia Antipolis for more than 20 years. The new centre will be co-located in Lannion in Brittany and Issy-Les-Moulineaux in the Paris-Region. Lannion is a centre for telecoms engineering excellence and a European technology hub. Qualcomm Communications SARL has been working with the French Government to augment Lannion as a leading telecom engineering hub and retain top talent and technological expertise in this area.

Enrico Salvatori, senior vice-president and president, Qualcomm Europe/MEA, Qualcomm Europe, Inc., commented; "This new centre will serve to further strengthen our R&D capabilities within the European region and help us to remain at the forefront of technology innovation globally. Our new 5G R&D facility in France joins our European network of R&D facilities. The work done in each of our European R&D facilities has worldwide impact."

Airtel announces first 5G-ready network in India

In a major landmark, Bharti Airtel ("Airtel"), India's premier communications solutions provider, announced that it has become the country's first telco to successfully demonstrate & orchestrate LIVE 5G service over a commercial network in Hyderabad city.

Airtel did this over its existing liberalised spectrum in the 1800 MHz band through the NSA (Non Stand Alone) network technology. Using a first of its kind, dynamic spectrum sharing, Airtel seamlessly operated 5G and 4G concurrently within the same spectrum block. This demonstration has emphatically validated the 5G readiness of Airtel's network across all domains - Radio, Core and Transport.

Airtel 5G is capable of delivering 10x speeds, 10x latency and 100x concurrency when compared to existing technologies. Specifically, in Hyderabad, users were able to download a full length movie in a matter of seconds on a 5G phone. This demonstration has underlined the company's technology capabilities. The full impact of the 5G experience, however, will be available to our customers, when adequate spectrum is available and government approvals received.

Gopal Vittal, MD & CEO, Bharti Airtel said: "I am very proud of our engineers who have worked tirelessly to showcase this incredible capability in Tech City, Hyderabad today. Every one of our investments is future proofed as this game changing test in Hyderabad proves. With Airtel being the first operator to demonstrate this capability, we have shown again that we have always been the first in India to pioneer new technologies in our quest for empowering Indians everywhere."

Infoblox SP Summit

Experts from Infoblox and leading telcos will highlight the trends affecting service providers and how Infoblox can help generate incremental revenue.

Place: Virtual (online)

17 FEBRUARY

BEYOND 5G

The endless benefits of 5G to operators

Telecom Review is hosting a virtual panel discussion on how telecom operators can benefit from 5G networks. The panel will tackle the benefits at the level of both fixed and mobile services, overcoming the challenge of OTTs and how 5G can help operators generate new revenue streams.

Place: Virtual (online)

23 MARCH

GISEC

Esports, 5G streaming, 8K cameras, satellite innovations and many more of the biggest breakthroughs in broadcast, media, satellite and film! Join the full content journey from ideation to production to distribution at CABSAT.

Place: Dubai World Trade Centre, Dubai, UAE

24 - 26 MAY

Cabsat

GISEC is the region's most established and influential cybersecurity event truly representing the Arab world. Established in 2012 the show has grown immensely to become the region's most sought-after business enabler and sourcing platform for the worldwide cybersecurity community and governments.

Place: Dubai World Trade Centre, Dubai, UAE

31 - 2 MAY - JUNE

Latest updates on: www.telecomreview.com

TELECOM Review
virtual panels

Telecom Review's virtual panels' series continues in 2021

In light of the huge success achieved in 2020, *Telecom Review announces that the series of virtual panels will continue in 2021* with new and updated topics.

The 2020 series saw the participation of top notch speakers representing the industry's leading brands and registered a record number of online viewers.

The 2021 series is set to cover the topics of:

- 5G deployment, user growth
- Capacity
- Satellite, Content & Broadcasting
- Cloud, Enterprise business
- Digital Transformation
- Cyber Security
- Fiber, FTTH

For more information on sponsorships and participation, contact Mohamed Ershad: ershad@tracemedia.info

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