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Editor in Chief & Senior ICT Analyst
Toni Eid
toni.eid@tracemedia.info

Deputy Content Manager
Jennifer Saade
jennifer.s@tracemedia.info

Senior Journalist & Content Manager
Christine Ziadeh
christine@tracemedia.info

Journalists
Elvi Correos
elvi@tracemedia.info

Jonathan Pradhan
jonathan@tracemedia.info

Editorial Team
Christine Ziadeh (Lebanon), Corrine Teng (Singapore), Elvi Correos (UAE), Elza Moukawam (Lebanon), Jeff Seal (USA), Jennifer Saade (Lebanon), Jonathan Pradhan (UAE), Marielena Geagea (Lebanon), Toni Eid (UAE)

Advertising Enquiries
Mohammed Ershad
ershad@tracemedia.info

Issam Eid
issam@tracemedia.info

Graphic Designer
Tatiana Issa

Responsible Manager
Nada Eid

News
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Trace Media Ltd.
Zouk Mikael, Lebanon
Kaslik Sea Side Road,
Badawi Group Building, 4th Floor,
P.O. Box 90-2113, Jdeidet el Metn
Tel. +961 9 211741
M. +961 70 519 666

Trace Media FZ.LLC.
Dubai Media City, UAE
Building 7, 3rd Floor, Office 341
P.O. Box 502498, Dubai, UAE
Tel. +971 4 4474890
M. +971 55 639 7080

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Toni Eid,
founder
editor in chief
Telecom Review International

This December: Wait for the biggest ICT event of all!

December will be different for the ICT and telecom business this year, as the long awaited event is taking place once again on December 8 in Dubai UAE. Mark your calendars and do not miss it!

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Eng. Salim Muthib Al-Ozainah, chairman and CEO, CITRA

Kuwait: A leader in the 5G era, bridging the 5G divide

The evolution to 5G is destined to change all societies around the globe, and that is particularly evident in the Middle East region. The widespread adoption of the Internet of Things (IoT), cloud computing, and artificial intelligence (AI) have all been supported by 5G networks, transforming our way of living for the better.

Within the region, the rollout of 5G infrastructure in Kuwait has been an exemplar for future nations to refer to. The country was one of the region's early adopters of 5G technology. Its 5G strategy has been part of the wider digital ambitions

outlined in the 'New Kuwait' Kuwait Vision 2035, which aims to boost digital development as a way to attract foreign investment, lay the foundation of a sustainable economy, and spur domestic growth.

Telecom Review managed to secure an exclusive interview with CITRA's chairman and CEO Eng. Salim Muthib Al-Ozainah who shed light on Kuwait's 5G journey, including CITRA's role in the strategic planning phase, commercial launch, current 5G development, as well as future perspectives.

Kuwait is well recognized as a pioneer when it comes to 5G technology adoption at a national level. What drove the early interest in such technology?
Kuwait's population is one of the most demanding globally when it comes to data consumption. Back in 2017 the average subscribers' monthly data consumption was already at 50 GB per month with huge growth potential. To cope with such demands, industry stakeholders across Kuwait, including CITRA, were early to recognize that 5G would be a major upgrade from its predecessor, 4G technology.

New 5G services promised download speeds hundreds of times faster than before, expanded network bandwidth, and reduced service latency. This would in turn enable things such as telesurgery, self-driving cars, and the continued expansion of smart cities in Kuwait.

While many countries have been struggling to explore this new technology and how they could adopt it, Kuwait has rapidly harnessed the potential of 5G, and implemented it in support of future socioeconomic strategies.

As a national regulator, there must have been extensive efforts from your side to bring the industry stakeholders together for 5G commercialization. What was CITRA's role to shape the national 5G strategy?
The Kuwait Communication and Information Technology Regulatory Authority (CITRA) started its 5G plan at a very early stage.

In 2017, a steering committee headed by CITRA was established with the objective to develop standards and specifications for the development

of 5G in cooperation with telecom operators, manufacturers, academics, and international organizations. Numerous consultations and workshops were planned along the way with all such stakeholders. This enabled CITRA to determine a clear spectrum strategy, as well as identify key 5G use cases and how to achieve its utmost benefits.

In May 2019, CITRA officially allocated 300 MHz of frequency spectrum to operators to deploy 5G services. Then, in June 2019, Kuwait became the first country in the Middle East and North Africa region to launch 5G commercially, achieving nationwide coverage with over 6,000 5G sites deployed covering 98% of areas in Kuwait.

Since its launch in 2019, tremendous 5G progress was achieved in Kuwait at national level. How do you see the 5G reality now?

Looking to where we are at in 2021, many countries around the globe are still in the planning or initial deployment phases of 5G. However, Kuwait is celebrating the second anniversary of the technology's commercial launching. Since then, CITRA has developed a clear national strategy to encourage the adoption of 5G in different scenarios, including consumer as well as business sector applications.

From the consumer perspective, there has been an increased demand for mobile broadband services. This is seen in monthly subscriber data usage of more than 70GB, the highest globally by far, with user speeds reaching 700Mbps. 5G has played an essential role in facilitating such high demand with its large bandwidth capacity. Even during the latest COVID-19 pandemic peak, CITRA and local telecom operators were able to provide free 5G data packages to all citizens and residents during critical lockdown phases. Even after, CITRA continued its effort to boost 5G adoption in collaboration with operators and ecosystem providers to bring down the package price levels for 5G services, enabling the population to enjoy even more affordable 5G services.

As of now, Kuwait 5G services are priced in a competitive manner compare with 4G, with a higher data quota and a few extra charges. As a

> The country's 5G strategy has been part of the wider digital ambitions outlined in the 'New Kuwait' Kuwait Vision 2035, which aims to boost digital development as a way to attract foreign investment, lay the foundation of a sustainable economy, and spur domestic growth

result,more than 800,000 users are now enjoying 5G services in the country, with 5G penetration reaching around 20%—a leading benchmark figure in the GCC region.

5G promises not only to boost the end consumer user experience, but also enable different industries and verticals development through innovative use cases. How do you evaluate the progress so far in this area?

Nowadays, we clearly witness the contribution of ICT technologies to national development. Nations and economies that adopted the digital transformation strategy in their core plans are now enjoying unpresented growth. As the national regulator, our role is to enable Kuwait's economy to transform into a digital economy leveraging cutting edge ICT technologies such as 5G. The real potential of 5G now lies in industry applications. In the last couple of years, there have been several initiatives from different sectors in Kuwait to leverage 5G's capabilities. The financial services and banking sector, for example, has used a 5G mobile ATM truck scenario to provide financial services to areas that were under lockdown during the pandemic. In education, the ministry of education adopted 5G connectivity in classes and school campuses for their students and staff. The oil and gas sector is also exploring 5G remote maintenance and security use cases with aim to reduce the overall operation cost through automation. Moreover, 5G video conferencing and work-from-home applications have been critical for enterprises of all sizes to ensure business continuity.

Today, Kuwait has a clear vision on how to use 5G in various aspects of life, and has already started realizing its benefits in real terms.

With more and more consumers and enterprises enjoying 5G services, the current infrastructure will bear more pressure to deliver the promised best user experience. How is CITRA managing this critical balance?

Providing the best 5G service quality is a top priority in our agenda. We understand customer experience in its broader and more comprehensive scope. Instead of focusing only on some aspects like speed, we look into

the overall customer journey which encloses availability, latency, and CRM to name few. Jointly with operators, we are monitoring carefully the current 5G service quality through different criteria such as field tests, surveys, and periodic reports which are crucial to understand and address potential issues that may arise.

If we take indoor coverage availability as an example, in the beginning of 2020, with more 5G smartphone users in the network, we started to identify indoor coverage issues. This is normal due to the physical limitation of the licensed C band spectrum. To cope with it, we worked with operators to rollout the new 2.1 Ghz spectrum band as a second 5G layer, which significantly

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reduced the coverage gap and improved 5G signal.

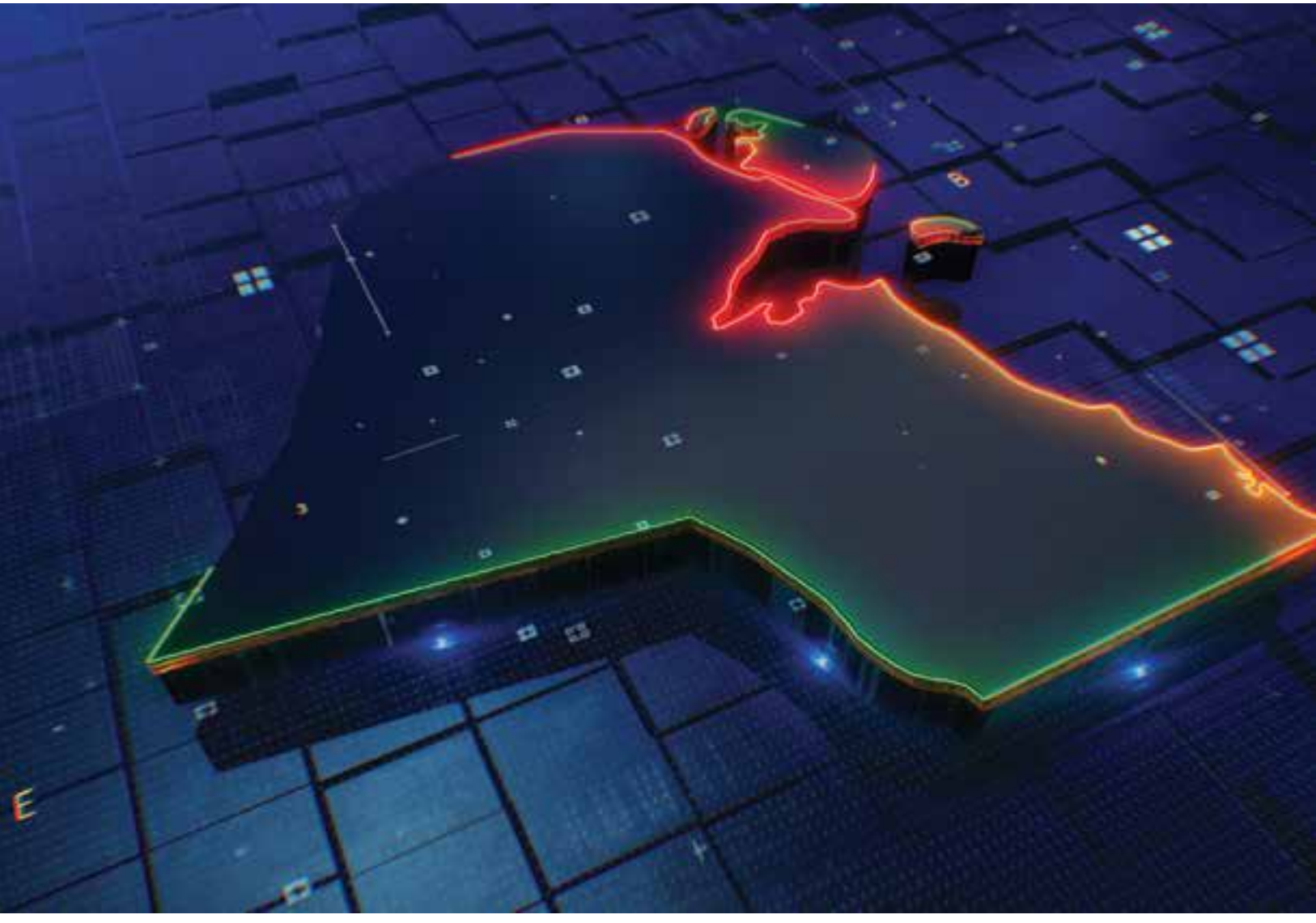
Another strategy that we adopted is to introduce MVNOs license in Kuwait, which was a major milestone in our efforts to provide Kuwait population with the best services. This year, we successfully awarded the first license for Virgin, and we strongly believe that this step will not only enrich current 5G MBB service offering resulting in overall user satisfaction, but also create a healthier telecom market dynamic where service providers and consumers can benefit from a win-win situation.

How do you evaluate Kuwait's 5G success story so far, and how do you see the 5G development perspectives in Kuwait for the foreseen future?

Overall, Kuwait is proud to own one of the most advanced 5G network infrastructures in the world. It is one of the relatively few countries that have introduced 5G applications into its digital economy. Today, 5G covers nearly all of Kuwait's population, with an emphasis on affordable 5G services, by end of 2021 we expect to achieve the milestone of 1.2 million 5G users (more than 25% of total population) in Kuwait.

Moving forward, under the wise leadership of H.H. Sheikh Nawaf Al-Ahmad Al-Jaber Al-Sabah, entities like CITRA are redoubling their commitment to support the 'New Kuwait' Kuwait Vision 2035. The work of CITRA and its partners will help to transform Kuwait into a knowledge-based economy and society; one that harnesses the potential of emerging ICT such as IoT, cloud, and AI together with 5G as the foundation.

Several initiatives are anticipated to be announced by CITRA in the near future including, but not limited to, new 5G spectrum, quality of service frameworks, and the synergy of cloud and 5G. Together with operators, CITRA will pay special attention to further improve the 5G user experience, developing the necessary regulatory frameworks and tools to ensure the highest standards for 5G services. All of these efforts will ultimately keep Kuwait amongst the global forerunners in 5G leadership. TR



CITC reveals the average 5G download speeds and coverage in Riyadh

The CITC (Communications and Information Technology Commission) has revealed the average download speeds and coverage of the fifth mobile generation in Riyadh for the third quarter of this year, where it has reached 280 megabits per second, with a total coverage of 91.70%.

Zain topped the list of average download speeds with an average of 379.7 Mbps and a coverage rate of 89.35%.

stc ranked second with an average download speed of 296.1 Mbps and a coverage rate of 76.26%.

The third position went to Mobily, with an average download speed of 187.5 Mbps, and a coverage rate of 59.5%.

The CITC's "Meqyas" report comes within the framework of the commission's work to enhance competition among operators to provide the best services to users by raising the level of transparency in the market through publishing the results of data and indicators, and enabling investors and those interested to view the market performance indicators in the Kingdom.

Earlier, The CITC published a public consultation on the "Information Memorandum for Spectrum Auction of 2100 MHz for Non-Terrestrial Networks (NTN)".

The Commission intends to hold the 2100 MHz auction by the end of this year as part of the implementation process of the "Spectrum Outlook for Commercial and Innovative Use 2021-2023" in Saudi Arabia. The document aims to get inputs on the auction's terms and conditions, eligibility criteria, initial prices.

The upcoming auction is part of its strategic role as a digital regulator, in empowering the role of the frequency spectrum in the national digital transformation of the Kingdom.

MENA CIOs to spend the most on SaaS by 2022: report

End-user spending on public cloud services in the Middle East and North Africa (MENA) region will total $5.7 billion in 2022, an increase of 19.2%, according to the latest forecast by Gartner.

"A renewed focus on technology growth post-COVID-19 in the region is leading to continued growth in public cloud spending," said Colleen Graham, senior research director at Gartner. "Various MENA governments' policies on telemedicine, usage of autonomous vehicles, smart cities and a rapid move towards the next phase of the fourth industrial revolution are opening new growth avenues for public cloud in the region. Additionally, the attention given to building and nurturing talent will turn a new leaf in the region's shift towards becoming a digital economy."

MENA CIOs are turning towards the cloud to secure the quickest time to value for their IT investments made over the last two years. In 2022, MENA CIOs will spend the most on cloud application services (SaaS), which includes business intelligence applications, email and authoring, content services, customer experience and relationship management, and supply chain. This segment will total $2.3 billion, accounting for 40% of the total investment made on public cloud services.

In parallel with that, the highest growth will be recorded by cloud system infrastructure services (IaaS). This segment will grow by 36.8%, followed by cloud application infrastructure services (PaaS) with an anticipated 25.8% increase and cloud desktop as a service (DaaS) with an anticipated 25.3% increase.

Countries in the MENA region are being swept up in the global data revolution as they shift from oil-driven economies to data-driven economies.

Cyber Security Council, in collaboration with Etisalat, calls for heightened cyber incident response

The UAE Government's Cyber Security Council has issued directives to all governmental and semi-governmental entities in the country to adopt advanced solutions in the field of cybersecurity to raise national operational efficiency, ensure business continuity, and protect against any cybersecurity attacks that would pose a potential risk.

In this regard, the council has entered into a strategic collaboration with Etisalat, one of the world's leading telecom groups in emerging markets, and Help AG, the cybersecurity arm of Etisalat Digital, as part of its continuous efforts to strengthen the UAE's critical infrastructure, improve its security posture and enhance the country's leading position in global competitiveness indicators.

The Cyber Security Council is the official agency overseeing UAE's national cybersecurity framework, policies and implementation of best practices. The council has evaluated several security offerings provided by Etisalat and Help AG and approved Distributed Denial of Service (DDoS) mitigation solutions as one of the national standards to protect government and semi-government entities in the UAE against malicious cyberattacks. All entities shortlisted by the council will receive subsidised subscription rates for the service.

Commenting on the partnership, His Excellency Dr. Mohammed Hamad Al Kuwaiti, head of cyber security for the UAE Government, said that all sectors – government and private – around the world are facing an unprecedented level of digital attacks which are increasing in size and complexity.

Meanwhile, Hatem Dowidar, chief executive officer of Etisalat Group said the partnership with Cyber Security Council aims to protect government entities from malicious cyber-attacks and support the UAE leadership's vision of bringing the country at the forefront in terms of digital transformation.

WRC-23 to be held in one of the main cities in UAE

The next World Radiocommunication Conference, WRC-23, will take place between November 20 and December 15, 2023, the International Telecommunication Union (ITU) confirmed following a consultation with the ITU Member States around the world.

The conference, where governments, regulators, and industry gather to update the ITU Radio Regulations, will take place in one of the main cities of the United Arab Emirates (UAE), either Abu Dhabi or Dubai.

Held every four years for a period of four weeks, the World Radiocommunication Conference (WRC) is mandated to update the radio regulations, the sole international treaty governing the use of radio-frequency spectrum and satellite orbits.

"The COVID-19 pandemic has proven the essential nature of digital technologies and services," said ITU secretary-general Houlin Zhao. "Yet challenges persist in efforts connect the other half of the world's population by 2030. ITU Member States will use WRC-23 to pave the way for new, more innovative ways to connect the world using both terrestrial and space-based communication technologies."

The preparatory process for WRCs involves extensive studies and preparatory discussions among stakeholders, from governments, regulatory authorities, network operators, and equipment suppliers to industry forums and spectrum users at national, regional, and global levels.

The multi-stakeholder approach enables consensus-building, essential to ensure the WRC fosters a stable, predictable, and universally applied regulatory environment that ensures the provision of and future investment in radiocommunication services that are free of harmful interference.

"Despite COVID-related challenges and fewer physical meetings, ITU Members are making significant progress by preparing for WRC-23 through virtual meetings and online consultations," said Mario Maniewicz, director of the ITU radiocommunication bureau.

Steven Yi, president, Huawei Middle East

Steven Yi: Effective cyber security and privacy protection through openness and transparency is the fundamental requirement of our customers

As more industries across the Middle East embrace digital transformation, a focus on collaborative development will be pivotal to extending the gains achieved to date, according to Huawei's top executive in the region. Steven Yi, the recently appointed president of Huawei Middle East, spoke with Telecom Review on how many governments and enterprises in the Middle East today have benefited greatly from being at the forefront of emerging technologies—be it 5G commercial deployments, adopting cloud capabilities, designing intelligent city infrastructure, and more.

Yi reiterated Huawei's commitment and efforts towards cybersecurity and said, "Cybersecurity is a common challenge for the entire industry, for all companies and all countries. In the past 30 years, Huawei has not had any major incident related to cyber security."

He added, "In the Middle East, Huawei has never been questioned about cyber security. Since 2004, Huawei has provided network assurance for the Hajj pilgrimage in Saudi Arabia with zero network failure or accident, keeping the network secure and stable. Huawei's network assurance mechanism has been tested also at the G20 Summit in Saudi Arabia, the G20 Summit in China in 2016, and the World Cup in Russia in 2018. It's been proven effective. In the Middle East, we are working with local governments, industry organizations, universities, customers, and partners, discussing how to advance cyber security and build open, transparent, and secure networks. We believe that these efforts will help our cybersecurity operations in the Middle East."

In cloud, approximately 81% of enterprises globally now use cloud-based applications, with Yi wanting to extend these benefits to countries in the Middle East. Huawei recently announced investing USD15 million to support cloud-oriented ecosystem development in the region, with HUAWEI CLOUD having already developed more than 100 local partners in the Middle East. HUAWEI CLOUD and partners are now covering 27 regions and serve over 170 countries.

"In the past two years, the development of new technologies and the new normal under the pandemic has accelerated the advent of a digital world," said Yi. The executive spoke on how that spirit of collaboration in the ICT domain can open new windows of socio-economic progress in line with countries' national development agendas. Yet it will also take a concerted effort to drive digitalization in ways that will create value for all.

"Openness and globalization are irreversible trends. Almost every country has now formulated its national strategies, and the integration of advanced technologies such as 5G, cloud, and AI will significantly serve the targets of building digital economies and achieving these visions and targets," noted Yi. In this regard, Huawei has openly collaborated with government entities to contribute to their national visions and develop their ICT ecosystems. As a result, Yi confirmed that the company's business has continued to grow in the region.

Though we are living in a digital age, Yi acknowledged that some are still left behind and are unable to benefit from emerging technology and the opportunities that it provides. Meanwhile, the UN has estimated that 68% of the world's population will live in urban areas by 2050, putting pressure on cities themselves to move towards more intelligent management and connectivity.

Touching on 5G specifically, Yi reaffirmed that 5G deployments have been "quite successful" in the Middle East to date, with the number of 5G subscribers in GCC countries estimated to exceed 10 million by the end of 2021. Globally, 176 commercial 5G networks have been deployed. "Traffic is growing rapidly in the Middle East. Since the pandemic, industry digitization and online business have gained strong momentum. The next important step in 5G development is 5GtoB – applying 5G technologies to all industries," concluded Yi. TR

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Open RAN to create an evolution in the telecom industry

Open radio access networks (Open RAN) are the dominant topic of discussion in the mobile network world today. A movement to disaggregate wireless telecommunications RAN functions and create open interfaces between them, Open RAN promises a future in which long-term costs for mobile operators are sharply reduced, vendor competition is increased, network flexibility is enhanced, and opportunities for innovation are expanded.

The Open RAN movement closely parallels the evolution from proprietary systems to open systems to virtualization that occurred in the IT industry beginning in the 1980s. That earlier example offers convincing proof that moving away from proprietary hardware and software to interoperable systems is beneficial for all parties.

Companies across the mobile ecosystem agree. Mobile operators, network equipment manufacturers, chipmakers, and software vendors around the globe are joining a growing number of Open RAN standards and advocacy organizations, and prominent Open RAN deployments have demonstrated the commercial viability of the technology.

The Open RAN architecture is purposely designed to meet the evolving needs of mobile operators, serve more customers, and ensure profitable growth.

What Open RAN means for operators?

The advent of 5G and its escalating demands for long-term investment in capacity, power, backhaul infrastructure, and more are forcing operators to take a hard look at how best to accommodate growth, ensure QoS, and simplify their architectures while getting the lowest network total cost of ownership (TCO).

For many, it's time for a wholesale reevaluation of the future of their networks, especially in urban markets. The current high cost of hardware, software and services has made it difficult to build a business case for network expansion into low average revenue per user (ARPU) markets.

Bringing modern mobile communications to less populated areas is a priority for many jurisdictions around the world. Access to high-speed Internet service is essential to supporting public education, local business, healthcare access, financial services access, and more. However, building out networks in remote communities requires major CAPEX investments that offer little or no near-term ROI.

Operators have advanced technology roadmaps and product capabilities but have not yet been able to leverage them fully because the rest of the market have yet to catch up. The delay between making technology investments and earning revenue from

them has put pressure on operators' balance sheets.

There is not enough clarity on how best to use Artificial Intelligence (AI) and automation in network operation and planning to reduce cost and enhance availability. Vendors and Open RAN advocacy groups are working to ensure that AI and automation will be major factors in making Open RAN more affordable and reliable, yet many operators are unclear on how best to proceed.

Growing competition will continue to put pressure on operators to find new ways to drive revenue and profitability. New players are entering the telecom market, particularly in the Internet of Things (IoT) and space telecommunications arenas. As new use cases such as autonomous vehicles, smart cities, and automated factories emerge, mobile operators will need to support communication between a million devices per square kilometer (compared w/ 100k for 4G). MNOs will only be able to take advantage of these opportunities if they can scale up their networks affordably.

Open RAN, the RAN Intelligent Controller (RIC), and automation offer an important way to address these pain points by helping operators lower their CAPEX and OPEX while expanding services into new markets, building their customer bases, and ensuring optimum quality of service (QoS) for subscribers.

With Open RAN and its inherent features of virtualization

The RIC and the automation are absolutely essential to ensure an Open RAN environment that delivers greater freedom of choice while keeping CAPEX and OPEX manageable for mobile operators. With the capabilities that Open RAN provides, mobile operators will gain the ability to fulfill the promise of new IoT and other emerging use cases in urban environments, expand their networks into new territories to bring 5G within reach of underserved markets, and the solid architectural foundation they need to plan effectively for the long term. Above all, Open RAN will ensure that all mobile residential and business customers have access to the communications solutions they need to improve and enrich their daily lives.

How automation and the RIC address operator challenges

Automated orchestration and management is key in order to achieve the benefits provided by a cloud-native Open RAN solution. Automation with modern tools and technologies can bring in several advantages and help in different stages of network deployment starting with preparation to rollout a network or a new service, followed by creation to roll out the prepared plan, then operate and monitor the network once it is rolled out. Finally, terminate to shutdown/scale down the network or the service as required. This very much aligns with the business needs-driven network deployment model.

Etisalat among the first to implement Open RAN

Etisalat supports technology innovation and is often among the first mobile operators to test and implement new ideas that can enhance its competitive strength in the marketplace and deliver a better customer experience. That is why Etisalat is supporting Open RAN testing and evaluation with the goal of implementing an Open RAN solution once all technical aspects and conditions have been fulfilled.

Etisalat Group, Saudi Telecom Company STC, Zain Group, Mobily, and du, from Emirates Integrated Telecommunications Company (EITC), joined forces recently to push forward the implementation of Open RAN solutions in their existing telecom networks, share their industry knowledge and experience setting a clear path to drive innovation for the ICT sector across the Middle East.

Mohamed Almarzooqi, Acting International CTIO of Etisalat Group said: "With Open RAN and its inherent features of virtualization and automation Etisalat will be able to meet the needs of our customers cost-effectively in central Asia and beyond. An Open RAN system will help us not only extend our initial investment, but also help us innovate and bring new services quickly now and in the future."

In April of 2021, Etisalat announced a partnership with Parallel Wireless to deliver central Asia's first Open RAN implementation. When completed, the implementation will be the world's first cloud-native O-RAN-compliant 5G 4G 3G 2G Open RAN solution. The solution is being developed in collaboration with Intel on a hardware platform based on Intel Xeon scalable processors by leveraging its AI/ML capabilities.

Such new hardware features combined with AI/ML tools and optimized software development kits (SDK) greatly enhance the performance of telco domain AI applications.

Etisalat Afghanistan achieved greater agility, resilience and portability

The easy scale-out and hardware decoupling of Open RAN in Afghanistan provided greater agility, resilience and portability across cloud environments for greater TCO savings.

Etisalat was able to replace legacy 2G/3G/4G systems with Remote Radio (RRUs) from the Open RAN radio hardware ecosystem with white box solutions that will be able to be upgraded to 5G in the future.

Etisalat's strategic goal is to build and grow wireless networks to provide next-generation digital services to its customers in the region by assembling viable solutions that build on an open and modular architecture, improving service agility through cloudification, reduce operational costs across geographically distributed sites with automation.

Etisalat expects that Open RAN will open the door to greater competition among vendors, enabling the company to evaluate solutions from a larger pool of telecom vendors. Greater competition and innovation will lead to improved OPEX and CAPEX. Etisalat also believes that software will emerge as the primary component in the telecommunications industry and will facilitate the introduction of AI to its portfolio of products. TR

Mikko Lavanti, head of mobile networks, MEA, Nokia

We strive to further expand our footprint in telecom, government and enterprise segments in 2022, says Mikko Lavanti

Technological developments offer vast opportunities for telecommunications and technology companies to improve their performance and compete on a global scale. The greatest responsibility lies within service providers, whose role has become essential to secure a special experience for clients.

In an exclusive interview to Telecom Review, Mikko Lavanti, head of mobile networks, MEA, Nokia, talks about the most important activities that the company will be focusing on during the next phase, and the opportunities Nokia offers at the regional scene.

Congratulations on being recently appointed as head of mobile networks for the Middle East and Africa. Can you explain what does your new role mean for Nokia customers, and how is your experience in previous roles an added value to support them?
I am delighted to join Nokia's mobile networks team in the Middle East and Africa market during these interesting times, both for Nokia and our customers, as the region emerges from the pandemic.

Our solutions enable service providers, industries and the public sector to create the critical networks that bring together the world's people, machines and devices.

In my career, spanning over 30 years, I worked for an operator, few vendors and have held leadership positions at both global and regional levels in

business, sales and delivery. I have a rich experience of working in several geographies, including China, the USA, Germany, and Turkey.

I am known to have a growth mindset, and I believe in having fun while working. With our incredible team and customers, we will bring the right solution and value to further improve the mobile networks in the MEA region.

Nokia is already a leader, and I hope to further advance Nokia's presence and footprint here.

MEA is a diverse market in terms of technology adoption. What kind of challenges and opportunities do you see for Nokia?

In 1997, I started my career as a site engineer working on technological solutions for different kind of deployments, and over the years I took different leadership positions working closely with customers from around the world. More recently, at Nokia, I was running a region including 23 countries spanning East Europe, Caspian, and Central Asia regions. This experience helped me in understanding and addressing the diverse telecom needs of customers in different geographies.

MEA is a fascinating region. On one end, the Gulf countries have one of the highest 5G adoption rates and on the other end, there are rural areas that lack basic connectivity. The challenges of our CSPs customers differ from monetizing their 5G investments for example or energy saving, to connecting the unconnected in rural areas. So, we have to adapt our solutions and approach to address a wide range of requirements and diverse needs.

It is very important that we work closely with our customers in both high ARPU and low ARPU markets to identify technological and commercial solutions that cater to their requirements.

At Nokia, we look at the network evolution in line with the business objectives of the customer, instead of looking at it as a pure technological exercise.

As we evolve our customer's networks, we design and deploy solutions that cater for the increased network traffic and enable our customer to grow in enterprise sector.

We also focus on energy saving and sustainability. Our sustainability approach provides the structure and focus for all our activities. At the core of our approach is the belief that our technology improves people's lives.

As a responsible organization, we take responsibility for our actions and impact on the world, minimizing potential negative impacts while maximizing the many potential positive impacts of the technology we create and deliver. We are looking forward to further collaborating with our customers here in MEA on sustainability initiatives.

As 5G becomes a reality, what should be the CSPs' strategy for long-term 5G monetization?

The early adopters of 5G are focusing on enhanced mobile broadband (eMBB) and fixed wireless access (FWA), with emphasis on speed and boosting 5G coverage. We see also some focus on 5G-enabled services, such as cloud gaming, UHD videos and AR/VR. At the same time, the interest in enterprise sector is considerable and we see a lot of pre-commercial explorations of 5G use cases across many verticals.

The 5G economy enables a new breed of use cases and business models, including network slicing and network-as-a-service (NaaS) offerings, IoT and new business models for B2B2X services. Monetization solutions for the 5G era need to be flexible to support a wide range of business models and ecosystem partners to drive new revenue.

While the initial 5G revenues are driven by eMBB and 5G FWA, some of our customers are building networks with superior performance and automation capabilities designed to boost the customer experience and address the enterprise needs.

For a successful 5G monetization the key is to time the heavy 5G investments in the dense areas with the increased potential for 5G traffic growth. This needs to be complemented with a 5G coverage layer across rural and sub-urban areas. Here our NPO and digital deploy services will help.

As I mentioned, the investments on locally relevant 5G and private wireless use cases will play a massive role in unlocking growth in enterprise business and will require some crucial sales skills.

From a strategic point of view, cloudification of RAN, in addition to core network evolution in alignments with Open RAN, are key decisions for our customers over the next few years.

What will Nokia focus on in 2022 in terms of mobile networks?

We would be focusing on evolving our go-to-market strategy in line with the evolving needs of our customers. We would be coming up with new products and services to help our customers to continue to grow.

Regarding mobile networks, our industry-leading and energy-efficient AirScale range of products for 5G and LTE support the region's service providers. It is also extremely energy-efficient and comes in a small factor, thus helping the service providers improve the network's cost economics. Nokia has also taken a leadership position in advanced solutions such as network slicing and 5G SA.

We are working with most of the CSPs in the region and we look forward to growing our footprint in telecom, government and enterprise segments.

As a responsible global technology leader, Nokia is committed to adopting and promoting sustainable practices as we provide technology that helps the world act together. TR

Eng. Ahmed Mekky,
CEO and Chairman, Benya Group

Meeting Ahmed Mekky, the man behind "Benya Group": Working to Connect Cities and Unite Nations

The ICT industry has been transforming the lives of people around the world over the last few decades. This digital transformation is responsible for driving major changes in Egypt and the MEA region, and has had substantial positive impacts on governance, economies and societies as a whole. The COVID-19 pandemic has accelerated digital transformation efforts, as countries, governments and people worldwide adapt to our new norm. In this exclusive interview, Telecom Review spoke to Eng. Ahmed Mekky, CEO and Chairman of Benya Group, one of the leading advocates for digital transformation as a human right in Egypt and the MEA region.

Digital access should be a basic human right. What role does Benya Group play in achieving this goal?

At Benya Group, we are dedicated to building a digitally united and smart MEA region. Through our subsidiaries, Benya group operates across various ICT verticals, offering a wealth of products, services and digital solutions. Our portfolio includes telecommunication services, cloud, security solutions and data centers, as well as manufacturing technology-based solutions and systems integration. Our full-fledged scope and portfolio enable businesses to adjust to changing market needs efficiently. Our goal is to ultimately contribute to the promotion of connectivity as a basic human right for all people, across the Middle East and Africa. We believe that connectivity represents much more than just internet access, it represents bridging the gap and providing the developing nations with equal access to a wealth of knowledge and tools, as is currently enjoyed by the developed nations.

What strategies does Benya Group adopt to strengthen connectivity and infrastructure in Egypt? Can you cite some of the milestones achieved so far?

Working in an industry that is at the forefront of technological advancement, productivity and efficiency, it is only natural that our operational strategy is in alignment with and focuses on delivering quality products and services efficiently. Egypt's Vision 2030 has provided Benya Group with the framework needed to aid us in delivering advanced and innovative technological solutions, which have supported the development of smart cities and improved the education, telecommunication, transportation and banking sectors, among others. As the leading digital solutions and ICT infrastructure provider in Egypt and the MEA region, Benya Group has collaborated with several ministries on nationwide projects, including, but not limited to the following notable milestones:

- Through the signing of an agreement between Benya Group and the Ministry of communications and information technology (MCIT), the Arab organization for industrialization (AOI), and a number of top-

tier multinational corporations, Benya Systems (a subsidiary of Benya Group) is responsible for the implementation of the Smart Application System, which will be used to manage and operate the first phase of the Knowledge City at the new administrative capital in Egypt (NAC)

- Benya Group, has also been proudly contributing to building, managing, and operating one of the first shared towers in the NAC, which provides coverage for all network users and accommodates up to five operators at the lowest possible cost in accordance with international standards.
- Through a partnership with the MCIT and Dell Technologies, Benya will build and operate the first and largest data center for artificial intelligence.
- Benya was awarded the largest digital transformation project in the region to implement a state-of-the-art ERP solution for the 60 subsidiaries of the ministry of public enterprise.
- Benya is responsible for implementing the technological infrastructure for several projects in the NAC and the government district. In addition to building the largest cloud data centers in the Middle East and Africa, Benya will also be responsible for supplying and installing over 200 thousand smart meters for water and electricity services at the NAC in cooperation with Telecom Egypt.
- Benya was responsible for the deployment of the indoor FO network for the urban communities authority and the new olympic city in Egypt, and managed the allocation of the FTTX network for Telecom Egypt, which covers 30 zones/900 buildings.

What elements do you consider key to achieving digital transformation in the Middle East?

Many believe that digital transformation is a process of calculated variables aimed at supplying specific solutions and services, but the key to understanding it, is through understanding the heterogeneous and agile nature of "digitalization." The more flexible the solution is, the better it serves people's needs. Digital transformation was created for the purpose of supporting and enhancing people's lives, thus, it is the people who will continue to be the core and the benchmark used to assess the success of any digital initiative. The same goes for data. In the past, analysts used to categorize data in terms of structured tables and numerical figures, however, data collection has evolved and continuously changes to reflect consumer activity; it now represents anything that can be digitized. Finally, we must use diverse tools and techniques to deal with different types of data and to reach different audiences.

How is Benya Group connecting networks locally and across Africa?

The vision and driving force of Benya since inception, has been our commitment to digitally unite the MEA region. Building on our solid successes in developing and digitally transforming the Egyptian market, we have replicated these successes and expanded our reach into Africa. We strongly believe that now is the right time to invest in Africa's digital transformation. As the one of the leading ICT infrastructure and digital transformation groups in the region, we see endless opportunities for growth in the African market and solidify our commitment to establishing a digital Africa.

Earlier this year, Benya Group signed a shareholder agreement with Société Congolaises des Postes et Télécommunications (SCPT) to establish Benya Telecom DRC, a new local operator, to build and operate a national Optical Fiber Network of (NFON). This network will link cities in the Democratic Republic of Congo (DRC) and facilitate communication with the neighboring countries.

Our new arm in DRC will work on three axes: financing and implementing an integrated optical fiber network, establishing data centers and building shared towers.

With a vision of meeting the growing demand of local and regional markets, Benya Group founded Benya Cables, the largest fiber optic solutions manufacturer and provider in the region. In collaboration with the leading industrial organization in the region, the Arab Organization for Industrialization (AOI) and Corning Inc., the factory, will utilize state-of-the-art production lines serving the needs of Egypt and the MEA region.

Benya Group explores promising talents and scales existing potential startups in the digital arena through its investment arm "Benya Ventures." Can you tell us more about how it helps in building a digital future?

We are convinced of the substantial benefits brought by the venture capital investment not only to startups but also to the overall economy. We want to encourage promising early-stage businesses and to promote innovation and growth in the industry. This inspired us to set up Benya Ventures. Through this financial investment arm, Benya Group will play a significant role in supporting entrepreneurs across Egypt and the MEA region by investing in high-potential digital startups in order to maximize Benya Group footprint in the startup ecosystem.

Your journey as a leader in the digital transformation field has started as a pioneer entrepreneur looking forward to connecting people via technology. How do you and your company empower youth today?

Africa has always been the land of opportunities. It is full of resources and human capital, being the world's youngest continent with 20% of the total population aged 15-24 years and 40% even younger.

As an entrepreneur in one of the most critical and challenging sectors, I understand the challenges startups face and the importance of supporting them to thrive. As part of our efforts to support digital innovation and entrepreneurship, Benya Group sponsored the Africa IoT & AI Challenge, which was organized by the Institute of Electrical and Electronics Engineers (IEEE). The challenge aimed to develop qualified technical calibers specialized in IoT and AI, to accelerate digital transformation in the MEA region. The challenge's activities align with Benya's strategy of adopting initiatives that develop and nurture the skills of youth in the tech industry, supporting young entrepreneurs and promoting innovation and growth in the digital sector in Egypt and the Middle East. TR

Huawei iSitePower-S achieves a green and low-carbon campus, bridging the energy divide in Nigeria

In April of 2021, Huawei launched the iSitePower-S hybrid power solution in Nigeria. This solution provides economical, green, and reliable power supply for livelihoods and production in areas with poor or no mains supply, improving the working conditions and living environment for local people.

Soon after the launch, Huawei deployed the iSitePower-S hybrid power solution in a local campus. The solution enables efficient switching between the solar power system and intelligent lithium battery energy storage system, shortening the genset runtime and reducing genset power generation costs and carbon emissions. Genset power generation is polluting, unreliable, and costly. By shortening the genset runtime, the solution addresses these issues and improves the living and working experience on the campus. It can be replicated and promoted as a green low-carbon campus solution that allows greater access to green and inclusive power supply through large-scale application.

The iSitePower-S hybrid power solution used at the campus consists of 160 PV modules, high-density iMagicPower, CloudLi smart lithium batteries, and an intelligent energy scheduling system. The solution is easy to deploy thanks to its modular design, and equipment is transported and installed without the use of large-scale machinery, requiring just a single week to complete installation, commissioning, and service rollout.

The solution uses an innovative eMIMO technical architecture to support efficient and intelligent power generation, conversion, distribution, and consumption, delivering 20% higher energy yields than a traditional solar solution. Huawei's fifth-generation CloudLi offers enhanced performance and prolonged service life, reducing energy storage costs compared with traditional lithium batteries and lead-acid batteries.

The iSitePower-S connects to an energy cloud management system to implement remote visualized management, which includes real time information about energy yields, fuel consumption, and lithium battery health, minimizing the need for onsite maintenance and facilitating O&M. According to operation data, the solar energy yield is approximately 303 kWh each day, and the estimated annual yield is expected to reach 110 MWh. Carbon emissions will be reduced by 52 tons, and the genset OPEX will be cut by US$20,000 each year.

Following the successful deployment of the solution, the campus has abandoned using gensets as the primary power source and embraced an all-new power consumption experience. According to staff of the campus, they are no longer inconvenienced by genset noise and feel assured by a new power supply system capable of providing a 24/7 stable power supply.

Huawei is committed to bridging the energy divide through technological innovation and actively responding to the global goal of carbon neutrality with its constant contributions to energy conservation and emission reduction. Currently, more than 1200 Huawei employees are operating in Nigeria to support local power development. In the future, Huawei will continue its policy of innovation and cooperation, and leverage leading energy technologies to provide a green and inclusive power supply for schools, hospitals, banks, factories, and other scenarios in order to successfully bridge the energy divide. TR

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Ali Ahmed Al-Kuwari,
President and CEO, Es'hailSat

Es'hailSat: Enhancing future capabilities as a satellite operator

In an exclusive with Telecom Review, Ali Ahmed Al-Kuwari, President and CEO, Es'hailSat, talked about the company's latest telecom offerings and how they nurture talent for the development of Qatar's satellite technology. Apart from that, Al-Kuwari gave insights to the company's contribution on mega-event hosting and collaboration with other global and regional satellite operators.

Since the past year, there has been a huge surge in online activities, what have been Es'hailSat's latest offerings to the telecommunications customers given this change?

Online activities have surged in the last year or two, initially because of the compulsions that arose during the pandemic, but also because people have thereafter realized that a lot can be accomplished online, even if one is not physically present in offices and other locations. The net result of this has been that connectivity has become more critical to the lives and livelihoods of people, and robust telecommunication services are now seen as an essential utility.

Es'hailSat's state-of-the-art Teleport in Doha was launched officially in 2019 to manage the operations of our satellite and also to support value added services for our customers. To support one such initiative, we have commissioned an iDirect Hub Service at the Teleport to provide fully managed service packages to our end users. This has helped organizations improve their own network and offer services to their end-users providing them with resilient and reliable communication services for the enterprise needs.

How is Es'hailSat contributing to Qatar's hosting of mega-events in terms of broadband delivery, broadcasting, and global connectivity?

Over the past year, Es'hailSat has signed many strategic partnerships to enable Qatari companies to benefit from the most advanced technologies. We are showcasing some of our partnerships regarding maritime and mobile broadband connectivity at the upcoming Qatar International Boat Show in November 2021. Certain partnerships we now have allow us to offer enhanced VSAT support services in the maritime segment while others cater to communications infrastructure required for vessels at sea. One such example is the successful proof-of-concept that we completed in 2021 using low profile flat panel VSAT terminals for the maritime environment using our Es'hail-1 satellite.

For the various mega-events, especially those broadcast live across the globe, we at Es'hailSat have enhanced our satellite news gathering services capabilities. These, along with our Es'hail-1 and Es'hail-2 satellites at 25.5/26 East hotspot, will provide the backbone required by news broadcasters and television channels to carry these events across the region and beyond.

With the growth in fiber deployments in the region, do you see any challenges rising for the satellite services market, and how do you plan to address those issues?

Fiber connectivity is a crucial enabler for satellite services, and we do not see the regional deployments of fiber as a threat to our business. Having reliable fiber services at the right price allows us to complement that terrestrial infrastructure with our space-based capabilities to provide the end users with a mature, all-inclusive offering that takes advantage of every technology available. Given the remote and sparsely populated areas, and difficult terrain within this region, at present fiber connectivity is largely within and between the major cities. It will remain this way for some time as service providers struggle to find the right balance between expending high

CAPEX and providing connectivity to the remote areas.

In the future, as fiber deployments continue and the connectivity becomes more and more accessible to everyone, we plan to partner with the leading fiber providers and enhance connectivity at our Teleport and as a natural progression to our end customers. This further enables the deployment of OTT, mobility applications and broadband from our Teleport in Doha.

Considering today's dynamic communications environment, what is Es'hailSat doing to nurture talents for the development of Qatar's satellite technology?

Es'hailSat has a relatively small but capable team that is well-trained and equipped to take on the challenges of today's dynamic communications environment. To nurture in-house talent, we ensure that the right resources and training are made available to the team to produce the best possible results.

We conduct outreach programs with universities and schools to educate and promote satellite engineering among the students. We have outsourced application development to the universities where senior students work in a group and with supervision from our engineering team to develop and enhance solutions for certain parts of our Teleport operations. We also provide guidance and advice to the Cubesat teams at the university to support their programs. All of these initiatives nurture talent, broaden their horizons and improve the skills set of the younger generation of engineers in the field of satellite engineering.

Please tell us about Es'hailSat's expansion plans in collaboration with global and regional satellite operators.

Since our inception in 2010, Es'hailSat has collaborated with global and regional satellite operators to bring the best of what is available globally to Qatar's ICT infrastructure. Starting with our joint program on Es'hailSat-1 with the European satellite operator, Eutelsat, we have continued to leverage our strong relationships with the satellite industry to translate

that expertise into our own country's strength.

As recently as 2019, Es'hailSat has signed a joint venture agreement with BridgeSat (now called BridgeComm), a company based in Denver, Colorado, USA. This enables the installation of an optical ground station at our facilities in Qatar for low cost, laser satellite communications across the Middle East.

We have signed agreements with global mobility satellite service provider, Inmarsat for mobility services within Qatar complementing the services we provide on our satellites. We have multiple agreements with other terminal and antenna and service providers, such as iDirect, Cobham, etc. that enhances and supports our end-to-end service provisioning.

At this point, the global satellite industry is in a state of flux with multiple low earth orbit constellations at various stages of their launch, each looking to provide global broadband connectivity. We are studying each of these projects closely and evaluating all possible options to enhance our future capabilities as a satellite operator. TR

The digital world of humans and algorithms

Among the building blocks of the digital world we live in today are algorithms. Deep-rooted within social media platforms, search engines, advertisements, and financial transactions, to name some, these pre-defined instructions assist us in solving our problems, completing tasks, and making decisions.

This form of automation is integrated into significant parts of our daily lives such as emails, smartphone apps, travel websites, GPS mapping, online deliveries, and media content recommendations. Hence, the materials we see today are products of algorithms and other related factors.

Without algorithms and the humans who created and use these, the digital world as we know it won't function as efficiently as it is now. At large, algorithms can be used for computing, data processing, searching, or simply sorting out various areas of IT and online content. Unsurprisingly, internet-based service providers have actually built upon automated algorithmic selection processes to bring more value to people.

Aimed at optimizing digital processes, these algorithms also have the tendencies to

trigger bias, unemployment, and miscommunication when not monitored and deployed properly. Along with this, strenuous activities that fight and prevent hacking, cyberattack, and cryptographic code-breaking are implemented.

A majority of people still have concerns about how these algorithms influence humans and would they be sustainable in the long run. Nonetheless, their far-reaching, multifaceted economic and social impact is widely acknowledged and highly inevitable. On this account, understanding and evaluating the always-plugged-in lifestyle we have now is necessary with regard to the emergence of different algorithms.

How it works

Every age has its organizing principles – starting from TVs to websites and applications. Now, it is the algorithms. Algorithms rule the modern world as they silently align datasets and put the world in the order they are programmed to execute.

To define, an algorithm is a systematic set of operations that computers and other smart devices carry out. It can perform calculations, data processing, and automated reasoning tasks with ease. Increasingly, algorithms involve the discovery, interpretation, and communication of meaningful data patterns that affect analytics. These are especially valuable in areas rich with recorded information to determine the proper response and output.

Those who have control of these algorithms are seating into positions of power as algorithms have the capability to shape individuals' decisions. More so, algorithms value efficiency over correctness or fairness. Thereby, its evolution expects more improved results that embody the same priorities that initially formulated them.

It is important to note that an algorithm means nothing by itself. What matters is how a 'model,' comprised of a set of data within an algorithm, is applied. The algorithm is nothing without the data, in the same way that the model is pointless without any use case. Either for organizational, healthcare, telecommunication, finance, or entertainment, applications of algorithmic systems take over manual functions and save costs and time.

A sample functional classification involves areas of algorithmic application like search, aggregation, surveillance, forecast, filtering, recommendation, scoring, and allocation. The internet's distributed algorithms such as routing protocols are also important aspects of keeping the world connected.

Risks underneath

As digital devices multiply by number, dealing with information overload and a surge of algorithmic decisions becomes critical. Proponents push that these systems would increase accuracy and reduce human bias in important decisions. This is in addition to serving as invisible aids that augment human lives in incredible ways. Definitely, businesses and governments alike benefit from the use of algorithms with the massive amounts of data being created, captured, and analyzed regularly.

Although some demonstrate algorithm appreciation, such as relying more on advice that comes from algorithms than humans, the reality is that this technology can either empower or harm people, depending on who is using the information and to what extent.

Previously, tech experts are only apprehensive about a digital divide in terms of computer and internet accessibility. Now, the added concern is leaning towards those who are aware of the underlying logic controlling these bases and are they acting for or against it.

Because of unhealthy power dynamics in the society, some algorithm outcomes have been problematic as these mechanisms lead to limiting people's opportunities, segregating people into classifications, and leveraging surveillance that results in oppressive situations.

Furthermore, decisions made by predictive algorithms can be opaque because of many factors including technical, economic, and social privacy. Thus, even well-engineered computer systems can result in unexplained outcomes or errors, because of some bugs or due to changes in usage conditions.

Despite the growing presence of algorithms, a public survey revealed that people are frequently skeptical of these tools when used in real-life situations. One reason can be under the guise of algorithmic neutrality wherein bias can either be transferred or amplified. The problem can then arise if models are too rigid and therefore unable to grasp the

underlying data trends and complexity. Ergo, from an algorithmic perspective, there should be a middle ground that skilled data scientists must find when designing and developing models.

Nowadays, the power and authority are moving from people to machines, bringing to the table the need to address algorithmic transparency as well. By increasing transparency on how algorithms are used in decision-making, we can promote responsible innovation and help to facilitate public oversight and mitigate potential bias. This is a must as some computer algorithms have been designed to allow self-learning. From here, heightened supervision and protection are required.

What's next

With all of these in mind, the future of algorithms is tied to AI innovation – machine learning and deep learning – that is getting more developed at a fast pace.

In the Middle East alone, user-friendly AI platforms that allow building models will be critical in the deployment of AI at a larger scale. By 2030, billions of dollars in commercial AI revenue are expected to flow to the region. This will contribute heavily to double-digit GDP growth.

At an early stage, only some of the algorithmic systems that are applied in various internet services can be classified as AI or machine learning. Algorithmic systems that, for example, include deep learning via neural networks, include image recognition and speech recognition/generation. Natural language processing for conversational user interfaces like chat-and-voice bots is part of this.

Subsequently, rapid developments in AI algorithms are anticipated to make work – and our lives – more efficient, safer, and more comfortable. With algorithms becoming an increasingly critical part of modern existence, concerns about their potential malfunctioning have prompted initiatives towards the creation of unbiased, ethical, and transparent governance frameworks and principles.

Responsible AI, one of the common framework that focuses organizations on the wider implications of their technology experiments, seek to align intent with consequences. Furthermore, it will ensure that developers of AI solutions never lose sight of their impact beyond the enterprise. Broadly speaking, stakeholders from different backgrounds must collaborate at every step from the design to the deployment process.

These will provide critical general guides to the development of ethical data practices and ensure that algorithms will, first and foremost, contribute to human society. Due to this, from choosing which road to take up to deciding whom to secure your doctor's appointment with, AI algorithms can bring quick, precise, and secure processes.

As companies increasingly embed AI, attention is shifting to how data is used, particularly by complex, evolving algorithms. Once stringent AI regulations have been passed, companies will need new processes and tools for system audits, documentation and data protocols, AI monitoring, and diversity awareness training to comply. TR

> Aimed at optimizing digital processes, these algorithms also have the tendencies to trigger bias, unemployment, and miscommunication when not monitored and deployed properly

Blockchain and how telcos can be the strongest links

The concept of blockchain technology made its way into the general public's consciousness around 2008, along with the introduction of crypto or digital currency bitcoin. Since then, the technology has been gaining acceptance and businesses are still exploring new ways to apply the technology to support their operations. Furthermore, the sudden importance of digital data in everything that we do today has necessitated the need for greater data security, access, transparency, and integrity that blockchain technology can provide.

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The credit for making the technology what it is today has been given to one name - Satoshi Nakamoto- who has been instrumental in the development of the technology and introducing a Hashcash-like method – a proof-of-work system used to limit email spam and denial-of-service attacks – to timestamp blocks of data without a signature by a trusted party and providing a layer of protection to the management of adding blocks to the chain of transactions for bitcoin. This system is the core component of cryptocurrencies, where it serves as the ultimate public ledger for all transactions on the network.

Over the years, blockchain has found many uses cases across different sectors other than for use of bitcoin transactions. Blockchains have already disrupted some of the biggest industries in the world such as finance, banking, international remittance, and supply chain management. It offers new ways of conducting business by enabling benefits such as trust, security, transparency, and autonomy. One of the most important things for telecom companies is to innovate in a fiercely competitive market while at the same time remaining cost-efficient and blockchain represents an ideal support technology to complement that.

Internal telecom operations

Blockchain helps in providing telecommunication companies the much-needed automation in their internal processes such as billing, roaming as well as supply chain management. By using smart contracts to handle the billing related to roaming, telcos can save money and time for auditing and accounting. It will also insulate them against fraudulent traffic resulting from the involvement of too many intermediaries. Currently, transactions within the telecom company's ledgers have to go through audit centers to be authenticated. Smart contracts can automate the SLAs which will provide a real-time view to all the stakeholders and increase transparency. It can also help in dispute resolution through tamper-proof verifiable transactions and real-time usage updates to the end consumer.

Developing new digital services

Telecom companies can provide a range of blockchain-related services to their customers that can lead to new revenue streams. For instance, Etisalat Digital introduced UAE Trade Connect (UTC), a nationwide blockchain platform along with and seven leading UAE banks. The one-of-a-kind platform allows data to be shared securely by leveraging AI, machine learning, optical character recognition (OCR), and robotic process automation (RPA) to scan invoices to detect duplication and dubious transactions within the bank offerings. Telcos can also leverage blockchain for micropayment services for music, mobile games, and other services. They can also use blockchain for customer-to-customer money transfer services. Many telecom operators are offering digital wallets to offer such services using the technology to make the transactions secure and cheaper.

Digital identity management

Identity verification is a cost-heavy operation that organizations have to manage and end up spending a significant amount of their capital every year. Telcos can become early adopters of blockchain and leverage new business emerging in the markets. Blockchain solutions can allow for decentralized storage of identity documents with control remaining completely with the individual on who to share the documents with. With telecom companies adapting products and services for the world of digital and 5G, blockchain solutions will be key to offering identity as service (IDaaS) and act as a channel between the end consumers and digital services at large. Telecom companies enjoy a high level of customer trust so they stand in an excellent position to offer this new service.

Network deployment and operations

Spanish telecommunications infrastructure management company Atrebo uses Telefónica Tech's blockchain platform to digitize over 200,000 towers and other telecommunications infrastructure assets.

Atrebo's 'TREE' platform provides robust infrastructure management capabilities in network planning, site acquisition, installation, operation, and optimization. Atrebo offers its platform across energy, smart city, and other vertical markets; however, telecommunications is its largest market, and Telefónica is its biggest customer by far, having deployed the TREE platform in 13 of its 17 markets. Traditionally, network deployment and operation are dictated by manual processes and a complex ecosystem holding the elements of deployment and operation. Hence, it makes it a perfect fit for blockchain applications that can guarantee levels of trust and transparency across the ecosystem. Additionally, the mobile number portability (MNP) process can also be streamlined using a blockchain solution that will act as one network where all service providers can review and request for MNP.

Ecosystems for collaboration

In a rapidly digitizing world, telcos who want to become pioneers in offering the next generation of digital services can find blockchain useful for a variety of complex transactions. Telcos are in an advantageous position to take the adoption further in the industries such as the Internet of Things (IoT).

The total Internet of Things (IoT) market worldwide was worth around 389 billion U.S. dollars in 2020, and is forecast to rise to more than one trillion U.S. dollars in 2030, thereby requiring millions of machine-to-machine (M2M) payments to work in unified ecosystems. Moreover, there are already ongoing talks of the metaverse, a space where everything will be connected virtually. Telcos must accelerate the adoption and deployment of blockchain to navigate in an environment where everyone is connected through individual nodes worldwide without a need for any platform to access any digital space whatsoever. TR

> Blockchain helps in providing telecommunication companies the much-needed automation in their internal processes

Etisalat Group reports a 2% increase in consolidated revenues for Q3 2021 to AED 13.3 billion

The Group's consolidated revenue for the third quarter of 2021 amounted to AED 13.3 billion, representing an increase of 2% compared to the same period last year (AED 13.0 billion), while consolidated net profit after Federal Royalty amounted to AED 2.4 billion, representing an increase of 1% compared to third quarter 2020.

In the UAE, the subscriber base reached to 12 million, while Etisalat Group aggregate subscribers reached 155.4 million representing a year-on-year increase of 4%. Consolidated EBITDA amounted to AED 6.7 billion, and resulting in EBITDA margin of 51%.

A host of key developments also contributed to the company's overall performance.

- Etisalat named the world's fastest mobile network by Ookla for the second consecutive year
- Etisalat Group completed the process of increasing its foreign ownership limit in its share capital to 49%
- Etisalat Group signed an agreement to acquire additional stake in Maroc Telecom Group, increasing its effective ownership from 48.4 to 53.0%.
- Etisalat Group and G42 join forces to establish UAE's largest data centre provider
- PTCL's Ufone won nine megahertz of spectrum in the 1,800 megahertz band
- Etisalat Misr completed the first VoLTE call using virtual IP Multimedia Subsystem (IMS)
- Etisalat partnered with Orange to establish an inter-network packet exchange (IPX) point at Etisalat's smart data switch (SmartHub)
- Etisalat Digital launched cloud-based Electronic Medical Record platform to enable UAE healthcare establishments to share data instantly
- Etisalat Digital, Accenture and Oracle partner to offer SMBs and large enterprise clients in the Middle East Oracle cloud solutions across IaaS/PaaS/SaaS

Ooredoo Group reveals quarterly, 9M financial performance

Ooredoo Group released its financial highlights for both quarterly and nine-month analysis of 2021.

The consolidated revenue for the nine months stood at QAR 22.1 billion, an increase of 3% compared to the same period last year. This is mainly driven by growth in the markets of Qatar, Indonesia, and Tunisia while the consolidated customer base increased by 2% to exceed 120 million due to strong performances in Indonesia, Oman, Algeria, and Iraq.

Commenting on the results, HE Sheikh Faisal Bin Thani Al Thani, chairman of Ooredoo, said, "We reported solid results for the nine months ended 30 September 2021, driven by the ongoing implementation of our digital strategy and cost optimization program. Revenues increased by 3%, and our EBITDA margin improved to 45%, up from 43% from 9M 2020, despite the challenges presented to us due to COVID-19. We strive to provide reliable connectivity and innovative products to our customers, which has, in turn, resulted in increased customer confidence in the business and an increase in our customer base by an additional two percent."

Also commenting on the results, Aziz Aluthman Fakhroo, managing director of Ooredoo, said, "We are pleased to report the ongoing positive trend in the business as market activity improves in some of our core markets. This trend is even stronger excluding the FX impact with revenue growth of 6% and EBITDA growth of 10%. We remain optimistic about the growth of the business and look forward to continuing to deliver long-term value to all our key stakeholders."

Ooredoo Qatar, Huawei set to transform remote working of businesses

Ooredoo Qatar is now an official channel partner for providing the Huawei IdeaHub to businesses across multiple sectors, with the goal of transforming remote working.

Huawei's latest state-of-the-art smart board is a new device designed to revolutionize working from home and off-site. The IdeaHub comes equipped with an Android-based operating system, intelligent handwriting recognition, 4K screen & camera, UHD projection and video conferencing that supports all web conferencing applications, including WebEx, Microsoft Teams, and Zoom.

Ooredoo will offer the device through an exclusive introductory offer, making IdeaHubs (available in 65" and 85" versions) accessible on a lease-to-own basis.

Sheikh Nasser bin Hamad bin Nasser al-Thani, chief commercial officer at Ooredoo, said, "We anticipate huge demand for these products in Qatar, especially given the experiences of the past 18 months, so we aim to offer all our B2B customers this device. Partnering with Huawei in this way is an opportunity to further transform the process of remote working across many types of enterprise, keeping employees connected as clearly as possible while minimizing such problems as trails of cables with the IdeaHub's sleek and efficient design."

Zhao Liang, CEO, Huawei Gulf North, said, "Collaborative smart ecosystems are essential in a modern, connected office. The Huawei IdeaHub leverages cloud and AI capabilities to deliver a seamless, user-centric experience, designed to redefine a new style of collaboration and communication to enhance the way teams work and connect together, especially during remote working and learning. This is a key component of our new 1+3+X strategy, which will guide Huawei's innovation."

Zain KSA achieves 45% growth in profits for Q3 2021

Zain KSA has achieved stabilized profits for Q3 2021, recording 60 million riyals in profits compared to 42 million riyals for Q2 of the same year, posting a 45% growth while the company accomplished a growth rate of 4% during Q3 2021 upon making 1,984 million riyals in revenues.

These results reflect the company's ability to overcome the challenges imposed by the COVID-19 crisis which has affected most business sectors and restricted Hajj and Umrah activities in observance of the health prevention policies set to combat the pandemic. They also demonstrate Zain KSA's stable operational and financial performance, and its dedication to its strategy in aims to promote quality investments towards innovation and the implementation of high standards in areas such as governance, financial efficiency, and enhancing services.

The CITC has recently revealed that Zain KSA has ranked first in recording the fastest 5G speeds as well the widest coverage in the city of Riyadh. Zain KSA was also named the best (5G) network and data performance in Riyadh in this year's report from umlaut, placing the Saudi capital amid 5G pioneering cities worldwide such as Tokyo and Dublin.

Zain KSA has launched an electronics recycling program in cooperation with the National Environmental Recycling Company (Tadweer) for recycling the electronic waste as CSR policy to cooperate with the UN SDGs and the goals of Saudi Vision 2030 to improve the quality of life and protect the environment as per the "Saudi Green" and " Middle East Green" initiatives.

SpaceTech and telecom:

Strengthening connectivity

The International Telecommunication Union (ITU) and its members have come up with 'Connect 2030'- a strategy and accountability framework that aims to connect the world. The 'Connect 2030 Agenda for Global Telecommunication/ICT Development' focuses on how technological advances will contribute to accelerating the achievement of the United Nations Sustainable Development Goals (SDGs) by 2030.

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One of its primary objectives is to enable and foster access to and increase use of telecommunications/ICT in support of the digital economy and society. Among other targets, one of its top priorities is to cover 65% of households worldwide with internet access and enable 70% of individuals to use the internet on their devices by 2023.

Owing to this massive responsibility to get humans on the planet connected, the telecommunications industry has to think ahead and get ready to venture into new technological spheres with well-thought-out investments in disruptive technologies to survive in an ever-changing digital world. One such industry is the space industry, growing day by day – the global SpaceTech economy was valued at $380 billion in 2020 and is expected to grow to $10 trillion by 2030.

It is leveraging technologies like 5G, advanced satellite systems, 3D printing, big data, and quantum technology to bring reformation in its activities and operations in space. Given the developments in advanced space technology, critical services like weather forecast, remote sensing, satellite television and long-distance communication are relying heavily on space infrastructure.

Enhancing advanced communication

Modern space communications have gone beyond their reliance on transmitters and receivers alone. Recent developments in space communication include high capacity antennae, ground stations and low earth orbit (LEO) satellites. The growing constellation LEO satellites planned and being deployed by the likes of SpaceX, OneWeb, StarLink and others have triggered renewed interest in this sector. LEO satellites are expected to fuel the availability of high-speed broadband access at potentially reduced costs compared to conventional geostationary satellite systems. In addition, the satellite will complement terrestrial networks, such as broadband connectivity to home, remotely located office, or to enterprise sites as a backup.

Enabling backhaul connectivity

Cellular backhaul over satellite will have a tremendous role to play for mobile network operators (MNOs). Wireless satellite connectivity promises lower latency, reliability and cost-efficiency. Satellite backhaul can provide ubiquitous coverage as well as a worldwide network for faster deployment of voice and data services where fiber connectivity is absent. It

can also bring broadband connectivity to remotes or user equipment (UEs) on the move, such as airplanes, trains, vehicles, or maritime vessels. Moreover, mobile network operators can complement their 5G services with satellite connectivity to offload their terrestrial networks on a wide scale. They can leverage a satellite's in-built multicasting/broadcast functionality for new use cases, such as connected cars while preserving a high-value wireless spectrum for latency-sensitive services.

Critical communication in emergencies

Natural disasters and technical glitches can badly affect the consistent communications capabilities of terrestrial networks, such as land mobile radios (LMR) and cellular long-term evolution (LTE) services to assist victims and support operations during emergencies. Telecom operators can add more resilience to their networks by incorporating seamless satellite capabilities to LMR and LTE. Moreover, terrestrial networks do not cover entire geographies, especially in rural areas, and are limited to the LMR- or cellular-network footprint. Satellite communications can provide a ready option during such scenarios. An interoperable vehicular network system (VNS) with satellite-enabled push-to-talk (PTT) can combine LMR/LTE connectivity with a seamless and complementary path that allows satcom to supplement terrestrial cellular connectivity when such coverage is unavailable or inadequate.

Monitoring space data with technology

Furthermore, LEO satellites and multi-satellite constellations are collecting enormous data, including communication data, content and other information. Owing to the critical aspects of space data, tech companies need to process, treat and properly analyze them using disruptive technologies like AI, blockchain, and big data. Space data can be leveraged for precision tracking and monitoring for logistics and mobility sector requirements, especially in the light of the growth in the adoption of the internet of things (IoT), remote surveillance and tracking.

The need to clean the 'space mess'

Although the promise of satellite communication in helping the world connect in a better way is appealing in many ways, the reality of the situation is not as heartening. Years of sending rockets and carriers into space by humans have resulted in the accumulation of 'space debris' consisting of about 3000 dead satellites, 34000 pieces of space junk larger than 10 centimeters (stray bolts and paint chips, solid rocket motor slag, scattered fragments, etc). For now, this issue of 'space debris' does not pose a threat to humankind; however, there remains an impending danger of the aimlessly floating debris hitting and damaging the functioning spacecraft, which are at the moment 2000 in number.

Highlighting this issue during the CABSAT2021, Steven Doiron, executive vice president, regulatory & spectrum affairs at Yahsat, the Abu Dhabi-based multi-mission satellite services company, urged governments and satellite operators to work together internationally to improve space situational awareness (SSA) that allows for effective regulatory implementation and monitoring.

"We need everybody to participate by the same set of rules," he said. "Governments should support research and development efforts both nationally and internationally to improve space situational awareness." Doiron further said that regulatory frameworks governing commercial and non-commercial missions should incorporate space debris mitigation requirements to proactively mitigate risks while giving operators flexibility on meeting the requirements.

Inclusive development

There is no doubt that the combined capabilities of space technology and telecom will push forward the reach of digital services to remote areas and lead to a more connected world with wider business operations and greater human inclusion. Moreover, the two sectors can explore opportunities for cooperation in areas such as artificial intelligence, cybersecurity, and the fourth industrial revolution-related operations. The time has come whereby satellite can no longer be a separate, standalone network. It must converge as a standard radio interface within the multi-radio network architecture of 5G. However, to realize that future, industry players must take out time to study global best practices in areas such as spectrum management and come up with suggestions that would contribute towards the formulation of policies that will improve the efficiency of satellite services. Industry-standard bodies need to ensure that future solutions are compatible with the evolving 5G standards to accommodate satellite technology. Research organization, academia, startups, manufacturers, service organisations must come up with recommendations for governments and policy makers to formulate sector specific policies for seamless interoperability as we usher into a new development era driven by increasing digital demand. TR

Telecom Review Group CEO and founder chairs attention-grabbing panel with industry leaders at the Huawei Arab innovation Day conference

Huawei's Arab Innovation Day Conference took place on October 19 at Dubai World Trade Centre's Al Multaqa Ballroom on the sidelines of GITEX Global. The packed hall had attendees ranging from government leaders, academia, industry experts, and regulators to discuss and share the role of ICT across the Arab region.

The initial key note speeches were addressed by Catherine Chen, senior vice president, director of the board & president of public affairs & communications dept, Huawei; HE. Dr. Ahmad Belhoul Al Falasi, minister of state for entrepreneurship and SMEs, UAE; HE. Arkan Shahab, minister of communications, Iraq; HE. Ahmad Al Hanandeh, minister of digital economy and entrepreneurship, Jordan; H.E. Sameera Ebrahim Bin Rajb, The Special Envoy for thye Royal Court, minister, Bahrain; Wang Tao (David Wang), executive director of the board, chairman of ICT Infrastructure managing board.

The first session of panel discussion covered digital transformation under the theme 'ICT innovation to drive digital transformation in the Arab World'.

The speakers featured in the panel comprised of Adel Darwish, regional director, ITU; Dr. Ammar Alhusaini, deputy director general, central agency for information technology (CAIT), Kuwait; Dr Jassim Haji, president, international group of artificial intelligence; Dr. Fahem Al Nuaimi, CEO, Ankabut; and Ghazi Atallah, former CEO, NXN.

Toni Eid, CEO of Trace Media and founder of Telecom Review chaired the discussion.

The first question put across by Eid to the panel was: What are the gaps and challenges in the digital transformation journey that ICT ecosystem stakeholders need to overcome, particularly in light of the pandemic influence?

Taking on the question, Dr Fahem Al Nuaimi said that from an educational perspective, the ICT sector needed to foster quickly in terms of not only storage capacity but faster networks for the education faculties for them to be able to deliver the goods to students. He felt that ICT innovation in education sector was at the start and needed efforts from vendors, governments and system integrators to establish this ecosystem in the region.

Adding to the conversation, Dr Ammar Alhusaini said that without a roadmap, organizations might risk the change of "cruising in the wrong direction." He also said the human factor in digital transformation is important. He said that digital skills were in shortage and that reskilling and upskilling in the new areas of technology was key. He stressed on the importance of "understanding the real meaning of digital transformation." He also cited a McKinsey report of 83% of digital transformation initiatives failing because of a good strategy.

Adding an artificial intelligence (AI) perspective to the discussion, Dr. Jassim Haji said that digital transformation represented a wide statement interpreted differently by different people. He added that "digital transformation has become AI transformation." He said that what was happening in 5 to 6 years was now happening at a much faster pace. "Deep learning is taking over, cyberspace has witnessed a lot of hackers using AI to do so. AI is a must to defend your entire network, there is no balance between victims and attackers," he stressed.

The second part of the question, Eid steered the conversation towards how each member of the ICT industry (ITU, GSMA, regulators, ICT ministries, operators, technology vendors, etc) can contribute to overcome the pain points of digital transformation and contribute to its future path of digital transformation in the Arab World.

"Technology is speeding fast, whereas regulation and policy are very slow. ICT members should foster regulation, policy and governance," he responded. He emphasized the need for the regulators to come up with relevant policies in an urgent manner.

From his viewpoint, Adel Darwish felt that digital transformation was seen and perceived differently by different sections of people. "At ITU, we have different stakeholders where we try to develop best case practices. We try to engage with government and vendors by taking into account the national agenda of nations in ICT sector," he said. He also added that cybersecurity is an important element. "Who takes the lead? Is it vendors, ITU or ICT sectors?," he inquired. "Digital transformation is a transformation of business, of end user. At ITU, we bring stakeholders together and assist governments develop such indicators that we collate from globally."

From a governmental perspective, Dr. Ammar Alhusaini said that digital transformation was "all about the citizens and it is up to the government to quicken the process." He also said that international indices have shown that some countries from the Arab world lacked in electronic services. When while Dr. Jassim Haji stressed upon the importance of regulation when it came to the adoption of newer technologies.

Ghazi Atallah added that in the front end, people are interacting online, and that efforts needed to be focused on facilitating the back end to enhance user experience. He suggested that we should ask the question of what do we need to transform internally either as government or enterprise. "It has to be outcome-based transformation," he stressed. He said that the backhand processes needed to be addressed holistically. He suggested identifying the missing factor, the whys and hows before designing the processes. "We want to be related to be simple solutions based on outcome."

It has been a global acceptance that the Covid 19 pandemic accelerated digital transformation; but the conversation tried to understand what the positive outcomes from the event were.

To that, Adel Darwish said the "pandemic benefited all the industries that moved in the direction of innovation." He cited the examples of video conferencing products like Zoom and Microsoft who were able to roll out innovative communication solutions as well as governments using technology to provide better health solutions. "Whoever innovated and made it simple benefited, and that should be the way forward," he opined.

Dr. Fahem Al Nuaimi said that from an education point of view, it was very difficult to convince people to adopt cloud; however, due to the pandemic the adoption of cloud, along with AI, IoT. "Secondly, it has changed rules. Today, you can get PhD degrees online, so technology has evolved," he said. He also pointed out that technology has expanded vastly but there are "pain and challenges." "Data base management is a problem, security has become a challenge."

Dr. Jassim Haji viewed the responses during the pandemic in our region as more of a "patching" rather than innovation as compared to some developed countries. However, he said that many areas opened the virtual interaction and said that more of international virtual class rooms will come up. "Virtual counselors will directly interact with students. Chatbots will play a major role, communication will be easier," he said.

Responding to the view, Dr. Ammar Alhusaini felt that the pandemic accelerated the digital transformation were based on the readiness of countries. He said that the pandemic taught countries how to operate as government and countries in terms of infrastructure, data and security. "From IT point of view, cloud application helped us to fight the pandemic. You need to get ready for the next phase from what we learnt. He also stressed on importance of the hybrid model in the post pandemic economic recoveries.

Ghazi Atallah cited the example of Uber, the hailing taxi app, and how it changed the way we ride taxis. He stressed that it is still the taxis that take us from point A to point B but it is the innovation in leveraging technology that changed the way you interacted using technology. He stressed enterprises need to figure out how certain technology will disrupt and impact their industry. "People who understand this best will move forward. Dubai is using technology to achieve this end," he added.

The final question of the panel discussion was: "In the 4th industrial revolution time, integration of new technologies such as 5G, Cloud & AI for the benefit of driving digital transformation, verticals and industries businesses and services growth and building the digital economy is key. Tell us about your vision and plans to integrate the deployment of advanced technologies in an open collaborative way. What are the collaboration areas you see as a priority, needed for shared success? TR

Etisalat Group and G42 join forces to establish UAE's largest data center provider under Khazna Data Centers

Etisalat Group and G42 announced the signing of a binding agreement to merge their data center (DC) offering in the United Arab Emirates (UAE). A total of twelve data centers will be combined in a new joint venture business operating under Khazna Data Centers, creating the UAE's largest data center provider.

G42 and Etisalat Group will each own sixty percent and forty percent of Khazna Data Centers, respectively. The agreement allows both parties to increase the value of their infrastructure assets contributed to the joint venture while also optimizing process and resource utilization, without impacting their respective commercial positioning, client relationships and leading market positions. Furthermore, Khazna Data Centers will continue to develop the existing business and explore new business opportunities, both in the UAE and abroad.

Eng. Hatem Dowidar, chief executive officer of Etisalat Group, said, "Etisalat and G42 are embarking on a bold new journey which will allow us to leverage our investments and expertise to deliver next generation digital infrastructure. Keeping in line with our overall strategy and vision of 'Driving the Digital Future to Empower Societies', we at Etisalat are committed to a total transformation of customer experiences."

Peng Xiao, group chief executive officer of G42, commented, "We are honoured to partner with a leading telecom operator like Etisalat Group and strengthen the UAE's data center proposition and economic ambition for the future. As data storage and cloud infrastructure demand continues to rise in the UAE and globally, this new partnership will allow the country to accelerate its digital transformation journey."

Nokia deploys data center interconnect solution in Middle East

Nokia has been selected as the prime supplier by ARC Solutions to provide a high-capacity data center interconnection solution in the Middle East. The initial deployment, covering four major business locations, was deployed in a record time of six months to meet increasing traffic demands from ARC customers in the region.

Manuel Ortiz Fernandez, SVP of EMEA Webscale business at Nokia, said, "ARC has broad knowledge and deep experience serving some of the largest and most dynamic businesses in the Middle East. We are pleased that ARC has chosen to deploy our industry-leading IP/optical solution to bring high-speed data center connectivity to its customers in the region."

ARC, a joint venture between UAE's du and Bahrain's Batelco, has deployed Nokia IP and optical solutions to provide high-capacity connectivity between SmartHub (UAE), datamena (UAE), GlobalZone (Bahrain), and Muscat MC1 (Oman). Network-centric organizations are able to benefit from seamless high-speed interconnection with a growing ecosystem of ICT platforms across the region, including local network providers, cloud providers, and internet exchange platforms.

Mahesh Jaishankar, CEO of ARC, said, "The Nokia solution gives us the ability to offer our customers rich, reliable, and secure connectivity over a purpose-built platform between all key Middle East data center locations. As a focused middle-mile network service provider, ARC is building a robust, resilient, and flexible pan-regional data center interconnect network that will allow customers to connect their last-mile solutions to the cloud and other service providers. The initial deployment across four key locations was completed in record time with Nokia's help during COVID."

du expands its nationwide data center footprint

du, from Emirates Integrated Telecommunications Company (EITC), has announced the official opening of two new data centers that will equip enterprises across the UAE with next-generation digital infrastructure.

Kizad Abu Dhabi and DSO Dubai will support clients' digital transformation aspirations and accelerate deployment providing agile, resilient, secure, and scalable solutions. The introduction of these facilities forms part of du's commitment to expand its nationwide data center footprint and provide local businesses with the infrastructure their workloads require in the evolving digital landscape.

Backed by proven infrastructure trusted by cloud service providers, government, and financial services, du's purpose-built and carrier-neutral data centers eliminate digital transformation risks from any equation. The state-of-the-art facilities ensure enterprises benefit from a growing ecosystem of world-class infrastructure delivered with local knowledge and expertise at a lower cost and managed according to the highest required standards.

Fahad Al Hassawi, CEO at du, said, "As digital transformation continues to accelerate exponentially, those we serve require cutting-edge capabilities and infrastructure to realize their aspirations and deliver on their commitments to customers. At du, we are proud to uphold our support for the national enterprise community with these new facilities. The unveiling of Kizad Abu Dhabi and DSO Dubai is the latest representation of our enduring determination not only to drive innovation, but also provide enterprises with the tools they need to build comprehensive digital platforms crucial to present and future business success. "

Both Kizad Abu Dhabi and DSO Dubai have been designed with the latest power and cooling management technologies enabling best-in-class efficiencies and resilience.

2Africa set to be world's longest subsea cable system

The 2Africa consortium, comprised of China Mobile International, Facebook, MTN GlobalConnect, Orange, stc, Telecom Egypt, Vodafone and WIOCC, announced the addition of a new segment — the 2Africa PEARLS branch — which extends to the Arabian Gulf, Pakistan, and into India.

The new 2Africa branch joins recently announced extensions to the Canary Islands, Seychelles, Comoros Islands, Angola, and a new landing to south-east Nigeria. This extension will bring the total length of the 2Africa cable system to over 45,000 kilometers, making it the longest subsea cable system ever deployed.

As announced in May 2020, 2Africa was planned to directly bring seamless international connectivity to 1.2 billion people. With 2Africa PEARLS, an additional 1.8 billion people will be reached. In total, this subsea cable can serve 3 billion people, representing 36% of the global population.

To support the global digital economy, the expanded system will serve an even wider range of communities that rely on the internet for services from education to healthcare, and businesses, providing economic and social benefits.

As with other 2Africa cable landings, capacity will be available in PEARLS landings at carrier-neutral facilities or open-access cable landing stations on a fair and equitable basis, encouraging and supporting the development of a healthy internet ecosystem. Alcatel Submarine Networks (ASN) will be responsible for deploying the new system, utilizing new technologies such as SDM that allow up to 16 fiber pairs.

As it connects three continents terrestrially through Egypt, 2Africa creates unique connectivity by adding vital landing locations in Oman, UAE, Qatar, Bahrain, Kuwait, Iraq, Pakistan, India, and Saudi Arabia.

Sovereign data:

Data belongs to whom?

Every search, purchase, download, and e-mail we do online is building a digital representation of our self. Our data is stored on a server somewhere locally or internationally which brings up the question of who owns the data – is it us, the individual, or the company collecting it? What laws should it be compliant with?

According to the World Bank, by 2022, global internet traffic is expected to have a 1,000-fold increase, reaching 150,000 GB of traffic per second. Some of that data will be governed by regulations specific to the location it originated from. Hence, if you are a business whose data crosses borders via the internet, you must be able to ensure that you comply with these regulations. Otherwise, fines and other penalties may arise.

Given the vast amounts of data that are being used and produced at present, exploring the way that various states assert control over data on behalf of their citizens is necessary for both innovation and national security. Known as data sovereignty, this simply means that data is subject to the laws and regulations of the location where the data is collected and processed.

Defining data sovereignty

Data sovereignty is a country-specific requirement wherein the data must remain within the jurisdiction where it is generated. At its core, data sovereignty is about protecting private and confidential data. This ensures that the data would remain under the control of its owner and the country of origin.

Among the most popular regulation related to data sovereignty is GDPR, which took effect in 2018. In order to be GDPR compliant, organizations must implement and maintain security procedures to protect EU residents' private data from unauthorized access. In addition, several other data collection and protection measures are taken into consideration.

Bear in mind that data sovereignty is more of a legal issue than a technical one. Laws vary from country to country, but the most common governance you'll see is restricting some types of data to leave the country at any time. Regulations on data encryption and data handling are also implemented.

The use of public clouds that have regions and points of presence (PoPs) around the world complicates how these rules are being followed. Misconfigurations and lack of understanding lead to penalties, impacts on reputations, and, in some cases, prohibits the overall use of cloud computing.

Data is becoming one of the most leveraged assets in today's world. Thus, government efforts are enforced to prevent their citizens' data from falling into the wrong hands. How is this being done? By compelling businesses to be mindful of how they transfer personal information beyond their country's borders. Citing as an example, in the UAE, data sovereignty laws, regulations and standards dictate that all sensitive data – whether it be personal, government, financial, or medical – should not be hosted elsewhere.

With robust data sovereignty measures, if the business fails or refuses to comply, the host country's government can impose a fine or force the company to align with the necessary provisions. As companies navigate with respect to geopolitical landscapes, data sovereignty has grown into an important topic – especially with the ongoing digital transformation involving the cloud.

Cloud affects sovereign data

Data sovereignty has been put into the spotlight with the rise of cloud computing. Countries have eventually passed laws to regulate and control data storage and transfers. Data requirements used to be easy to maneuver in traditional on-premises computing when data was stored in data centers owned by local companies. On the contrary, data in the cloud can be stored and accessed across borders, giving companies additional responsibility to pay close attention to how they are managing their data in different locations.

It is a must to address data sovereignty as SaaS, cloud, and hosted services are being adopted more rapidly than ever. In a typical multi-cloud architecture, there can be two or more public clouds and potentially additional private clouds. With this in mind, to manage data orchestration, the company must stipulate storage locations.

Because of data sovereignty issues, a multi-cloud architecture can be at risk of violating multiple nations' data sovereignty regulations. Carefully choosing a cloud vendor should be done because running applications and services with scattered data centers can be subject under strict sovereignty laws.

The widespread adoption of cloud services, as well as new approaches to data storage, have broken down conventional barriers. In response, many countries have regulated new compliance requirements that mandate customer data to be kept within the country the customer resides. Verifying that data exists only at allowed locations can be difficult, requiring the cloud customer to trust that their cloud provider is completely honest and open about where their servers are hosted. This is in adherence to signed service level agreements (SLAs).

One approach to maintain data sovereignty is encryption. By encrypting data and hosting their own encryption keys, organizations can ensure data protection, regardless of where it is shared or stored. Because of that, end-to-end encryption is achieved across the entire data life cycle.

Thus, protecting private data is a smart business decision as companies gain the confidence to select the global cloud partners that best meet their needs while maintaining complete ownership over their data. After identifying a cloud provider and the region to be covered, the complexity of meeting data sovereignty rules is reduced to maintaining policies that align with that specific location.

In a nutshell, as an operating business, you must know where your data is stored and then take the necessary steps to ensure that you comply with the legislation that governs that region. Moreover, you also need to ensure that your cloud provider offers tight security protocols to follow in case of a data breach, or in case you need to retract any data.

In Europe, enterprise cloud decisions are heavily influenced by authorities. As legal environments evolve and data protection importance grows, the idea of a sovereign cloud then emerges and becomes highly relevant. Among those who are working towards this are Deutsche Telekom, Orange, and TIM which are all members of the Gaia-X federated data infrastructure initiative. This initiative aims to create a framework for interoperable cloud services that meet European requirements and reduce dependency on US hyperscalers.

Outlook in the Middle East

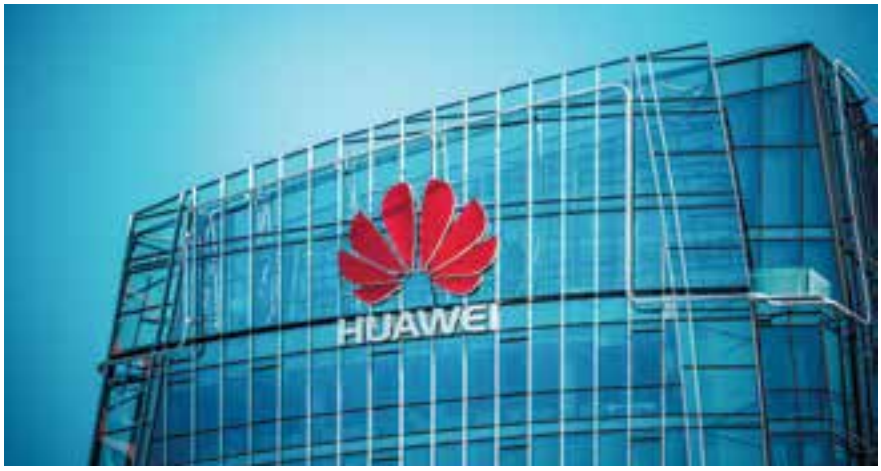
Governments in the Middle East are actively tackling unprecedented political, social, and technological changes. Alongside pushing for a sovereign data governance approach, Saudi Arabia, the UAE, and Egypt — the biggest regional economies — have been implementing massive digital transformation strategies. The flipside? Increased exposure to cyberattacks.

Looking ahead, companies based in the region need to acknowledge the importance of a comprehensive approach as they aim to establish a cloud-risk management framework. Realizing the importance of data sovereignty when it comes to keeping citizens' data within national boundaries, local governments began issuing new deals of laws and regulations.

In February 2020, Egypt approved the Personal Data Protection Law No. 151. This law prohibits any personal data transfer to recipients located outside the Arab country. An exception to this can be granted with the permission of the Egyptian Data Protection Center. Also in 2020, the minimum cybersecurity requirements for cloud computing were released by the Saudi National Cybersecurity Authority (NCA). These are stated under the Cloud Cybersecurity Controls (CCC) document.

While in the UAE, data protection laws similar to the GDPR have been carried out in the Dubai International Financial Center (DIFC) and Abu Dhabi Global Market (ADGM) free zones. Challenges surrounding cyberspace and data issues in the Gulf region are set to intensify, putting pressure on advanced technologies and digital applications to provide services to citizens and protect their economies as a digitally powered future unfolds. TR

Huawei releases January-September 2021 business results



During the first three quarters of 2021, Huawei generated CNY 455.8 billion in revenue ($71.3 billion), and its net profit margin was 10.2%.

Commenting on the company's latest business results, Guo Ping, Huawei's rotating chairman, said, "Overall performance was in line with forecast. While our B2C business has been significantly impacted, our B2B businesses remain stable. Through our ongoing commitment to innovation, R&D, and talent acquisition, and rigorous attention to operating efficiency, we are confident we will continue to create practical value for our customers and the communities in which we work."

"We would like to thank our customers and partners for their ongoing trust and support," continued Guo. "With their collaboration and the excellent work and dedication of our Huawei team across the globe, we will together use digital technology to drive a greener, intelligent world."

As the Chinese telecom giant continued to struggle under US sanctions that have hit its smartphone sales, Huawei's revenue plunged by 32% in the first three quarters of the year. Despite that, the firm's net profit margin — a measure of the ratio of profits to revenue — increased slightly to 10.2%, attributing that to increased operational efficiencies.

Known as one of the world's biggest telecom equipment vendors, Huawei is also competitive as a smartphone producer, along with Apple and Samsung. Regardless of the ongoing US pressure, Honor, the Chinese smartphone brand spun out of Huawei, saw shipments soar during Q3, becoming the country's third-ranked brand.

Nokia shows strong profits and financial investments in Q3 2021

Nokia's financial report for Q3 was published showing strong profitability and cash generation. With the reported results, an impressive 130% y-o-y change on net cash and current financial investments, from €1,869 mln to €4,300 mln, is noticeable. This is followed by 100% EPS diluted from €0.06 to €0.03, 78% profit for the period surging to €351 mln from last year's €197 mln, and 43% increase on operating profit from Q3 2020's €350 mln to Q3 2021's €502 mln.

The financial metrics declared also include strong sales growth in Network Infrastructure (+6% y-o-y constant currency) and Cloud & Network Services (+12%); comparable gross margin of 40.8%, reflecting continued strong execution across the business; Mobile Networks comparable gross margin of 37.8% (+220 bps y-o-y), displaying better cost competitiveness; comparable operating margin of 11.7%, proving strong financial accountability of new operating model; and strong free cash flow generation of €0.7bn.

Commenting on Nokia's Q3 financial results, Pekka Lundmark, president & CEO, said, "Overall, I am pleased with our strong financial performance in 2021 so far. We continue to expect seasonality to be less pronounced this year than previously and are reiterating our full-year 2021 outlook. Considering our continued strength, we now expect to be towards the upper-end of our comparable operating margin range. As we look ahead, we believe we are well-positioned to capitalize on strong demand in our end markets through strengthened technology leadership and improved cost competitiveness."

Huawei Digital Power views Middle East, Gulf regions with 'strategic importance'

As enterprises in the Middle East progress in their digital transformation mindset, Charles Yang, president of Huawei Digital Power global marketing and sales service, sees the Middle East region and the Gulf specifically as one of "strategic importance" to the company as it seeks to contribute to a low-carbon, smarter society powered by digital technologies.

The executive notes that, globally, almost 40% of carbon emissions now come from electric systems. "Many countries have proposed their timeline to achieve carbon neutrality, but to be able to deliver that goal, we need to build electric systems based on new kinds of power sources," says Yang.

It is one of several priorities that Huawei Digital Power has in the Gulf region over the coming years. Founded earlier in 2021, Huawei Digital Power now looks at five areas of business globally: Smart PV, data center facilities, mPower for electric vehicles, site power, and integrated energy solutions. "While we will have cooperation with business in all of these five domains in the GCC, I believe that Smart PV and data center facilities are particularly important," comments Yang.

With some of the longest sunlight hours in the world—estimated at 2,500 hours per year—Yang asserts that there are great opportunities for large-scale deployment of PV and energy storage systems in the region. To that end, Huawei Digital Power has already established strategic partnerships with many companies to support their deployment of such systems, not only in the region but also globally.

CommScope simplifies field installation of future fiber networks

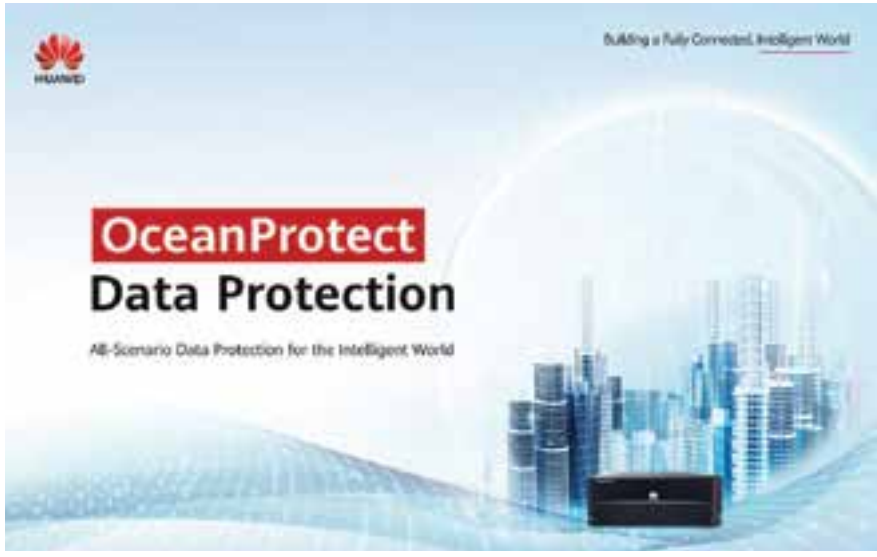
CommScope announced its new hardened connector Prodigy ™, designed to accelerate and simplify field installation for the fiber networks of the future.

The Prodigy system utilizes universal, small-form hardened connectors for interoperability across different fiber terminals and cable assemblies. The compact footprint enables smaller, higher-density terminal footprints, while the self-aligning connectors minimize the chance of connection errors. To facilitate cable changeouts and upgrades, the system allows converter attachments to be deployed without replacing or splicing the drop cable.

"Prodigy revolutionizes network architecture by making FTTH installations truly plug-and-play," said Rob Wessels, vice president, Network Cable, CommScope. "We worked closely with our global operator customers to create and refine Prodigy—applying our broad vision for faster and simpler FTTH networks to building the best connector solutions. These hardened connections will enable operators to simplify installation and minimize their cable footprint today while facilitating the necessary upgrades and maintenance to their networks for years to come."

Prodigy addresses the key demands of modern FTTH installations: speed, density, reliability, flexibility, scalability, and ease of installation. Highlights of the Prodigy system include the ff: universal, small-form hardened connector for high-density environments; self-guided automatic alignment with self-locking mechanisms for eliminating connection errors and accidental release; break-free design enabling reuse of the Prodigy connector in the event of field connection issues; and cable assemblies available with 5mm round and figure-8 cables in lengths up to 600 meters.

Huawei launches OceanProtect data protection solution for ME



Huawei announces the launch of OceanProtect data protection solution high-end storage products and solutions for the Middle East region.

From enterprise storage to distributed storage in massive data scenarios, to data backup storage, Huawei storage has covered all categories in the Middle East region and will provide customers with more comprehensive and high-quality storage solutions.

OceanProtect data protection solution covers both disaster recovery (DR) and backup fields to offer comprehensive protection for diversified types of data throughout the lifecycle. It belongs to the Huawei all-flash data center solution to build the fast, green, reliable, and intelligent infrastructure for various industries.

The solution is built on the concept of "full DR of hot data, and quick backup and restore of warm data", which ensures zero service interruption, zero data loss, and long-term data retention.

Commenting on the launch, Robert Jin Feng, director of the data storage solution sales department at Huawei Enterprise Business Group Middle East, said, "In DR scenarios, it provides various features, such as gateway-free active-active or 3 data centers solutions, one-click DR drills, and failover (within seconds). In backup scenarios, the OceanProtect X series provides fast backup and recovery, efficient space reduction, unified SAN and NAS DR backup, and one-click recovery, achieving zero data loss and zero RPO."

Huawei OceanStor storage has been deployed in more than 150 countries for more than 12,000 customers in a variety of sectors, including carriers, finance, government, energy, healthcare, manufacturing, and transportation.

Cisco reveals key technology trends that will emerge in 2022

Looking ahead, Shukri Eid, managing director for the Gulf Region at Cisco, sees four important trends that will have a major impact on the business and communities around the world.

First, the expansion of 5G and Wi-Fi 6 networks will improve bandwidth, speed, and latency, and reach areas where fiber is prohibitively expensive. As a result, frontline mobile workers, telehealth, manufacturing, and education will all benefit. This in turn will level the digital divide as these new technologies spur growth and innovation for millions. As workforces become more mobile, especially with remote working arrangements gaining widespread popularity, businesses would require even more agility moving forward. "Through using observability solutions, teams can shift to keep an eye on the data and insights that matter.

Another major trend the Cisco executive sees emerging is the potential of mobile applications to transform customer experiences to brand excitement. Companies that can turn huge amounts of real-time information into actionable initiatives in an immersive and personalized way can transform baseline customer satisfaction into deep customer engagement, excitement, and loyalty.

Finally, Eid believes consumption models for technology will continue to shift, especially as more features and capabilities become available via software, whether on-site or in the cloud. "These pay-as-you-consume models are far too flexible and cost-effective to ignore. They will enable organizations to pay only for the technology features they need, and can then quickly scale other services when required," he concluded.

Ericsson's Cloud IMS to modernize and expand voice services in Jordan

Ericsson and Zain Jordan have signed a strategic agreement at GITEX GLOBAL for the modernization and the expansion of voice services using the existing Ericsson Cloud IMS (IP Multimedia Subsystem).

The strategic modernization of Zain Jordan's network will support the migration of current 2G and 3G voice services to 4G/LTE networks.

The agreement supports capacity expansion using the Ericsson Cloud IMS solution to enable voice-over LTE (VoLTE) and Wi-Fi calling for businesses and consumers across the Hashemite Kingdom of Jordan.

The voice-over LTE services are a significant network enhancement for Zain Jordan, increasing its capabilities to further accommodate voice calls on different smart devices and wearables. Additionally, Wi-Fi calling gives customers the chance to make phone calls using only a wireless internet connection increasing the communications opportunities available over Zain Jordan's network.

According to Zain Jordan, the agreement will have a positive impact on its network and the experience of its customers. The Cloud IMS solution will enhance the performance of the network by making calls over VoLTE networks and wireless communications over the Wi-Fi network, and offering Zain Jordan's customers superior quality voice calls.

Ericsson Cloud IMS will advance the experience of customers overall with improved voice and communication services in Jordan. The Cloud IMS solution delivers rich real-time communication services for both consumer and business users over any access network, for any device type, including smartphones, smart speakers, and wearables, and supports Zain Jordan's goals for advanced network capabilities in the Hashemite Kingdom of Jordan.

Qualcomm's new RF filter to enable next-gen 5G and Wi-Fi solutions

Qualcomm Technologies announced the Qualcomm® ultraBAW RF filter technology for bands up to 7 GHz, another innovation that builds on the company's modem-to-antenna solution.

Radiofrequency (RF) filters isolate radio signals from the different spectrum bands that phones use to receive and transmit information. The new Qualcomm ultraBAW RF filter technology will enable both 5G and Wi-Fi solutions to access spectrum up to 7 GHz, delivering high performance at higher frequencies. Access to the sub-7 GHz spectrum will enable next-generation mobile devices, laptops, as well as numerous solutions for automotive, IoT, and industrial applications to benefit from 5G and Wi-Fi co-existence, leading to enhanced performance and power efficiency indoors and outdoors.

By increasing frequency support from 2.7GHz to 7.2GHz, Qualcomm ultraBAW now provides support for critical Wi-Fi bands including 5 GHz and the newly adopted 6 GHz band for Wi-Fi 6E and future Wi-Fi standards. Devices with Qualcomm ultraBAW technology will be able to enjoy enhanced transmission rates and location services, among other benefits.

Christian Block, senior vice president and general manager, RFFE, QUALCOMM Germany RFFE GmbH, says, "Qualcomm Technologies is working with industry-leading OEMs to develop the next generation of connected devices, allowing consumers to seamlessly enjoy peak performance from 5G NR and Wi-Fi networks, wherever they're streaming videos, downloading files, or enjoying extended reality experiences."

Products enabled with Qualcomm ultraBAW filter technology is currently sampling to customers. Commercial devices featuring the technology are expected to launch in the second half of 2022.

Expanding Egypt:

Local, young talents to cultivate ICT growth

Technology and its innovations are among the fastest-growing areas of our economy. Smartphones, hybrid work setup, sensor-based controls, contactless shopping, cloud-native virtual networks – all these things and more are being created, maintained, and upgraded by Science, Technology, and Engineering (STEM) professionals.

Around the world, finding and developing ICT talent as industry demands for ICT workers increase are crucial areas to focus on. The challenging part is the supply of qualified STEM candidates is still yet to increase.

It is necessary for the digital economy and its communities of today to become more growth-based, entrepreneurial, competitive, innovative, and diversified – and ICT talents are a key part of this. Young people, in particular, must fully comprehend the opportunities available for those with a STEM background. Citing as an example, as societies become more digitally connected, cybersecurity threats become more evident and require more people with ICT and cybersecurity skills to combat the threat.

With the modern era marked by an explosion of information, fueled by the development of technology, strengthening the ICT talent ecosystem is more important than ever as investments in these sectors continue. The ICT sector as a whole, with AI, cloud computing, big data, IoT, and 5G, among the most important ones, form the basic building blocks of our intelligent society.

These advanced technologies are needed for our progress, but we cannot benefit from them fully without investing in building the ICT talent ecosystem. Talent is required to maintain the current momentum of digital progress and among the world's leaders in ICT, the Middle East has recognized the need to invest in

the ICT talent ecosystem. Telcos are among those who form initiatives and partnerships that enable students to learn the skills needed to enter and compete in a tech-driven job market.

In reality, investment in building the young and local talent ecosystem will not only build the ICT landscape but would propel us towards realizing a sustainable, knowledge-based future. Together, a ripple effect must be created to prepare the next generation of ICT experts who will lead us into a better, brighter, and more advanced tomorrow.

Boosting ICT talents and their impact

Ultimately, closing the gap on the ICT skills required in today's workforce will help to bridge the digital divide. That will in turn benefit not only the Middle East region but also all nations in the world by cutting unemployment rates, strengthening the local ICT talent ecosystem, and driving the long-term development of all industries.

Today, the Middle East is in the midst of the fourth industrial revolution (4IR) – from smart cities to space exploration, the region is harnessing the full value of technology to benefit individuals, governments, communities, and enterprises. Having enough and qualified ICT talents are required to realize these ambitions. Truly, people are an enabling factor in achieving digital transformation.

The World Bank estimates that the MENA region will need to create 300 million jobs by 2050 to meet the employment needs of the region's youth. Thus, training local talent in the skills that will enable them not only for employment but to contribute to the digital future of the region, is therefore a must.

By investing in academic partnerships focused on STEM topics and specialized tech domains, upskilling the existing workforce through formal training and on-the-job programs are core aspects that can be done by both public and private sectors.

One of the most active players in the ICT talent development in the region with more than 100 ICT academies is Huawei. During a previous online media roundtable, then president of Huawei Middle East who is now president of Huawei Digital Power Global's marketing and sales department Charles Yang talked about Huawei's 2021 plan in talent development. He said, "In regards to talent developments, we have several programs such as Seize the Future ICT competition, ICT academy, and ICT labs. Last year, we cooperated with more than 20 ministries, 400+ universities in organizing the ICT competition attended by 15,000 students. These efforts will be continued and we will leverage this platform to inspire more students to learn ICT knowledge."

Egypt's potential as a competitive ICT talent hub

Over the past decades, Egypt has witnessed a major technological development and an outstanding revolution in the ICT domain. In fact, Egypt's ministry of planning and economic development plans to raise the contribution of the telecommunication and information technology sector in the state's GDP to 5% by 2025.

Hailed as the new Arab digital capital for 2021, Dr. Amr Talaat, minister of telecommunications and information technology of Egypt, shared the country's vision which consists of three pillars that aim to create an Arab digital society: digital transformation, capacity and digital skills building, and driving innovation.

Focusing on the second pillar, new generations of Egyptians now have plenty of opportunities for ICT skills development and professional training. Egypt possesses a competitive and balanced, economy, making it rich in human resources with diverse and growing talents and capable of learning and innovating.

Huawei has undeniably played a pivotal role in developing the skills of Egyptian youth over the past years. This came as part of their strategy in aligning their goals with Egypt 2030 Vision and working harmoniously with the Egyptian government in creating a better future for the young people.

Mr. Tim Zhou, CEO of Huawei Egypt CNBG, said, "I would like to express my elation towards the cooperation with our partners in success for empowering young Egyptian carders. This program is also believed to enhance the role of digital transformation and will also offer job opportunities to young graduates who enjoy competitive skills and capabilities. This will positively reflect on the performance and development of the ICT sector in Egypt. We, at Huawei, are well aware of the role that youth play in developing this sector, so we are endeavoring to stimulate the state's strategies that strive to underpin the digital transformation in Egypt, within the framework of Egypt's 2030 vision and its determination to empower and enhance the potential of the young Egyptian cadres."

It is no surprise that Huawei's programs continue to be a successful case study in Egypt. Starting in 2019, Huawei Egypt introduced the ICT Talent Bank (iTB) program which aims to participate in the capacity building for ICT talents required to implement Egypt's digital transformation strategy. It also targets making Egypt the center of excellence & ICT talent hub in the region. In line with this, the Huawei Academy has established 70 academies at Egyptian public and private universities and became a key member of the Digital Egypt Builders Initiative (DEBI), enabling ICT graduates' to hone their skills with the updated technologies and practical experience.

Yousry Atlam, CEO of Huawei Academy in Egypt, said, "The iTB program consists of three phases. The first phase is 'access', which aims to communicate with students and recent graduates in various Egyptian universities, while the second phase focuses on 'training', and then comes the third phase, which is the most important one, as it is all about 'employment', and it is designed to provide job opportunities for students and distinguished talents at Huawei or any of the companies operating in the communications and information technology sector. This will contribute to bridging the digital gap in the labor market as a result." TR

Fahad Al Hassawi, CEO, Emirates Integrated Telecommunications Company (du)

Technology lives in harmony for the benefit of humanity, says du CEO

In an exclusive interview with Telecom Review, Fahad Al Hassawi, CEO, Emirates Integrated Telecommunications Company (du) talks about forging new partnerships and future innovations, during GITEX202.

du in collaboration with Digital DEWA implemented the region's first industrial private 5G slicing through 5G stand-alone technology, what other innovations can we expect from the organization in the future?

The strategic partnership alongside Digital DEWA aims to make valuable contributions towards making Dubai the smartest city in the world. Already, the region's first industrial private 5G slicing through 5G standalone technology has been implemented and, through edge computing, this will offer the utility industry enhanced efficiency and improve business processes through an effective and secure state-of-the-art network.

Looking ahead, the objective now is to build new use cases that also utilize edge computing capabilities to streamline operations, boost network security, and accelerate digital transformation across several verticals simultaneously, including utilities, healthcare, transportation, and media, to name a few. The new private 5G slicing technology will ultimately exceed emerging requirements in various areas, and all future innovations will deliver a similar impact.

GITEX 2021 is bringing together global industry leaders and innovative players in the technology sector. What kind of strategic new partnerships are you forging during the exhibition and are the new solutions you're launching?

For du, the privilege of being involved at GITEX is always exciting for two reasons; the event provides a unique platform to announce new strategic partnerships and showcase next-generation solutions and technologies to innovative minds and industry leaders. This year, du is participating at GITEX under the theme 'Powered by Humans,' which is inspired by a long-standing brand belief that technology lives in harmony for the benefit of humanity.

Technology enables the future and, as a care advocate brand, we aspire to stand by humanity. The next stage of this pledge comes at GITEX 2021, where the spotlight will be thrust on 5G technology, new smart solutions, gaming and entertainment, the business and community segments, and the most recent advancements made as a result of several collaborations with different entities.

Please tell us about du's recently announced digital well-being initiative. How will it benefit communities in the UAE?

Building a sustainable and responsible business remains an enduring purpose of du. As digital technology becomes even more influential to people's livelihoods and vital across business dimensions and national development projects, it is essential that nobody is left behind. Therefore, du's digital well-being initiative has been introduced to uphold this mandate. As a new, forward-facing strategic approach, the initiative will help ensure the digital well-being of specific segments of the UAE community, namely children and people of determination across the country.

By promoting accessibility, transparency, and accountability, UAE communities will ultimately benefit as those most vulnerable become familiar with using the internet safely through comprehensive education. Residents will also become equipped with essential digital skills and position themselves for a bright future in which they make valuable contributions to businesses, industries, and the country. In taking these steps, the well-being initiative will also foster inclusiveness and overcome digital divides that currently persist in the digital landscape, actions that align with the UAE Digital Government Strategy 2025.

In its new socio-economic development plan, the UAE government has dedicated principle 7 out of the 10 guidance principles to the development of digital, technical, and scientific excellence of the UAE. How will du contribute to this vision?

As a leading national organization in the telecommunications and ICT space, du will make valuable contributions to the development of digital, technical, scientific excellence in the UAE by driving innovation in these areas and utilizing the expertise, experience, and resources at its disposal to continue serving as a force for good and introducing new solutions that support sustained development.

Delivering the benefits of ICT to all remains a topmost priority and, through related initiatives and further network infrastructure enhancements, the company will also provide more nationwide services that support this principle, with a strong emphasis on 5G, IoT, and smart city integration. For du, innovative products and services represent a gateway to fulfilling everybody's right to benefit from the latest telecommunications advancements. All our existing products and services, as well as those that will be introduced in the years to come, will support both the UAE's digital, technical, and scientific development agenda and the wider socio-economic development plan. TR

For du, innovative products and services represent a gateway to fulfilling everybody's right to benefit from the latest telecommunications advancements

Verizon, Amazon to deploy new connectivity solutions

Verizon and Project Kuiper, an advanced low Earth orbit (LEO) satellite network from Amazon made a strategic collaboration to develop connectivity solutions for unserved and underserved communities.

Verizon chairman and CEO Hans Vestberg said, "Project Kuiper offers flexibility and unique capabilities for an LEO satellite system, and we're excited about the prospect of adding a complementary connectivity layer to our existing partnership with Amazon. We know the future will be built on our leading 5G network, designed for mobility, fixed wireless access and real-time cloud computing. More importantly, we believe that the power of this technology must be accessible for all."

The partnership seeks to expand coverage and deliver new customer-focused connectivity solutions that combine Amazon's advanced LEO satellite system and Verizon's world-class wireless technology and infrastructure. To begin, Amazon and Verizon will focus on expanding Verizon data networks using cellular backhaul solutions from Project Kuiper. The integration will leverage antenna development already in progress from the Project Kuiper team.

Amazon CEO Andy Jassy said, "There are billions of people without reliable broadband access, and no single company will close the digital divide on its own. Verizon is a leader in wireless technology and infrastructure, and we're proud to be working together to explore bringing fast, reliable broadband to the customers and communities who need it most. We look forward to partnering with companies and organizations around the world who share this commitment."

Expo 2020 is now open to the world

The most-awaited event expects 25 million visitors to enter its door within the six-month run. Held on a site that is bigger than 600 football fields, Expo 2020 welcomes everyone for a mix of entertainment and business, physical and virtual realities, as well as glimpses of the present and future ways of life.

Expo 2020 in Dubai, UAE will have 10 themed weeks, with the first one tackling one of the most pressing issues at present — climate and biodiversity. Other themes include space; tolerance and inclusivity; travel and connectivity; health and wellness; and food, agriculture and livelihoods.

A launchpad for innovation, collaboration, and inspiration, Expo 2020 is the first-ever World Expo to be held in the Middle East. What makes it a first in the 170-year history of World Expos is the coming together of 192 nations, each represented by its own pavilion. His Excellency Sheikh Nahayan Mabarak Al Nahayan further emphasized that by hosting Expo 2020 Dubai, "we aim to convey a message of tolerance and that we are willing to collaborate with all of the world."

Business leaders worldwide are encouraged to connect and budding entrepreneurs will be nurtured under the Thrive Together program as well, designed to leverage the connecting power of the world. A lot is in store for visitors as they walk within the Expo 2020 site, with three main pavilions focused on opportunity, mobility, and sustainability.

Expo 2020 is located in Dubai South and people can easily travel here via metro or bus.

Atrebo and Telefónica Tech join hands to digitize 200,000 telecommunications infrastructures

Atrebo, together with Telefónica Tech, announced the use of TrustOS, Telefónica Tech's Blockchain platform, to register the 200,000 telecommunications infrastructures managed by Atrebo's TREE platform, including towers and other sites.

From the operational POV, the platform will record incidences and issues, service levels, and other information relevant to their activity while in service. From the logistical POV, all related processes will be transparent, recording all maintenance operations, events related to concessions and/or ownership or lease of sites, energy management, etc.

With the help of the Tower Automation Alliance, the digitization and traceability model on blockchain used by Telefónica Tech and Atrebo will become the market standard for auditing this type of information. The application of blockchain will also allow the introduction of innovation in this industry and the development of new business models for telecom infrastructures, such as the tokenisation of towers via NFTs.

"This exciting new agreement will allow Atrebo to continue on the path with Telefónica towards the complete digital transformation of telecommunications asset and infrastructure management", said Jesús del Estad, CEO of Atrebo.

José Luis Núñez, head of the blockchain business at Telefónica Tech, said, "With this operation, we are extending the successful blockchain-based asset management model that we have been developing since we started to adopt blockchain for managing our supply chain in Brazil. It is another milestone in the adoption of the technology with which we demonstrate how it can be applied in real projects and build new business models based on trusted ecosystems".

Qualcomm is on track to achieve net-zero emissions by 2040

Qualcomm Incorporated announced plans to achieve net-zero global emissions for Scopes 1, 2, and 3 by 2040 and committed to the science-based targets initiative's (SBTi) business ambition for 1.5°C. This builds on the company's existing greenhouse gas (GHG) emissions reduction goal and includes interim 2030 science-based emissions reduction targets across Scopes 1, 2, and 3.

"Our net-zero goal and commitment to SBTi reflect our belief that environmental sustainability is absolutely imperative, with significant social and economic benefits that require collective action and leadership from Qualcomm and other corporate citizens," said Cristiano Amon, president and chief executive officer, Qualcomm Incorporated.
Qualcomm is already working towards achieving these long-term goals by purchasing 100% renewable energy for its San Diego headquarters. The company's strategy includes transitioning to renewable energy via long-term power purchase agreements (PPAs), decarbonizing its operations, and using a minimal amount of renewable energy credits (RECs) and carbon offsets for residual emissions.
Qualcomm seeks to offer innovative ways to maximize the performance of devices while reducing the amount of energy they use. For example, Snapdragon platforms, which power a wide range of devices, are industry-leading in their power consumption optimization, enabling longer battery life and increasing the time the device can be in use before recharging.

"5G technologies and products will be instrumental in driving an environmentally sustainable future. We're working with our partners and customers to reduce emissions footprints, conserve resources and harness the sustainability benefits of 5G globally," Amon continued.

Operators can avoid 65% of costs with IP network automation

Nokia, in collaboration with research firm Analysys Mason, revealed that operators can expect up to a 65% cost avoidance after implementing IP network automation across three operational categories.

According to Analysys Mason, Nokia's market share ranks as one of the leading vendors in the network automation and orchestration space. To define, network automation is a key driver for improved network services agility, greater operational efficiency, and increased network availability.

The Nokia-commissioned study focused on network automation implemented for the operator's service fulfillment, network lifecycle management, and network and service assurance processes with the Nokia NSP. NSP is the domain controller for multivendor IP, optical, and microwave networks, enabling operators to automate a plethora of network management processes.

Quantifying the benefits from network automation at the domain controller layer, Analysys Mason interviewed a group of global operators on their network automation strategies and results, collecting more than 60 data points.

Mike Thompson, head of IP network automation at Nokia, said, "While we have seen significant network automation gains for service delivery, the greatest savings are achieved by automating network lifecycle management. There are still many manual tasks in the areas of network and service migrations, device provisioning, and upgrades that can benefit significantly from network automation. Automation not only improves operator productivity but significantly reduces outages caused during maintenance windows. Network and service assurance automation enables operators to identify root causes, automate restoration, and fix network issues significantly faster."

International Internet day 2021: Faster life and endless services

Living without Internet is difficult, at a time when this network provides us with instant connection to information and facilitates many of our lives and practical matters. The Internet allows the ability to shop from home, pay bills online, learn and work remotely, or even follow up treatment or share the necessary medical data and information with doctors through websites without the need for physical visits.

Despite all the services provided by high-tech, the Internet continues to constitute a major controversy between countries that support its integration into various public and private sectors, especially after the spread of the Covid-19 pandemic, hunting the most appropriate solutions to living life normally and countries that prohibit the Internet as it poses a threat on national and social security or impose strict controls on browsing websites.

Due to the wide freedom offered by the Internet, some governments and countries impose strict policies to control information published on digital platforms or block websites for users. Technically, Internet censorship is based on certain conditions, so the information passes through filters before spreading on the Internet. Among the countries that exercise control over the Internet are Bahrain, China, Cuba, India, Iran, Syria, Sudan, Saudi Arabia, North Korea and Vietnam, where governments block the Internet from some websites and social networks, especially those that follow a contradictory policy.

The Internet leads the world of communications, technology and digitization to enable countries to move from a traditional life to a smart one.

8
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Telecom Review Leaders' Summit 2021

The 15th edition of the leading ICT gathering will be held in a hybrid mode where the latest industry trends will be tackled.

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