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THE TELECOMS INDUSTRY MEDIA PLATFORM
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Telecom Egypt's Infrastructure:

Data-Empowered and Innovation-Driven

Eng. Adel Hamed
Managing Director
and CEO, Telecom Egypt

Reimagining a **Cloud-First Future**

Sustainability and Technology: Building Today for Tomorrow

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Toni Eid,
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Video Meeting Platforms: What Next?

The COVID-19 pandemic has created both hype and demand for video meeting platforms to become more sophisticated. The response has been more platforms, more options, and more capacity — all developments in our favor.

As COVID-19 comes to a close, travel resumes, and people are eager to meet again, face-to-face, and so on.

But the need is still there; it becomes the replacement for phone calls and a new necessity for meeting with colleagues or customers.

But the rise in the number of these platforms, coupled with the decline in demand, increases the competition among them. As many claim to be more secure and others more agile, we have more options than ever!

Let us take a look at some of the key business moves and new policy developments of these platforms:

Microsoft is changing the features of its Teams free edition and adding premium users in order to charge for options, making Teams expensive in comparison to what it offers.

Vonage, recently bought by Ericsson, may create a tool for telecom operators to provide the service to their enterprise users, according to my recent meeting with the Global CEO of Ericsson. Ericsson will provide Vonage as a Service to operators, which will put them in a position to avoid using Teams or other competing platforms.

Verizon is pushing more for its BlueJeans after making impressive improvements to the platform, including its connectivity. As a result, BlueJeans is already among the top choices for enterprises — in the US and beyond!

While Zoom is struggling — cutting both costs and staff in response to a sharp decline in revenues and a drop in stock value that, according to their CEO, was greater than expected — it remains noteworthy that Zoom has still registered the highest increase compared to any other platform during COVID-19.

Despite all of the above, these platforms have become an integral part of our business needs and among our preferred communication methods, both personal and professional. One thing is certain: this essential role will continue.

Eng. Adel Hamed, Managing Director and CEO, Telecom Egypt

Telecom Egypt's Infrastructure: Data-Empowered and Innovation-Driven

In an exclusive interview with Telecom Review, Eng. Adel Hamed, managing director and CEO at Telecom Egypt, talks about the importance of being an infrastructure industry leader, the company's upcoming submarine cable projects, its strategies and goals for 2023 and more.

You have been an infrastructure industry leader for some time despite having faced numerous obstacles, including the recent pandemic. What inspires you in your efforts to drive technology and innovative solutions at Telecom Egypt?

At Telecom Egypt, we are always inspired by our customers' needs, which is consistent with our customer-centric approach. As such, over the past few years, we have proactively been developing and investing in state-of-the-art, reliable and enabling ICT infrastructure, and broadening our services to meet the evolving needs of customers. By capitalizing on our robust network, profound expertise and skilled human capital, we make every effort to offer our customers data value propositions across all technologies. We are also working on expanding from an established international route to a premium regional digital hub. Additionally, we are embracing digital transformation nationally to empower our customers and employees, while simultaneously evolving into a digital company through expanding efficiency and optimization to enhance our performance in all fields — all through our brand "WE."

Your 2023 guidance reflects a positive outlook despite the ongoing global challenges. What are the company's strategies and goals for the coming year?

Telecom Egypt has always been keeping abreast of the latest, top-notch technologies and trends in the industry. Following its transformation into an integrated telecom operator and the first digital operator in Egypt, Telecom Egypt is now focusing its efforts on transitioning from a telco into a techco. By leveraging their strategic agility, techos are often able to evolve and develop rapidly, adapt to their market environment, identify new opportunities and address potential challenges. In a digitally-driven world, this transition is vital to enable companies to offer the best value to all stakeholders. Enhancing organizational agility will support Telecom Egypt in formulating transparent targets, enabling seamless operation, and attracting strategic partners. Over the years, Telecom Egypt has achieved remarkable progress in fulfilling its vision of becoming an integrated telecom provider and positioning Egypt as a leading digital hub.

Introducing next-generation technologies and smart connectivity will directly boost the digital capabilities of Telecom Egypt's customers and partners. As one of the largest submarine cable operators in the region, Telecom Egypt is able to offer unmatched value propositions for its modern telecom and IT services.

Furthermore, Telecom Egypt's strategies resonate with Egypt's 2030 Vision, "Digital Egypt," which is an all-encompassing vision that lays the foundations for the transformation of Egypt into a digital society. The company is supporting Egypt's digital transformation plans through its strategic vision of a five-level "digital pyramid": submarine cables (international cable infrastructure) and fiber connectivity serve as the foundation, followed by network connectivity, moving up towards world-class data center facilities, followed by digital platforms and cloud computing, finally reaching solutions and applications at the top. Leveraging its expanding portfolio of solutions, Telecom Egypt will always act as the ICT arm of digitization, providing the digital infrastructure needed to pursue the national developmental march.

What do you see as the biggest trends and challenges impacting the wholesale and capacity business? What will Telecom Egypt's contribution be to these?

On the international level, global trends are shaping the future of the telecommunications industry, from the global pandemic to the ever-growing international demand for data and connectivity. Building on its solid foundation and Egypt's strategic location, Telecom Egypt continues to invest in the latest technologies, submarine cables, data centers, and infrastructure to enhance its proactive readiness for any unforeseen incidents and accommodate the increasing demand.

On our part, we are forging ahead with our plans to build submarine cable networks to meet the rising demand for capacity and diversity. We recently initiated a new cooperation agreement with Grid Telecom to construct a submarine cable linking Egypt and Greece. Moreover, we have been working with major global players to build the SEA-ME-WE-6 cable, a 19,200-kilometer submarine cable system connecting multiple countries between Singapore and France. The new cable will extend Egypt's reach as it crosses over the company's distinctive infrastructure through the trans-Egypt network of new geo-diversified crossing and landing points from the other cables in the SEA-ME-WE family. SEA-ME-WE-6 provides an additional layer of diversity and resilience for the high-traffic density route between Asia and Europe, strengthening the overall network of each consortium partner. The added flexibility helps service providers in the consortium rapidly scale capacity, protect traffic from faults, and lower the total cost of network ownership.

Egypt Submarine Cable Infrastructure Map

> By capitalizing on our robust network, profound expertise and skilled human capital, we make every effort to offer our customers data value propositions across all technologies

ICE route on the secure West bank of the Suez Canal

> Telecom Egypt's strategies resonate with Egypt's 2030 Vision, "Digital Egypt," which is an all-encompassing vision that lays the foundations for the transformation of Egypt into a digital society

Additionally, we have concluded an agreement to provide international services to Aqua Comms to connect their EMIC-1 cable through Telecom Egypt's seamless optical path between East Africa, Asia, and Europe.

Furthermore, we are serving AFR-IX Telecom by providing a landing point in Egypt for Medusa, their major submarine cable system in the Mediterranean Sea. The cable will be an 8,760-km-long submarine cable system with 24 fiber pairs and a capacity of 20 Tbps per fiber pair. It will link the Mediterranean countries through 16 landing points, connecting Portugal, Spain, France, Italy and Greece with North African countries, including Morocco, Algeria, Tunisia, and Egypt.

Data centers are evolving worldwide; where is Telecom Egypt on the data center world map?

Telecom Egypt currently owns and operates seven commercial data center facilities. Driven by innovation and technology, we are always keen to set up new cutting-edge projects to enable us to cater to our customers' needs. We are proud of our data center strategy, which has allowed us to establish our renowned Regional Data Hub (RDH), the country's largest colocation data center, which also recently received the Tier III Gold Certification of Operational Sustainability (TCOS) from Uptime Institute. Telecom Egypt is the first and only holder of the Tier III Gold TCOS certification in Egypt and Africa. RDH is also Tier III certified for the design and constructed facility categories.

This project coincides with the country's efforts to expedite the development of Egypt's ICT infrastructure and digital services as well as contribute to the regional digital transformation. Our new data center is well connected to submarine landing stations in the Mediterranean Sea and Red Sea, giving it access to more than 60 countries around the globe.

RDH hosts the first open-access Internet exchange point in Egypt, EG-IX, based on the IX-as-a-Service (IXaaS) solution offered by AMS-IX, the world-leading interconnection platform service provider. It acts as an open-access Internet exchange platform for a large content delivery network, applications, cloud providers and telecom carriers who are looking to enhance the digital experience of end customers in the MEA region. The new Internet exchange enhances the digital experience of Internet users in Egypt, Africa, and the Middle East.

Additionally, RDH is hosting a local focal point for Cloud4C to provide "RISE with SAP" services. Again, this step aligns with the government's strategy to accelerate digital transformation, increase reliance on cloud services, meet the demand for data services and improve cybersecurity to address the need for SAP services from various key sectors such as finance and healthcare.

Furthermore, Telecom Egypt is securing Lumen's first IP Transit PoPs in Egypt, serving Africa and Asia. The collaboration enables both companies to offer seamless, secure, high-quality internet services to local and regional operators in Africa, Asia and the Middle East.

What submarine cable projects are you currently planning?

We are always keen to build partnerships on different levels to maintain our market leadership and satisfy the demand for connectivity in the regions we serve.

We currently have a network of submarine cables with 14 cables currently landing in Egypt, 12 of which seamlessly cross between East and West, and the Red Sea and Mediterranean Sea. For the moment, another five submarine cable projects are expected to land in Egypt in the next few years, including the renowned 2Africa, Africa-1, IEX, SEA-ME-WE-6 and Medusa cable systems.

In addition, the company is aggregating its existing and planned

projects to offer end-to-end connectivity to Africa and connect both its east and west coasts to Europe via its new subsea system, the Hybrid African Ring Path (HARP), which will contribute to digitalization across the continent.

Meanwhile, the strategic cooperation with Grid Telecom, which connects Egypt to Greece, offers a new path that differs from our existing Mediterranean routes. Once completed, this hybrid terrestrial and submarine network will provide the shortest possible path across the Mediterranean basin to the Balkans region, as well as other important destinations such as Genoa and Marseilles.

In your opinion, how will Telecom Egypt continue to grow and stay competitive on a regional and global scale?

Telecom Egypt has an excellent track record of enabling customers to extend their network reach to global destinations. It has been serving customers in Egypt, the region, and beyond using advanced technology, reliable infrastructure solutions and a wide network of submarine cables connecting the Red Sea and Mediterranean Sea. Globally, we serve the international community by investing in diverse technical solutions that enrich Egypt's role as the pivotal East-to-West crossing.

On the regional scale, we have been working to improve connectivity with our neighbors, Sudan, Libya, Jordan and Saudi Arabia. We signed an agreement with Orange Jordan to create a highly reliable terrestrial system connecting Iraq to Europe through Jordan and Egypt. The new system, commercially known as Cairo-Amman-Baghdad System (CAB), has been operational since the third quarter of 2022. It capitalizes on the distinguished international infrastructure that both operators possess, providing high-quality services via diversified and flexible paths to meet the growing demand for communication services in the Iraqi market. We also signed a strategic memorandum of understanding with the Saudi operator, Mobily, to establish the first direct bilateral submarine cable connection between Egypt and Saudi Arabia. The strategic agreement sets the groundwork to explore different extension options: westwards to Europe through Telecom Egypt's diverse trans-Egypt routes and eastwards to the Arabian Gulf over Mobily's network, utilizing both companies' reliable networks and international reach through their existing and future optical interconnectivity to neighboring countries. This new, high-capacity, fiber-optic, subsea cable line aims to support the demand associated with the surge in data traffic.

Red2Med Landing witnessed by the Egyptian ICT minister

Geographical diversity is at the forefront of the ICT industry. How do you manifest this at Telecom Egypt?

At Telecom Egypt, we have talented teams that persistently work with geographical diversity in mind to further improve our customer experience in all aspects nationally, regionally and internationally. This is why we have increased the number of geographically diverse landing stations on the Red Sea and Mediterranean Sea from 4 to 10 over the past decade.

> Telecom Egypt continues to invest in the latest technologies, submarine cables, data centers, and infrastructure to enhance its proactive readiness for any unforeseen incidents and accommodate the increasing demand

RDH Data Center

> We are always keen to build partnerships on different levels to maintain our market leadership and satisfy the demand for connectivity in the regions we serve

The same concept applies to the diverse terrestrial crossing routes which connect the cable landing stations on the Red Sea and Mediterranean Sea. We have 10 diverse trans-Egypt crossing routes, which will increase to 11 with the commercialization of the Red2Med cable system.

Red2Med is a breakthrough in the transit paths for submarine cables linking Africa, Europe and Asia. It is a wholly-owned, trans-Egypt, hybrid crossing solution, which was inaugurated last October during its landing in Ras Ghareb by the Gulf of Suez in the Red Sea. It runs from Ras Ghareb to Port Said landing station by the Mediterranean Sea, connecting the two seas over a short, fast and reliable infrastructure. The new crossing solution is composed of three segments: from the South, it encompasses the Red Sea submarine festoon cable segment, which is a repeaterless link landing in Ras Ghareb, Zafarana, and Suez; it then extends to the Internet Corridor of Egypt (ICE), linking Suez to Port Said; and finally, it continues to connect to the planned Mediterranean Sea submarine festoon cable.

On its own, the ICE cable, aka the "Golden Route," is by far the most reliable, shortest and fastest crossing globally, linking the three continents of Africa, Asia and Europe. This trans-Egypt cable, which spans 200 kilometers and runs along Al-Morshedeen Road on the west bank of the highly-secured Suez Canal campus, is a one-of-a-kind route.

What is the importance of being the first operator in Egypt and Africa to implement the green tower as an eco-friendly alternative?

Egypt recently hosted COP27 and emphasized the importance of implementation and solutions for a new sustainable development model that will benefit the environment and achieve economic and social development. As such, being the first operator to implement the green tower in Egypt and Africa solidifies our intentions to support the country's direction on the ground.

The eco-friendly wireless network tower is made of Fiber Reinforced Polymer (FRP), which emits 43% less carbon dioxide than its steel alternative. It is partially powered by solar cells and supports wireless network antennas and radio units that use cutting-edge, energy-saving technology.

The project also demonstrates Telecom Egypt's determination to adhere to the highest international green quality standards, reduce its environmental footprint, and improve environmental sustainability in the pursuit of a low-carbon future — all while contributing to a 20% improvement in signal quality when compared to standard antennas.

Society engagement and empowerment have become an integral part of running businesses. To what extent does Telecom Egypt manifest its commitment to these approaches?

Telecom Egypt seizes every possible opportunity to enhance the lives of Egyptians through its diverse social programs and initiatives, covering health, education, youth empowerment, and the integration of people with special needs.

> Telecom Egypt seizes every possible opportunity to enhance the lives of Egyptians through its diverse social programs and initiatives, covering health, education, youth empowerment, and the integration of people with special needs

Working in line with the government's strategy for "Digital Egypt," Telecom Egypt provides technical support to free-service hospitals to enhance the quality of healthcare services provided to citizens. Technical support includes high-speed internet and connectivity between branches or laboratories, hosting services to ensure the privacy of patient information and establishing call centers, as well as other telecom services. In continuation of the Telemedicine Project, the company connected ICT services to link a total of 109 healthcare units in remote or underprivileged areas to major hospitals and medical centers around Egypt to boost the efficiency of the healthcare system.

Telecom Egypt also continued to support the national "100 Million Health Initiative" by providing up to 6,000 data SIM cards to healthcare practitioners to ease bookings for check-ups and follow-ups. It further supported the Shefaa Al Orman Hospital to establish a medical waste disposal unit to safeguard the environment and hospital visitors. The initiative also enabled the hospital to cut spending on waste transfer by implementing a sustainable alternative; the money saved was put towards medical treatments.

In addition to various training initiatives for youth, Telecom Egypt has successfully transformed seven technical schools into WE Applied ICT Schools in various governorates. These are the first ICT vocational schools in Egypt.

Another project supported by Telecom Egypt, in partnership with the Superior Council of University Hospitals, saw the replacement of 430 non-functioning external units of cochlear implants in 2022. This initiative aims to prevent the social isolation of deaf children while helping families save money on replacing or fixing external units. TR

Metaverse:

A Social Paradigm Shift Driven by Connectivity and Communication

As technology advances, the internet will become more immersive, and the way we are connected will impact how we communicate with each other. The hype of collectively stepping into a blockchain-powered virtual world has infiltrated the corridors of healthcare, education, gaming, retail, governments, telecom operators and other organizations that want to be at the forefront of this innovation.

This virtual reality (VR) space where users can interact with each other in a computer-generated environment is used for work, art or investments. In short, it is expansive. And it is just beginning. Indeed, the global metaverse market is expected to have a valuation of over US$650 billion by 2030.

More than half of the worldwide internet users join the metaverse for work possibilities, while over 40% participate in art and live entertainment, put their money into investments, or educate themselves here. Many are also playing games, generally socializing and even dating in this enthralling online vicinity.

The two things that make the metaverse push different (and arguably more comprehensive) from previous iterations of the concept are its expansion to include augmented reality and extended reality (AR and XR), along with more improved hardware and software offerings.

Virtual World May Not Be for Everyone

Yet, the success of the metaverse is seen as being impacted not only by the supply side but also by the demand side, wherein people should want their interactions to be more physically embodied. Otherwise, the technology's popularity might die down, similar to how the once popular QWERTY phones are now rarely seen.

A Pew Research Center expert survey revealed that much more immersive virtual settings will not have a significantly broader influence on people's daily lives by 2040. What would seem to be the current tech trend in headlines across the globe, the metaverse and its cluster of technologies, "is likely to make a few expected but fairly minor ripples in the stream of overall tech development."

While quite a few fairly immersive AR/VR spaces already exist, particularly in Dubai, those spaces have not yet attracted a large percentage of the public's time and attention. This shows that fuller immersion will remain uncommon and require a lot of time to actually happen.

Johnny Nhan, an associate dean at Texas Christian University, said that maybe 15 to 30 years from now, people's attitudes will be more welcoming of the metaverse, exemplifying a case where the social is driving the technology and not vice versa.

Indeed, there has been a social backlash against information sharing, especially with intrusive immersive technologies, and this is a critical issue to address in the virtual world. Until we can get over the social acceptance factor, the metaverse will remain a recurring topic that keeps getting reintroduced as something new and exciting. Apart from such a barrier, the factors that will contribute to its long-term feasibility include privacy, safety, convenience and cost.

Bernie Hogan, a senior research fellow at the Oxford Internet Institute, commented that social life will be reconfigured as ML/AI-based predictive technologies will continue to shape experiences and constrain choices. "Is the metaverse a representation of space or a reconfiguration of sociality?" he pointedly questioned.

Virtual environments, like metaverse, will be more powerful as the need to better choose how we structure and encode life arises. AI chatbots will become smarter, and the metaspace will become more datafied rather than simulated.

Indeed, the broader public is the audience that is critical to the development of an actual metaverse, as it essentially concerns embedding

oneself in a virtual space. If we come to think of it, the paradigm shift goes deeper than just adopting new computers and smartphones.

Even if millions of individuals choose to enjoy VR spaces for activities like day-to-day conversations, digital shopping and digital tourism, possible discomfort from headsets or motion sickness from a VR headset, goggles or gloves can be expected.

Taking these factors into account, the transition to the metaverse will be more of a sociological paradigm shift than merely a technological one. The metaverse will be shaped by the communication of emotions, enabled by VR/AR technologies and brain-computer interfaces. New hardware, platforms, disciplines and senses will come into play, redefining social contracts as they shift to the virtual world.

Technologies Within the Metaverse

The metaverse promises benefits that could impact economic innovation, social interaction, productivity enhancement, consumption and entertainment when executed right. Thus, enriching the development of both real and virtual societies requires the close integration of various technologies to provide technical support.

The participation of users in the metaverse cannot be achieved without communication technology (ICT), rendering technology, interaction technology and teamwork technology.

From an ICT perspective, the metaverse is the internet's next evolutionary step, powered by connectivity, computing and AI at its core. And its digital infrastructure is backed by other technologies, including digital twins, 3D, IoT, human-machine interaction, digital currency and Web 3.0.

To achieve live, shared experiences, metaverse taps into the power of real-time rendering with the help of motion capture technology. By pairing these two technologies, it will be possible to bring real people's movements and performances into 3D spaces. Real-time graphics technology has grown by leaps and bounds in gaming, films and concerts and will be maximized in the virtual landscape.

The metaverse supplies a way to encapsulate and track advances in communication and digital interaction. As time passes, human beings will be more engaged with the physical world and with one another through spatial, persistent and real-time interaction. It is a must to improve and advance how the metaverse will handle such digitally-mediated approaches.

Furthermore, the metaverse promises to bring new levels of social connection, mobility and collaboration to the world of virtual work, introducing elements of adventure, spontaneity and surprise. By creating a space for unstructured conversations and interconnected relationships, the metaverse goes beyond scheduled meetings; instead, through its avatars, a "water cooler effect" is achieved — in essence, a classic sense of kinship. Typically, avatars are tailored to reflect one's personality and interests, encouraging more conversations and relations and thus a sense of familiar space.

In other words, the technological capabilities of the metaverse enhance the quality of interaction, facilitating communication and improving the overall virtual environment. Metaverse technologies must have the ability to foster communication, render interaction and provide teamwork tools that can influence presence and immersion in a positive and beneficial way.

The metaverse will be a new form of human communication, wherein whoever is immersed in the space will become not just the source of content, but the content themselves. Only time will tell how this gold mine of data will transform the world as we know it. TR

Etisalat UAE, FTA Prepare Muwafaq Package to Support SMEs and Promote Tax Compliance

The Federal Tax Authority (FTA) has signed a collaboration agreement with Etisalat UAE, branded as etisalat by e&, to offer a bundle of facilities and privileges for registrants in the Muwafaq package initiative soon to be launched this year to facilitate tax compliance for small and medium-sized enterprises (SMEs).

The agreement was signed at the Federal Tax Authority's headquarters in Dubai by Khalid Ali Al Bustani, director general of the FTA, and Abdulla Ebrahim Al Ahmed, senior vice president of government business, etisalat by e&.

Al Bustani underlined the importance of signing the agreement, describing it as an effective model for collaboration to support business sectors and promote tax compliance. "The Muwafaq package was specifically designed to cater to the SMEs sector, enabling them to unleash their potential and be a driving force in the national economy, further strengthening the culture of entrepreneurship and innovation," he said.

"Preparations to launch the Muwafaq package form part of the Federal Tax Authority's plans to maintain an ideal tax environment that encourages compliance in accordance with the highest standards of governance and transparency," the FTA Director General added. "This contributes to the government's continuous efforts to encourage entrepreneurs and SMEs, considering the central role they play in the success of policies to diversify sources of income and develop the national human capital."

Al Ahmed highlighted the relevance of this partnership to etisalat by e&, saying: "It is an honor to be working closely with the FTA on the Muwafaq package initiative that will support entrepreneurs and small businesses. At etisalat by e&, we have always worked closely with the SMEs, encouraging them with our various dedicated initiatives and also services that will help them focus on their business objectives as well as become a driving force in the economic development of the country. Thanks to the UAE leadership's vision to position the country among the best in the world in ease of doing business, innovation and entrepreneurship."

Vodafone Qatar Hailed as World's Fastest Mobile Network

Vodafone Qatar achieved a speed score of 238.56, with median download speeds of 154.69 Mbps and median upload speeds of 21.42 Mbps during Q3-Q4 2022, according to results from consumer-initiated tests taken with Ookla's Speedtest.

As this score rates as the fastest among mobile operators worldwide in the second half of 2022, Vodafone Qatar sets the new global benchmark for mobile network speed. This ranking reflects Vodafone's continued investment in its network, with the goal of delivering the best connectivity experiences to its customers.

Commenting on the honor, Vodafone Qatar CEO Sheikh Hamad Abdulla Jassim Al-Thani said, "As a company built in Qatar for Qatar, Vodafone is immensely proud to be recognized as the fastest mobile network in the world. This is a vivid demonstration of the absolute resolve of our teams in continually enhancing the quality and speed of our services and products to provide the very best to our customers. With internet connectivity becoming even more crucial in the post-pandemic era, Vodafone Qatar has continued to employ next-generation technologies to consistently elevate the user experience, making it as seamless and as convenient as possible."

Ramy Boctor, CTO at Vodafone Qatar, added, "Vodafone Qatar understands the importance of reliable and flexible internet connectivity to maintain, enhance and transform business operations. As an enabler of the digital transformation journey of several small and large businesses across the country's business sector, Vodafone Qatar leaves no stone unturned in ensuring the quality and capacity of our networks remains first-class. The award by Ookla speaks to our commitment in this area and intensifies our focus in using superfast connectivity to build a more cohesive, more inclusive and sustainable digital society for all."

As a demonstrated leader in technology and digital innovation, Vodafone Qatar has been at the forefront of driving Qatar's digital transformation agenda forward, enabling a digitally connected and digitally aware society via its robust network, range of smart solutions and collaborative partnerships.

UAE: HH Sheikh Mohammed Requests Study on ChatGPT

Relevant authorities in the field of technology have been asked by the UAE Cabinet to assess new Artificial Intelligence (AI) technologies, such as ChatGPT, and decide how the government can safely use them.

His Highness Sheikh Mohammed bin Rashid Al Maktoum, vice president and prime minister of the UAE and ruler of Dubai, said that the study would assess how these technologies affected the media, education, and other sectors of the economy.

ChatGPT successfully imitates human writing using AI. In response to prompts, ChatGPT can produce articles, essays, jokes and even poetry.

In late November, OpenAI, which has the support of Microsoft Corp., made the technology freely accessible to everyone.

The software was developed by California-based OpenAI using terabytes of online data and billions of words, which allows it to produce texts that are surprisingly human-like, including passable school essays. A policy to increase the effectiveness of government work by utilizing AI technologies was approved by the UAE Cabinet. A safe use of AI is guaranteed by the policy's standards and recommendations. The policy aims to boost competitiveness and the caliber of government services, increase productivity and efficiency across a number of industries, and give workers more opportunities for training.

Aerial Taxi Soon to Become Reality in Dubai

Dubai will soon roll out air taxi services as an addition to its public transport system, which includes the Dubai Metro, trams, buses and cab services.

The Dubai government has approved the aerial taxi vertiports, aerial transport models developed by the Dubai Roads and Transport Authority (RTA). The vehicle models were displayed at the Authority's stand at the World Government Summit 2023.

The aerial taxi operations project aims to introduce a new mobility service driven by pioneering technology to ease the mobility of individuals across urban areas in a safe, smooth and sustainable manner, integrated with the public transport network in Dubai. The service is set to be operational by 2026.

"The aerial taxi operation consists of two main stages: selecting the suitable technologies that meet global standards and forming a partnership with a specialist provider. To ensure the best outcome, companies are evaluated in terms of the technologies utilised in this cutting-edge form of sustainable transportation, as well as the comprehensive plan for its adoption and implementation," said Mattar Al Tayer, RTA director-general and chairman of the board of executive directors.

"The operation comprises four crucial elements. They include detailed negotiation with a multitude of companies active in this field, signing of commercial agreements, establishment of local entities to execute relevant business endeavours, development of the necessary infrastructure and the highly anticipated roll-out of the service.

"The second stage involves identifying a potential partner for investing in the infrastructure needed to introduce autonomous aerial taxis to Dubai's skies. At present, commercial negotiations are in progress with the most promising and specialised investors globally in the realm of air mobility to construct the requisite infrastructure.

"The launch of the service hinges upon the preparedness of the companies and the legislative requirements for operating aerial taxis. This also involves a thorough examination of all operational details and ensuring that all safety and security measures are in place," Al Tayer explained.

"The initial phase encompasses choosing both manufacturers and operators based on their technology and timeline, as well as determining the sites for vertiport installations. The initial network of vertiports will connect four main areas of Dubai: Downtown Dubai (Burj Khalifa area), Dubai Marina, Dubai International Airport and Palm Jumeirah," he said.

"Vertiports embody a revolutionary form of infrastructure that encompasses a range of facilities such as designated take-off and landing zones, a passenger waiting area, security protocols, and electric charging stations. These stations seamlessly integrate with other modes of transportation. The next step involves identifying exceptional investors who are experts in building the necessary infrastructure for the air mobility industry," he added.

"The RTA's aerial taxi initiative aligns with the Dubai Self-Driving Transport Strategy, aimed at transforming 25% of total mobility journeys in Dubai into driverless journeys by 2030," Al Tayer concluded.

MCIT Launches Initiative to Increase 4IR Adoption in NIDLP Sectors

On the sidelines of LEAP 2023, the Ministry of Communications and Information Technology (MCIT) launches the Saudi Fourth Industrial Revolution (4IR) Awareness Initiative under the National Industrial Development and Logistics Program (NIDLP).

This initiative aims to raise the level of awareness and adoption of various techniques of 4IR in NIDLP sectors, namely energy, mining, industry and logistics. Additionally, this will support and stimulate research, innovation and development and contribute to achieving economic and environmental sustainability. Designed to translate Saudi Arabia's Vision 2030 into action, the NIDLP focuses on transforming the Kingdom into an industrial powerhouse and a global logistics hub by leveraging the resources of sectors like mining and energy and focusing on the development of Industry 4.0.

As previously reported, investments in fourth industrial technologies are expected to reach $200 billion in the Kingdom, with value creation coming from improved efficiency and a reduction in cost over a 10-year period.

MCIT plans to transform Saudi Arabia's economy based on technology, information, capabilities and skills, and it will bear fruit in the near future with huge investments in industrial facilities. By the end of 2025, NIDLP aims to raise electricity generation efficiency by 40.8% and achieve a 70% operational utilization rate for port capacity, among other commitments.

Can Jordan Afford to Rip-and-Replace Chinese Equipment Amid 5G Rollout?

Reportedly, the Jordanian government will very soon secretly order the country's telecom operators to restrict Chinese companies from participating in the project aimed at building 5G networks in the Kingdom. The government additionally plans to rip-and-replace the existing core network and wireless equipment provided by Chinese vendors, Huawei and ZTE, in a span of three years.

This marks the latest move in the United States' tech cold war against China, resulting in restrictions on Chinese telecom vendors' influence in 5G global markets.

According to a senior telecom operator executive, the Jordan intelligence agency is persuading relevant authorities to subsidize the operators with preferential electricity and spectrum policies and forcing operators to only choose certain Western vendors.

This impending restriction on Chinese companies could not only postpone the 5G deployment in Jordan but may also shore up the price of telecom equipment. Major telecom operators Zain, Orange and Umniah will have a tough journey during the potential long rip-and-replace operation with the existing network undertaken by Chinese companies.

In the US, about $1.9 billion has been allocated for the rip-and-replace program, but network operators believe that far more funding is needed — roughly $3 billion more — to get the job done. Up until now, the FCC has sent checks worth over $40 million to compensate operators in this process.

On the other hand, Britain has also decided to ban Huawei due to high-security risk from its 5G networks, following pressure from the US. Operators such as Vodafone and BT have announced that they will need at least five years to remove Huawei-manufactured equipment from the UK's networks, with Vodafone estimating the cost of doing so at a "single figure billions" of pounds.

By the end of 2023, all Huawei equipment from the UK's network core should be removed, while by the end of 2027, all Huawei gear from the country's 5G networks must be removed.

According to the European Journal of International Law blog, the idea of restricting access to Chinese suppliers who offer the lowest price on the market is antithetical to the free-market principles underpinning the global economic order.

Huawei has a big stake in the Jordanian telecom market share, and the restrictions on its equipment could implicate a huge blow to the sector's growth and the wider ICT ecosystem. Jordan was one of the first Arab countries to support ICT as a standalone economic sector, and currently, the Economic Modernization Vision has ICT and advanced technologies as its key pillars.

Huawei started business in Jordan 17 years ago and has maintained close relationships and strong collaborations with its three local carriers — Zain, Orange and Umniah. At present, no official 5G bidding process in Jordan has been announced, and the Jordanian industry watchdog, the Telecommunication Regulatory Commission (TRC), did not confirm the official 5G launch date in the country yet.

Telecom Review Virtual Panel: 'Competitive Cloud Landscape Needs Strong Global and Regional Partnership'

Telecom Review conducted its first virtual panel for 2023, titled "Go Saudi With Zain," on February 21.

In the panel, moderated by Elias Saab, chief commercial officer at Sofrecom Group, esteemed speakers Eng. Saad A. Al-Sadhan, chief business and wholesale officer, Zain KSA, and Yi Lian, CMO of META region and hybrid cloud at Alibaba, discussed at length the dynamics of a winning cloud strategy, including the Market Place (Go Saudi) Ecosystem, time to market, governance compliance, market insights and a full range of information on establishing well-rounded cloud services in Saudi Arabia.

Focus on ICT Developments and 'Market Place'

Responding to the moderator's question on Zain's involvement in the development of a thriving digital ecosystem as part of Saudi Vision 2030 and the unique offerings of Zain's Market Place in terms of Software as a Service (SaaS) packages and other benefits, Eng. Saad A. Al-Sadhan said, "Saudi Arabia is focusing a lot on the ICT market that is booming, along with the largest investments in MENA Region. All investments are estimated to be over $30 billion, so it is not something small. One of the main pillars of Saudi Vision 2030 is digital transformation."

It is said that there are multiple items that will come together to fulfill the digital transformation in order to take us to Saudi's vision, including hierarchy and the specific movement towards this vision.

Al-Sadhan explained, "the government recently initiated the Cloud First Policy which focuses mainly on the data, localization, and data residency to avoid data migration outside the country because data is very sensitive information that we have to put it in the vault to make sure that it is secured and it is all about the data access and penetration. So therefore, at Zain KSA, we invested in the cloud business three or four years ago with Alibaba, and our aim was very clear: to build the local node with dual redundancy in Saudi, so we built one in Riyadh and one in Jeddah, and mainly, we are offering all the available solutions, like SaaS, IaaS and PaaS. On top of that, we are doing this because we are committed to add value to our customer, reduce costs, improve the performance, increase the customer agility, as well as allow the business and the customer to focus on their core competencies. And this will

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help them to achieve great success and their vision and KPI."

The vision of Zain, Al-Sadhan added, focuses on SaaS, but they do present three offerings: IaaS, PaaS and SaaS. He also said that everyone is focusing on IaaS and PaaS, but SaaS is the niche market; the partnership with Alibaba is leveraging this service and offer.

He indicated also that in the last event in September, in Copenhagen, Zain initiated the "Go Saudi" project, trying to push the partners, the suppliers, and the vendors to come to Saudi and start leveraging the portfolio in the market. They also offer SaaS to multiple levels of customer size, from large enterprises and the government to SMEs. So, they have multiple offerings to fit the size of each customer and company.

He also stated, "Our development team started working on this vision, and they started working definitely with the top partners in the world and independent software vendors to attract them to come and work with us in general. So we do state-of-art Saas made with this partnership with them. We do the offering definitely over our cloud with different flavors — different package. The most important thing is to meet the customer demand. So we are covering not only international, multinational SMEs but also governmental entities. For every segment and every size, we have certain products to serve them, with certain partners looking after this sector. So the example that comes to my mind is one customer that wants to have everything in one solution. So we created something that we call "business in a box," where we have the mail as a service, we call it Zain Mail. We have ERB as a service, we have Zain Drive, and we have Zain Calls, which is collaboration for the employee and outside."

He added that they also do smart attendance for different types and levels of customers, where the customer can do all the attendance through a mobile application. They are doing this because there is a lot of demand in the market for such services. He highlighted the fact that they are not developing this alone, in-house, but with partners. The solution is demanding because customers want to streamline their operations and improve efficiency by leaving this job to Zain and its strong partners. This is called Customization, he explained.

Partners Benefit From Zain Cloud's Seamless, High-Standard Services

Al-Sadhan elaborated on how their Zain Cloud offering helps global companies navigate the national cybersecurity and data regulation compliance processes.

"If you are looking from the outside, you might think it's not easy or impossible to achieve if you're not taking the right path," stated Al-Sadhan.

In Saudi, the cloud-first policy is in line with the key pillars of Vision 2030 and the nationwide digital transformation efforts. Al-Sadhan explained that this policy regulation is about keeping the data inside the country, including IaaS, PaaS and SaaS, mainly for the government and large corporations. They have different corporate tiers that also aim to cover SMEs and SoHos networks.

"The main regulators responsible for overseeing compliance with such requirements as well as certifications are the Communications, Space and Technology Commission (CST) and the National Cybersecurity Authority (NCA)," added Al-Sadhan.

These regulators have established classifications and frameworks for all cloud service providers (CSPs) to ensure data safety and localization. Zain Cloud is categorized under "Class C" — the highest certification from both CST and NCA. "If you reach Class C, it provides you with all the ISOs needed to provide services to the government and large enterprises by meeting the requirements imposed by regulatory frameworks," explained Al-Sadhan.

All of Zain Cloud's global and regional partners can benefit from its reliable and secure services in no time, with seamless delivery and the highest standards.

Zain Cloud: A Successful SaaS Partner Case Study

Moderator Saab also asked about the importance of the relationship between Zain and Alibaba Cloud.

In context, Alibaba Cloud started in 2019, and at present, it has 86 availability zones in 28 Alibaba Cloud regions and is the third largest cloud provider by market share globally. In the Alibaba Cloud Marketplace, there are more than 2,000 technical partners in different categories.

"Nowadays, the Saudi market is becoming more and more popular, especially in tech industries, with more investments going to the digital transformation of both public and private sectors. We see the dramatic opportunities of technology partners, especially SaaS vendors, in Saudi Arabia," expressed Yi Lian of Alibabaa.

In line with this, Lian stated that it is "the time to pave the road and lead technology partners" to the Kingdom. Zain Cloud is now powered by Alibaba Cloud's Apsara Stack. Alibaba Cloud and Zain Cloud are working together to empower the Saudi market. With Apsara Stack, Zain Cloud provides the same stable, secure and scalable service as Alibaba Cloud's public cloud. Alibaba Cloud's ECS, OSS, RDS, SLB and many more such products are also offered to Zain Cloud.

"Zain Cloud is focused on partnering with SaaS vendors; with very flexible cooperation, their business is growing rapidly. We are glad to see the Zain Cloud business growing very well with the recent expansion of the data center in Jeddah," Lian pointed out.

It will also be easier for Chinese technical partners to bring their solutions to Saudi Arabia through this partnership. Additionally, a Chinese maintenance service team is available in the office to help with troubleshooting.

"With the partnership, Zain Cloud is one of the most successful customer case studies for SaaS partners. So we can establish a very good example for other SaaS partners to go Saudi or globally, and we're also willing to help all SaaS partners like Zain to go to the market," concluded Lian.

Moving forward, more ISVs can leverage Alibaba Cloud's service along with Zain's platform to empower their businesses.

Cloud and Infrastructure as the Right Mix

Explaining how Zain Cloud and Alibaba Cloud can help international companies tap into the metaverse market, which is expected to sizably grow in 2023, Al-Sadhan said that the metaverse is trending nowadays, touching the cloud, day-to-day operations and businesses. "Zain Cloud and Alibaba Cloud offer international companies and partners a strategic opportunity. Saudi is growing in the metaverse market, as the numbers are showing. We are attracting them to jump with us using the partnership model. We believe in the partnership model for a win-win partnership, and we don't deal with our partner as a supplier or vendor; all of our treatment is based on a partnership model," he said.

"Currently, we have more than 25 to 30 providers, from international to regional and local companies," Al-Sadhan added. Zain is offering different types of services to attract others and to leverage this strong cloud computing infrastructure that it has invested in for the past three years. "We have the technical expertise; we have the market access, the data localized and the regulatory framework," he continued. International partners can enter the market with strong confidence, and achieve success in this high-potential area. In addition to the cloud, the company also emphasizes its strong infrastructure. Indeed, Zain KSA is a telecom operator that has both a cloud provision and the necessary strong infrastructure — fiber, 5G, etc.

"We invested a lot in the 5G network, launched back in 2019. It was the biggest 5G network in the region," Al-Sadhan detailed. "Our footprint is something that we keep investing in, and we know that this will complement a lot of our cloud, which is sitting on top of a strong network technology where such technology is needed for a large-scale metaverse rollout." Indeed, Zain has all the pillars necessary to enable the development of new technology and keep it updated.

Additionally, moderator Saab inquired about Zain KSA's accelerator programs in terms of research and development for rolling out cloud services in record time to market. Eng. Al-Sadhan noted that Zain focuses a lot on the all-important time-to-market by pushing agility and trying to have strong partners. "In our cloud, we understand how critical this aspect is and how important it is to our customers; therefore, we have many stages," he noted, explaining that the first stage of this program is the accelerator program, which focuses on cloud assessment and deployment, followed by the cybersecurity assessment — also very important nowadays from a regulatory standpoint. "The template is ready to be signed for this marketplace agreement with our partners, and the contribution of each party as well as the responsibility matrix is ready."

The second stage is working closely with the partners after fulfilling all the cybersecurity needs to define the comprehensive go-to-market strategy; this focus is particularly important in order to best define the targeted customer and the value proposition. "The good thing here is our partner can leverage in our direct and indirect strong sales channel to be achieved and easy to be offered on the market, as well as providing the technical support on top of that," Al-Sadhan explained.

Moderator Saab noted that Alibaba is supporting the cloud part, where they have the in-house talent to help Zain in the day-to-day operations, and because all security matters and all data should be handled in-country.

Innovation and Collaboration

The moderator drove the conversation towards how Zain Cloud was helping companies drive innovation in their products and services locally.

Al-Sadhan responded by saying that when it comes to 5G, Zain KSA and Zain Cloud believe in the power of innovation and cooperation to drive success. "We don't do it alone. Without collaboration and right innovative partners, you cannot convince the customers. Our development team works closely with all our partners to understand the needs of the market and to ensure that our service offerings create value. That is why we emphasize customization of our services. Importantly, we are focusing on cost optimization, which is aligned with our vision of 'Zero Time to Market,' delivery in no time as well as 24/7 support along with high-standard SLA. Without offering this service to the customers, it is difficult to consider yourself as leaders in the country."

Explaining how Zain Cloud is facilitating the evolving got-to-market (GTM) and channel ecosystem as well as marketing strategy and analysis in the Saudi market, Saad said, "The customers want to see the full ecosystem. Our Go-to-Market and channel ecosystem focuses on market research, digital marketing and customer engagement to ensure a localized marketing strategy. We have conducted comprehensive market research with new technologies such as big data and data analysis. We want to perform a marketing strategy to position our strong SaaS offering to the market. As you know, it's a very competitive landscape, and we want to maintain strong partnerships with international as well as regional players in the country. The success of the ecosystem is the secret."

Reemphasizing the importance of Cybersecurity framework at global standards, Al-Sadhan said that Zain Cloud follows the highest global standards so that it's easy for the international partners to collaborate as well. "We are working closely with our partners to set up such mandatory technologies to set cybersecurity standards. We recognize the importance of the cybersecurity solutions, and we don't see it just as a mandate from the authorities. We see it as part of our day-to-day business and we believe in that. It's in our DNA, and we are delivering this message to both our partners and customers," Al-Sadhan explained. "Without having cybersecurity in place, we cannot fulfill the Saudi government's Vision 2030 strategy of digital transformation. Our vision for cybersecurity is playing a key role in the protection of sensitive information and assets of both company or personal data. We confirm that we adhere to a strict cybersecurity framework, which is aligned with the global standards.' He stressed Zain's focus on continuous monitoring; regular visits from the authorities to make sure that the cybersecurity infrastructure is up-to-date; and close collaboration with industry experts and partners both locally and internationally. TR

Reimagining a Cloud-First Future

The earliest use of the term "cloud computing" in its current context dates back to 2006, when tech companies such as Google and Amazon used it to describe the trend of people accessing software, computer power and files over the internet rather than on their desktops.

The past two decades have seen the unprecedented growth of the digital economy, which has become the backbone of our societies. Among the new technologies, cloud computing has by far been the leader in terms of global adoption. According to Research and Markets, the global cloud computing market could grow at an average CAGR of 15.7% from 2022 to 2030 and exceed $1.55 trillion by 2030 as more firms shift to cloud computing for cost savings and flexibility.

From the commercial aspect, cloud's competitive advantage stems from its on-demand pricing model, agility, ease of use and scalability in deployment. Cloud sectors of infrastructure-as-a-service (IaaS), software-as-a-service (SaaS) and platform-as-a-service (PaaS) solutions have all been steadily growing despite challenging market dynamics. In recent times, its potential role in sustainable development is also being realized across industries and sectors.

Moreover, the use of AI in almost all industry verticals will require computing and storage power to run sophisticated AI-based applications such as ChatGPT, which is set to revolutionize the telecommunications industry. Experts predict that cloud processing for AI-based applications will see massive investment by cloud providers in the future.

The role of cloud computing in helping businesses and enterprises with computing and storage, network & CDN, databases, big data and security, or other managed services, is only going to generate greater demand in the future. In an increasingly cloud-first digital environment, cloud service providers might want to consider the following to become a sustainable and well-meaning industry.

Insulating Employees

Today's economic scenario is dynamic, to say the least. Big techs such as Microsoft, Facebook-owner Meta, Amazon, Twitter and Salesforce have announced thousands of layoffs. The companies have justified the downsizing as a result of a sudden drop in demand for services in contrast to the sharp uptake during the coronavirus pandemic, when massive hiring was undertaken to meet demands for remote working, online shopping and entertainment. However, the underlying issue in such situations is that the employees have to bear the brunt, which should not be the case. What modern tech companies have to ensure is that their core business and core workforce are well-balanced and well-positioned for the future. A thorough assessment of the market dynamics in the sector as well as other sectors will become crucial moving forward. A recent Gartner projection shows worldwide IT spending to total $4.5 trillion in 2023, an increase of 2.4% from 2022, although a drop from the previous quarter's forecast of 5.1% growth, thanks to the global inflation that has stunted consumer purchasing power. However, overall enterprise IT spending is expected to remain strong. The report notes that while inflation is devastating consumer markets and leading to layoffs at B2C companies, enterprises continue to increase spending on digital business initiatives despite the global economic slowdown.

New Use Cases in Government and Private Organizations

Most governments and private organizations have realized the potential of AI to achieve noticeable goals such as reaching net-zero carbon emissions, fighting diseases and expanding education for all. Such developments will lead to the use of more AI-based solutions in these organizations. Cloud players must plan to provide the best support that they can to develop robust digital ecosystems. Recent industry talks say that mobile phones will soon give way to AR, VR and holographic applications as the primary interface between technology and users. AR, or mixed reality, is currently being explored by industries to develop computerized headsets capable of being operated by the user's eyes, and most big tech companies have made a huge investment in AR to this end. It could just be a matter of time before AR-based devices

start to create entirely new business models that would allow cloud service providers to benefit from their tapping into the technology.

Satellite Connectivity and Cloud

The combination of satellite communication and the cloud is generating immense interest in the sector. 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 of LEO satellites

planned and being deployed by the likes of SpaceX, OneWeb, StarLink and others has triggered renewed interest in this sector.

In recent times, the same satellite networks delivering fiber-quality broadband are being leveraged to extend the cloud, allowing users to connect and have great performance for their applications to capitalize on the productivity, scalability and operational agility that cloud computing enables, regardless of geographical barriers.

In a recent development, du and satellite operator SES successfully demonstrated the first satellite-enabled 5G backhaul in the Middle East utilizing SES's Medium Earth Orbit (MEO) satellites.

The low latency and high throughput 5G backhaul link showed that O3b is an ideal solution for 5G satellite-enabled networks with Quality of Experience (QoE) on par with terrestrial backhauling technologies. The development will see du extending its 5G coverage to remote locations and support its enterprise customers, including offshore energy sites, with highly reliable, high throughput and low latency network connectivity.

Closing the Digital Divide With Cloud

The Digital Cooperation Organization (DCO), in its "Bridging the Gap" report, has highlighted the need for greater international and multilateral cooperation to close the digital divide extend the benefits of the digital economies.

The report details how stakeholders in the public and private sectors, enterprises and SMEs, civil society and academia will be critical to overcoming the challenges of the digital economy, including global data flow and privacy, data sovereignty, regulations, markets, innovation, sustainability and other factors that may impact future economic growth. Cloud technology is advantageous when it comes to connecting people and companies that are located in more remote regions with little or no access to services. Cloud computing can add value through access to connectivity and cloud-based public services for citizens, as well as business expansion and better services, particularly in education and health.

The World Bank estimates that raising internet penetration to 75% in the developing world would increase global GDP by $2 trillion and create 140 million jobs globally. In a proprietary survey in 12 countries, over 50% of the 750 respondents agreed that better access to digital technologies would help them find higher-paying jobs or be self-employed.

Climate Change and Cloud

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.

Cloud-based applications are helping farmers achieve better crop yields by focusing on saving water, agrochemicals, labor and energy, resulting in a reduction in environmental and planetary impact. For instance, AWS solutions are being used by agricultural companies to track soil and crop health and to manage irrigation, fertilization and crop protection. The platforms integrate patented software and hardware with IoT sensors that can be accessed via mobile or desktop systems. Similarly,

Huawei's advanced artificial intelligence service, Huawei Cloud AI, and other tools (ModelArts) are helping environmentalists get accurate identification of chainsaw noises and truck sounds to fight illegal logging. It is also helping them build intelligent models that detect and analyze the sounds of endangered species' sounds, providing information about their habitat, their threat status and even their life habits. Maintaining balance in the environmental ecosystem is becoming all the more important in light of the adverse natural occurrences taking place on Earth today. Moreover, the increased use of technology has become one of the main contributors to climate change. However, cloud technology has the potential to provide cost-efficient data storage and processing tools as compared to energy-intensive on-premise data centers, as well as the ability to increase or decrease IT resources as per changing demands and minimize resource waste and operating costs.

In Conclusion

According to a leading market consulting firm, the cloud market in the Middle East is estimated to reach $9.8 billion by 2027, growing at a CAGR of 21 per cent. With technologies such as automation and machine learning taking precedence in enhancing operational efficiency across industries and sectors, the bottlenecks surrounding cloud deployment in any form of regulatory policies, investment, adoption and technical know-how must be streamlined at the earliest. Cloud computing is poised to play a key role in creating a digital economy that works for users across continents. TR

Cloud computing is poised to play a key role in creating a digital economy that works for users across continents

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A Pathway to the Discovery of Autonomous Mobile Robots

From rising labor costs to a shrinking skilled workforce to increasing pressure for next-day, same-day, and two-hour delivery, today's order fulfillment business faces many new challenges.

Broadly speaking, recent decades have brought monumental changes to the world of order fulfillment and material handling. Distribution centers, logistic departments, agriculture corporations and healthcare institutions are all seeking new and innovative ways to evolve operational productivity, speed and safety.

Therefore, they are resorting to what we know of nowadays as "autonomous mobile robots" (AMRs), a type of robot that can independently sense and navigate its environment, to assist them with their daily tasks and help them improve their productivity with minimal effort.

AMRs differ from automated guided vehicles (AGVs), which are movable robots that follow long lines or wires marked on the ground or use radio waves, vision cameras, magnets or lasers for navigation. AMRs are practically robots that are made of a complex array of sensors, artificial intelligence, machine learning, and path-planning computers to perceive and navigate their surroundings, independent of hard-wired power.

Far more affordable than traditional automation, AMR is installed once and easily scales for long-term growth or short-term seasonality.

Types of Autonomous Mobile Robots

In spite of the fact that AMRs are still a relatively new technology, they have already branched out into many different variants, each better suited to perform specific types of actions.

For this reason, discussions about AMRs tend to focus more on the applications of the technology rather than specific names and models.

In this day and age, AMRs are comprised of four types, and each one is intended to perform in a specific way, combining different tasks that make the operations and work of daily life easier.

1- AMRs designed for transportation

Transporting inventory or materials is a low-skill, repetitive task that is often tiring and time-consuming. Transportation is no longer a significant cost to the product and is frequently one of the first tasks to be automated. AMRs for transportation give employees authorization to carry out varying and greater duties inside the facility, making the tasks effortless and undemanding.

AMRs are usually used to transport raw materials from warehouses to production lines. Such transport conducted by AMRs no longer requires permanent pathways or cables embedded in the warehouse floor.

Moreover, these robots transport unfinished products to the production line and finished products to the warehouse for distribution.

AMRs are equipped with sensors and cameras to help them navigate controlled spaces like warehouses. They can be faster than humans at processing multiple orders from different areas of the warehouse at the same time, providing proximity to a specific delivery point within the warehouse as well as transport to the warehouse itself.

For instance, in June 2022, Amazon launched the first fully autonomous mobile robot called Proteus. It uses advanced safety, sensing and navigation technology to move autonomously throughout the facility.

The brand-new Proteus robot rolls on wheels and has a low center of gravity. Although it appears to be a type of robot vacuum cleaner at first, this device actually performs transportation tasks rather than cleaning tasks. Proteus uses sensors, just like a robot vacuum, to navigate and avoid obstacles, even moving ones like people.

Amazon has lauded the robots it deploys for their ability to reduce physical strain on employees, among other benefits. Indeed, the company is increasing its investment in robotics to maximize overall performance.

2- AMRs designed for picking

Many warehouses still use the "pick-by-paper" method, where workers are given a batch of shipping labels in a picking location sequence, with the location for each pick printed on the labels themselves. The travel time associated with picking can be significantly reduced by AMRs and their picking efficiencies. The picker's travel time can be cut in half with these cooperative robots, which can bring the products directly and quickly to them. An AMR can, for instance, pick an item for a worker instead of requiring them to walk from their station to a shelf and back, saving that worker time and effort.

AMRs are practically robots that are made of a complex array of sensors, artificial intelligence, machine learning, and path-planning computers to perceive and navigate their surroundings, independent of hard-wired power

As an example, with G2P logic (i.e., goods-to-person), the AMRs move through the shelves and precisely locate the one where the needed item is stored, while the operator is given a picking station to prepare the order. The operator receives the shelf with the relevant item and adds the item to the order that is currently being prepared.

3- AMRs designed for sorting

AMRs are suitable for sorting procedures because they are equipped with a variety of technologies. AMRs with tilt trays, cross-belt systems and conveyor rollers can provide a range of sorting options, including:

- High-speed parcel sortation
- Ecommerce order fulfillment
- Returns handling
- Short-term sortation

For instance, in high-speed parcel sortation, these cooperative robots place and position orders using chutes on levels. When an item's barcode is read by a station camera and recognized, it can be launched to its intended chute.

4- AMRs designed for inventory visibility

Every warehouse must have accurate and obvious inventory visibility. An AMR with warehouse scanning capabilities will show you where a product is in relation to the warehouse, distribution center and supply chain.

Movement, tracking and reconciliation of inventory can be difficult and time-consuming for large and complex operations. The time and money spent tracking inventory can be significantly reduced by integrating AMRs within systems and automating the inventory control procedures.

Efficiency of Internal Logistics Automation

AMRs can be essential in providing maximized efficiency. Firstly, AMRs decrease the lead time by determining the quickest path from point A to point B. If they run into difficulties, they reroute or call for assistance. By ensuring that materials are delivered on time, AMRs avoid obstacles that slow or delay a process and lengthen the waiting periods.

Second, AMRs provide an increased return on investment through a fast, reliable procedure. Low initial costs are made possible by the simple integration and the lack of need for changes to the current factory layout. AMRs can work continuously for 12 to 15 hours, making them a dependable workforce. When they are not working, they can automatically bill, which promotes efficient internal logistics and guarantees a smooth workflow. Due to the simplicity of this robotic integration and the freeing up of employees to perform higher-value tasks, the ROI is typically less than a year.

Third of all, the flexibility of internal logistics can be maximized. For instance, when changing the layout of a factory, AMRs can be used to eliminate the need to move the fixed conveyor belts and design new magnetic paths for your AGVs. Instead, the map is simply altered within the user-friendly software of the robot. At the same time, one can modify the robots to suit specific requirements. A roller conveyor can be easily integrated with the robot if it is required that the AMR act as the flexible link between conveyor belts.

Finally, AMRs can work alongside people without the need for safety precautions because they are cooperative. They always avoid obstacles, including people, and stop if approached too closely. Therefore, AMRs are a secure substitute for forklifts, stackers and trucks driving indoors, which can too frequently result in collisions and other work-related injuries. Additionally, when robots take over the logistics tasks, workers can save time and effort by eliminating strenuous lifting, lowering their physical and mental stress levels. The collaborative nature of these robots and their design for maximizing human interaction have strong advantages for both usability and safety. Anyone can now learn to program these robots thanks to the AMRs' simple and intuitive interface. Such ease then makes it possible to operate and program without prior programming knowledge, allowing immediate access to their benefits and value. TR

Eng. Olayan Alwetaid, CEO, stc Group

stc Group CEO: 'Our Core Focus Is Connectivity and Digitalization'

In an exclusive interview with Telecom Review, Eng. Olayan Alwetaid, stc Group CEO, sheds light on their digital transformation process, data center innovation, 2023 collaborations and the importance of effective management of environmental aspects.

What strategies has stc Group pursued to address the different challenges in the digital transformation process?

At stc, we take pride in staying ahead of the curve. Recognizing the importance of driving digital transformation relatively early on, we launched our "DARE" strategy, which stands for digitize stc, accelerate performance, reinvent experience and expand scale and scope. We continue to operate under this strategy, which instills a digital mindset in our employees as well as subsidiaries and partners, to unlock the full potential of our digital capabilities.

Against a backdrop of rapid global digital transformation and an even more accelerated pace in Saudi Arabia, stc has taken concrete actions to ensure it can champion the digital transformation of the MENA region and beyond. stc has invested at pace in creating a full range of products and services to be able to provide integrated solutions, from its telecommunications roots to fintech, TV, IOT, 5G, cloud computing, e-gaming and cybersecurity.

To highlight some examples of our range of products and services, in 2018 we launched stc pay bank, which offers consumers a variety of digital payment solutions, supporting the region's shift towards a cashless society in line with Saudi Vision goals. Gaming and e-sports are sectors where we see significant growth potential, and we're thrilled to be a part of it through our dedicated e-sports and gaming platform, stc play. Our world-class connectivity has been core to the transformation of the Middle East's gaming industry, enabling gaming service providers and gamers to have the best gaming experience possible. stc has also invested extensive technology and talent in its data privacy and cybersecurity businesses. The key focus was to clearly understand the threats and risks faced by our customers and to protect data for individuals and businesses.

We are focused on developing world-class infrastructure to support our world-class products and services and ensure the most reliable, geographically widespread connectivity to every existing and potential device that allows people around the world to adopt a digital way of life and create more meaningful, enriched experiences.

Please explain how center3 advances the group's digital goals and the broader importance of backing up mobile technology with submarine cables and data centers.

center3 — our carrier-neutral data centers and submarine fiber optic network — is a significant milestone in stc's aim to provide world-class connectivity and our commitment to positioning the Kingdom as the region's digital center.

By providing the latest communication and hosting technologies as well as elevating connectivity capacity to meet the needs of the markets across Asia, Europe, Africa and the rest of the world, we are putting the Kingdom at the heart of international connectivity and further building our ability to deliver high-speed, low-latency connections.

What is more, center3's cohesive ecosystem of cables and data centers is designed to attract hyperscalers, big data and local and international service providers. We have built on this offering, since the launch of center3, by introducing other complementary digital companies, including cloud computing, cybersecurity and the Internet of Things (IoT), to provide a complete digital ecosystem.

What collaborations might we see from stc group over the rest of 2023? What are your primary focus areas when striking such deals?

Globally, Saudi Arabia has been ranked first among the G20 countries in the Digital Competitiveness Report for the year 2021. This accomplishment originates from the empowerment and wise leadership of the Saudi government. From a private sector perspective, we contribute to the Kingdom's ICT infrastructure, digital capabilities development and mega digital projects in line with the Kingdom's Vision 2030. Our core focus is connectivity and digitalization. Moreover, we seek to contribute to positioning the Kingdom at the heart of the digital economy and use technology to enrich our customers' lives and benefit the broader economy.

That means we will continue exploring opportunities to unlock cutting-edge technologies such as AI, IoT and cloud computing and further build stc's position at the forefront of innovation.

With increasing attention around environmental initiatives, how hard is it to balance these with the broader needs and goals of the business?

Effective management of environmental aspects is of primary importance to us; we view this as fundamental to our business needs and goals, not in opposition. Many opportunities exist for linking our environmental responsibility to such growth.

For instance, our business in GCC is underpinned by fundamental sustainability principles, including maximizing our economic impact, supporting progressive social development and, more relevantly, creating a positive environmental impact and minimizing our footprint.

Furthermore, the range of our contribution is evident in our commitment to the United Nations Sustainable Development Goals (SDGs). We recognized the importance of each of the 17 SDGs. We identified nine that we see as priorities for our business due to their relevance to our community, geography and business strategy. Furthermore, we are fully committed to supporting the SDGs and aim to ensure our business practice is in line with the goals so that we are not operating in a way that could be detrimental to the future of society and the environment.

With good corporate governance as our foundation, stc is able to focus on creating lasting impact for the members of our digital ecosystem. Through initiatives such as "InspireU," our incubator program for digital innovation startups, stc group invested over SAR 500 million and provided more than 600,000 jobs.

Finally, to play our part in tackling climate change, we aligned our business with the Paris agreement to reach net zero carbon emissions by no later than 2050 and are working towards an ambitious carbon reduction by 2030.

All this reflects our aim to be role models by taking responsibility and positively contributing to the environment, society and economy. TR

Ahmed Al-Anqar, CEO, Salam

Salam: Technology and Innovation Are Keys to a Greener World

In an exclusive interview with Telecom Review, Salam CEO Ahmed Al-Anqari proudly discussed the company's reputation as well as its participation in LEAP 2023, its contributions toward the Kingdom of Saudi Arabia's digital transformation and its goals in the new year.

How do you aim to advance your reputation as the fastest-growing and most innovative Saudi telecom brand?

Since our founding in 2005, we've been proud of what we have achieved. Today, Salam is a leading Saudi telecom company with one of the region's most established telecom networks. Our solutions span virtually the whole digital and telecommunications spectrum. By staying agile and staying ahead of fast-changing and fast-growing demand for technology, we have grown into a major player and vital enabler of the Kingdom's digital transformation. And we're just getting started. From cloud computing to AI, IoT and other smart technologies, we're hard at work to help people and businesses work smarter, live better and become more digital and secure.

With Salam's participation in LEAP 2023 being focused on a "Green Tomorrow," can you share details on how the company will leverage technology and implement its strategy in a sustainable manner?

At Salam, we believe that a green tomorrow starts with a green today. As a company rooted in green thinking, we're paving the way for future generations by championing responsible and sustainable technology. We believe that technology and innovation hold the key to a greener world. We have committed our resources, talent and expertise towards bringing and deploying solutions that make a cleaner, more efficient and sustainable future possible, like smart cities, AI-enabled industrial systems, the cloud, and many other smart and efficient environments.

What do you think are the evolving trends in the Saudi market that will require more of Salam's next-generation ICT solutions?

Saudi Arabia's vision is to be the most connected and digitized nation by 2030. As one of the leading telecom providers with one of the region's most extensive telecom networks, Salam is strongly positioned to provide next-gen ICT solutions and capacity that this future will require.

Today, we offer the only 1 Gbps fiber connection in Saudi Arabia, setting customers free to experience a fully managed digital experience without limits. We also recently launched the Salam G4M3R Pack, the first and only dedicated gamer package in the Kingdom. As a testament to our robust network speed and capacity, we were recently ranked by Ookla as having the best Internet video experience in Saudi Arabia.

I am also very pleased to say that Salam has been appointed to build a world-class telecommunications infrastructure for the landmark Diriyah Gate heritage project, a source of great pride for Salam as we actively support the Kingdom's cultural revival.

Saudi Arabia is at the forefront of digital transformation. How do you see the telecom sector being impacted by this in the long run, and how will Salam keep up with the demand?

We are excited about the developments and potential in the sector, powered by Saudi Arabia's digital transformation. The Kingdom's technology market is worth over $40 billion, the largest in the region. The Kingdom is spending $1.2 billion to improve the digital skills of 100,000 Saudi youth by 2030, with a focus on programming, AI, cybersecurity and gaming. Indeed, the Kingdom is in the best position to achieve its goal of being the most connected and digitized nation by 2030, and at Salam, we're eager to play our part. We are expanding our portfolio, expanding our network and working with leading global technology partners and our own innovation teams to open new frontiers in telecommunications and smart systems that we need today and tomorrow.

With a new year upon us, what are Salam's goals for 2023?

Salam has played a leading role in the digital transformation of the Kingdom, and we're proud to be at the forefront of this change. But even as technology moves forward at mind-boggling speed, we want to play our part with a human heart. We want technology that is not only for the future but also cares for the future. We believe in making technology more human-centric, more simple, more green and more sustainable. Our theme at this year's LEAP event says it all: Connecting for a greener tomorrow. TR

Salam has played a leading role in the digital transformation of the Kingdom, and we're proud to be at the forefront of this change

Mohammed Alhakbani, CEO, TAWAL

TAWAL: Enabling the Digital Economy's Efficient and Scalable Infrastructure

TAWAL is a key player in the Saudi telecom infrastructure industry, well-positioned to lead in providing reliable and cost-efficient ICT infrastructure.

During LEAP23, Telecom Review had an exclusive interview with CEO Mohammed Alhakbani in which he shared the importance of the company's participation in this year's global tech event and what expansion strategies it is focusing on as a leading towerco in the Kingdom, among other insights.

What is TAWAL showcasing at LEAP 2023? How meaningful is your participation in this event?

We're extremely delighted and honored to be part of the LEAP event for the second year in a row. It's very important for industry leaders to participate in this global tech event and help enable the Kingdom's vision of becoming a leader in the digital economy.

For our showcase this year, we're focusing on smart cities. We're showing the latest of our smart furniture with innovative solutions, including smart poles. All of these are geared toward smart cities and smart development areas. Moreover, we have our core services and products as a pioneering towerco in the Kingdom.

What key partnerships will TAWAL announce at LEAP, and how will these impact your growth in 2023?

We're happy to be signing several deals and partnerships with the likes of Saudi Downtown, King Abdullah University of Science and Technology (KAUST) and Aramco. These agreements, among others, are part of our engagement this year.

This will impact our growth in 2023, as it is a must for TAWAL to become a one-stop shop for our customers and clients through our comprehensive portfolio, offering different services and products.

Can you explain TAWAL's expansion strategy further and how you are looking into different markets as a towerco?

TAWAL's vision is to become the leading ICT infrastructure provider in the region. Accordingly, we are focused, first, on serving the local market efficiently, and we are very successful in doing that, with more than 16,000 towers and managed service agreements (MSAs) signed with all operators. At the same time, we have started our ambition to enter different markets in the region. We have already started our operations in Pakistan, and we're continuously pursuing other opportunities in other locations.

From an industry leader's point of view, what is your outlook on KSA's ICT industry, particularly when it comes to rolling out 5G and developing smart cities?

The Kingdom is very ambitious in its vision. The digital economy is one of the key enablers on its digital transformation journey. What the digital economy requires is an efficient and scalable infrastructure, and we're proud that TAWAL is working on enabling that. Moreover, 5G plays an important role in achieving that goal, and through our state-of-the-art solutions, we stay close to operators and support them in making 5G deployments happen. TR

Telco Industry Needs to Monetize 5G Features, Says Ericsson's Börje Ekholm

In an exclusive interview with Telecom Review during LEAP 2023, Börje Ekholm, president and CEO at Ericsson, talks about the importance of maintaining technology leadership and enabling enterprise.

Following the 2022 full-year results, you stated that Ericsson's strategy remains focused on driving sustainable growth. What are the steps you'll take in 2023 to achieve this?

As a company, we've been focused on mobile networks as our core business, and that is where we spend most of our R&D money and most of our company effort. But we also need to start to broaden our company for the longer term. We can broaden ourselves as a company with the legitimacy of our technology leadership on 5G into the enterprise field, and that is what we're trying to do this year. We took some major steps in 2022. First of all, the formation of enterprise wireless solutions, which is our Cradlepoint wireless Vonage combined with dedicated networks, but also the expansion through the acquisition of Vonage into the platform economy. We see these two steps as major ventures into enterprise. Since we invest in the product portfolio, I would add the importance of sustainability. Driving energy efficiency in our product portfolio is critical. And that's an area that we have invested a lot in and continue to invest in. So by combining these two aspects, we can have a more sustainable company and also create a longer term growth profile by combining the telco market and the enterprise market.

Ericsson has been making network modernization a top priority. Can you share the motivation behind this and how it will affect the global 5G rollout and widespread enterprise digitalization?

Network modernization is critical. When it comes to networks, we are starting to see increasing demand for data from the end consumer. Data continues to grow very strongly. Maybe sometimes the growth rate comes off a bit, but it's still in absolute numbers with very high growth. There is a need for operators, the CSPs to basically produce the bit going forward, while maintaining customer satisfaction and being also energy efficient. So, unless you modernize the network, there is a risk that, first of all, the performance will deteriorate and the cost will go up. We see that there is a need to modernize the networks, and that is what our specific focus is on. When you modernize the networks, we have to prepare for 5G. For us, it's kind of a natural progression for the service providers to start modernizing and then prepare for 5G.

How will Ericsson's Vonage acquisition leverage the power of the cloud and 5G together and unlock new layers of innovation for consumers and enterprises?

This is a critical part, and I'm very happy you asked that. We envision the future networks with a horizontal capability that can touch many different use cases, [from] mission critical and regular consumer use cases to enterprise and emergency use cases. All of them can leverage from the horizontal network platform. But with 5G, and especially 5G standalone, there are going to be specific features available — call it speed, call it latency, call it authentication — that you want to be able to call up to applications. So basically, there is a need for simple APIs that application developers who develop the vertical use cases can call up from the network that requires you to 1) develop the APIs and 2) expose them. You need to be able to charge for them, and you need to be able to consume them in an easy way. That's why the Vonage acquisition provides us with that horizontal layer, the CpaaS platform, that will allow us to both present or expose, consume, and monetize the APIs. So in the longer term, we see the Vonage and CPaaS platform as a critical way for the service providers to monetize the network investments that they are making today.

You are now the owner of a global CPaaS platform. Are you competing with your own customers, like Verizon, who are offering the services as BlueJeans? How will you balance out external relationships?

The interesting part is that the Vonage solution is really geared towards SMEs, and actually, that's a bit of a different market. We work together with other collaborative software providers to incorporate the Vonage solution there, and that is actually addressing a different market need than the big companies do. Why are we excited about that? To be honest, 5G will start to digitalize SMEs first. The benefit of 5G is that you get capacity wherever you are. So you don't even need the local area network. The Vonage UCaas/CaaS is tailor-made for SMEs, and it's actually easier for them to deploy with better functionality and [a more] suitable solution for SMEs.

> Telecommunications is critical [in order] to create a sustainable future

We see great interest from the service providers to go there. But the strategic reason for buying Vonage is for the CPaaS platform because that will allow us to monetize the APIs from the network. It's a very different way of thinking. The telco industry is used to thinking about subscriptions, but the reality is we need to be able to monetize the features of 5G. Otherwise, why would anyone build out 5G? I do believe that it's critical that we're able to sell those specific features in a better way. Vonage gives us the CPaaS platform, which is critical, and also gives us a million developers, and that's also going to be critical.

How do you see the Middle East market influencing Ericsson's progress in developing and deploying state-of-the-art 5G products and solutions?

The Middle East region was a front-runner in launching 5G globally with reasonable coverage and good network performance. A year after 5G was launched globally, speed tests were conducted in Korea and the Middle East. So, the Middle East is actually a front-runner in the 5G market, and that's why it's important for us to be here. The Kingdom's Vision 2030 provides a strong commitment to infrastructure, and the digital infrastructure is critical for the digital transformation. We want to be stronger in this market which has influenced the global roadmap as a front-runner market.

In line with your fireside chat, can you elaborate on how technology powers a bright future and how Ericsson significantly contributes to this?

I am a big believer that technology is a force for good. Communication improves lives. Now, you can communicate with your children, parents, friends and colleagues, and we can do e-commerce. We could migrate during COVID from being in the office to working from home. It actually changes and improves an individual's life. The next part is that technology is going to change businesses. The way we operate companies in the future is going to be different. We will connect everything in the supply chain. The supply chain will be much more agile and flexible, and allow us to be more quality asset efficient and energy efficient in the whole supply chain by reducing carbon generation. I think telecommunications is critical [in order] to create a sustainable future. If you look at the ICT industry, it contributes around 1.5% of greenhouse gases, but we can lower greenhouse gases by 15%. So, it's a 10x kind of catalyst, which is really important and really big.

How long do you think we are from becoming a digital business society?

I think it's still many years to go, and it will take time. We will need to change processes. However, it's interesting to think about the consumer. We started to digitalize the consumer market basically 10 to 15 years ago, and it is almost digitalized today. So, 15 years ago, we had photo albums, we had the digital cameras, we had DVDs on the wall. We had CD players at home, and we stored documents in binders on the shelf. Today, we use social media to interact with friends. We don't send postcards anymore. We have no photo albums. The DVD and CD are streamed. So everything is digitalized now. 4G allowed us to digitalize consumers. Now we are digitalizing enterprise. It's probably going to take a similar timeframe, but we need to start.

In a highly competitive sector, how will Ericsson maintain its notable reputation while ensuring security and profitability for users and partners alike?

This is a major question. We often say that to be a tech or industry leader, you need to be a market leader. You need to be a leader in technology, and you need to be a leader in how you conduct your business. We are investing in all those areas to strengthen our position in the market, but we also continue to invest in technology leadership. We need to do that to drive cost and to drive performance for our customers. And lastly, we invest in how we run the company. So we're really focused on making sure ethics and compliance are fully integrated into everything we do in the company. When we succeed on these three aspects, we are a true industry leader.

What do you think is the reason behind the unprecedented growth of the OpenAI chatbot service, ChatGPT?

I think it is an interesting development. So what is the killer app? Nobody has any idea. In five years, I will tell you what the killer app was. It may be the generative AI because that's going to drive such a massive amount of data into every device as well as massive traffic to the network. TR

When we succeed on these three aspects (market, technology and business), we are a true industry leader

Sustainability and Technology: Building Today for Tomorrow

2023 is bound to be a year of uncertainty and staggering variability, and yet it is when actions become intensified with regard to pushing sustainability as a top priority on national and global agendas.

Recently, in Switzerland, the Davos 2023 conference gathered public and private sector leaders to discuss the best practices toward helping to ensure that the cities of the future are environmentally sustainable and socially resilient.

To have successful innovation hubs implemented in new smart cities and traditional cities across the globe, reinforcing cooperation between the government and business sectors is vital. For economic growth to lead to a strong and long-lasting recovery from the COVID-19 pandemic, it needs to be sustainable and resilient.

A lot of advanced solutions and public-private cooperation are tackling the world's most pressing challenges. Within the Middle East alone, as concerns about sustainability and energy conservation arise, the GCC governments are taking serious measures to ensure more efficient practices are being exercised through the use of new technologies.

Navigating the net-zero transition as countries and organizations alike set their net-zero targets entails a significant shift in demand, capital allocation, costs and jobs.

A recent analysis estimated that the cumulative CAPEX on physical assets such as technology, infrastructure, and natural resources must increase by $3.5 trillion annually until 2050. This investment would bring growth opportunities and open markets for low-emission products and services.

In light of this, there is a compelling case for climate action that will help MENA's citizens and businesses adapt to the growing climate realities and prepare them for the future.

Advancing Clean Technologies

The ultimate aim of clean technology is to reduce the environmental footprint and minimize environmental pollution through the use of eco-friendly materials, processes or practices.

In terms of the environment, the concept of "clean technologies" refers to the use of minimal resources with maximum efficiency in order to achieve resource conservation and environmental protection. On the other hand, from an economic point of view, it means cost-effectiveness and increased productivity within the boundaries of available resources.

An analysis shows that if countries around the world fully implement their announced energy and climate pledges, the global market for key mass-manufactured clean energy technologies will amount to US$650 billion annually by 2030.

Progressive technologies like artificial intelligence (AI), renewable electrification and deep tech will provide opportunities for R&D, innovation and deployment-at-scale, as well as large-scale benefits to productivity, lower prices and decarbonization.

With the complexity of the massive information and data the world is generating, AI approaches can help understand, synthesize and prioritize problems and solutions with more accountability and responsibility, and thus an overall higher ethical standard.

The net-zero transition will require innovation across green technologies, from carbon removal to sustainable forms of fuel. In the next five years, it has been reported that more than half of the tipping points for crucial green technologies will be met.

In fact, the sustainability revolution promises the scale of the industrial revolution, coupled with the immediate rise and pace of the digital revolution.

The acceleration of sustainable action is now, and AI is creating real opportunities with regard to this. Large-scale deployment of low-carbon technologies, enabled by AI and digital enablers, will transform sectors such as energy, transport and ocean systems.

Many of the new climate and AI technologies will increase economies of scale, making the comprehensive technological transformation of energy, transport and production processes the key narratives of the 21st-century growth story.

During the 16th edition of the Telecom Review Summit, a panel discussion focused on sustainability and green tech, addressed the subject of green environment, with a focus squarely set on intelligent operations, intelligent networks and an ecological approach.

Research shows that after exceeding US$1 trillion in 2022, investments in clean energy technologies are on the verge of overtaking such spending on fossil fuels for the first time ever.

2023: UAE's Year of Sustainability and COP28 Hosting

The UAE President, His Highness Sheikh Mohamed bin Zayed Al Nahyan, announced that 2023 will be the "Year of Sustainability," and highlight the nation's extensive efforts to promote sustainable circularity ahead of the 2023 United Nations Climate Change Conference (COP28), while showcasing its commitment to fostering a global collaboration in seeking innovative solutions to conservation-related challenges.

Leaders are looking ahead to COP28, which will take place in November 2023 at Expo City Dubai. Already, we can expect to see a continuation of the shift from commitments to actions as organizations make progress on balancing net-zero targets with long-term energy resilience and ensuring a secure, affordable and clean transition.

The fight against global warming should not be at the expense of economic growth, according to Sultan Al Jaber, the CEO of oil giant ADNOC, who will lead this year's UN climate talks. He emphasized that the energy transition needs to make the planet both "wealthier and healthier."

We need to hold back the global rise in temperatures to 1.5 degrees Celsius, in compliance with the 2015 Paris Agreement, without slowing economic growth.

In preparation, the UAE Circular Economy Council convened its first meeting in 2023, where Her Highness Sheikha Shamma, CEO of Alliances for Global Sustainability, noted: "Convening key representatives from the public and private sectors, the discussion highlighted the need for cross-industry collaboration, transparency and access to information in order to ensure the success of several waste management and decarburization initiatives that are currently underway."

In her welcoming note, Mariam bint Mohammed Almheiri, minister of climate change and environment, said: "As the UAE will host COP28 later this year, the conference success depends on the ability of all of us to present and position the UAE as a role model for a sustainable and climate-friendly fast-developing nation."

One of the focuses for a successful COP28 is demonstrating the UAE's ability to adopt circular approaches and innovations to reduce our greenhouse gas (GHG) emissions.

"Our commitment to global climate action and the UAE's adoption of the National Net Zero by 2050 Pathway presents our long-term emissions reduction targets as we aim to achieve 18% emission reduction compared to [the] 2019 baseline by 2030," Almheiri added.

According to His Highness Sheikh Mohammed bin Rashid Al Maktoum, vice president and prime minister of the UAE and ruler of Dubai, COP28 will be the most important event in the UAE in 2023.

During the UAE Government Annual Meeting session, Dr. Sultan bin Ahmed Al Jaber, minister of industry and advanced technology and UAE special envoy for climate change, highlighted the importance of the UAE hosting COP28.

"The late Sheikh Zayed laid the foundations of environmental sustainability and climate action that we have built on in the past decades. Today, we have a proven track record of reducing emissions, accelerating the growth of renewable energy and enabling the energy transition," said Dr. Al Jaber.

The UAE was the first country in the region to ratify the Paris Agreement and announce a strategic initiative to achieve Net Zero by 2050. The GCC country has invested more than US$50 billion in clean energy projects, including in 40 developing nations, and recently announced the UAE-US partnership to accelerate the transition to clean energy (PACE), which will catalyze US$100 billion in financing to deploy 100 gigawatts of clean energy globally.

Dr. Al Jaber reiterated that the success of COP28 is a national responsibility and that all members of society, including the public and private sectors and the residents themselves, should come together in solidarity to host a successful and inclusive global event. Moving forward into 2023 and closer to COP28, focusing on both short-term measures and coordinated long-term action will be crucial for a sustainable future.

Contributions in the Middle East

When it comes to the top ICT companies in the region, many of them have been operating and deploying projects to save energy and support sustainable development.

Organizations in the UAE and throughout the Middle East that move workloads to the new AWS Middle East (UAE) infrastructure region can benefit from Amazon's sustainability efforts to reduce their carbon footprint. In fact, the recent AWS infrastructure was found to be 3.6 times more energy efficient than other enterprise data centers.

Last year, Middle East operators, namely e&, stc, Zain, Batelco, du and Omantel, signed an MoU aimed at strengthening their cooperation to preserve and protect the environment and reduce their operations' carbon footprint.

Early in 2023, Telecom Egypt and Huawei Technologies announced their coordinated activation of the first eco-friendly wireless network tower made of Fiber Reinforced Polymer (FRP).

More than two years after the emergence of the COVID-19 pandemic, governments across MENA are now focused on leveraging digital services and technologies to be more environmentally friendly.

Saudi Arabia's ACWA Power and its partners are working steadily in NEOM, the $500 billion cognitive city, to complete the construction of the world's largest green hydrogen project. By 2025, the first phase of the green hydrogen facilities is expected to come online.

SirajPower, the UAE's leading distributed solar energy provider in the region, and master developer Nakheel have teamed up to install solar panels across key communities in Dubai, powering residential areas through such solar solutions,

Oman's sustainable city, Yiti, reaffirmed its commitment to roll out initiatives to support Oman Vision 2040 and the National Tourism Strategy by creating a people-centric, green and energy-efficient city. Reportedly, over 50 SMEs in Oman have benefited from the job opportunities spurred by the sustainable city.

And in Qatar, the FIFA World Cup 2022 will not only be remembered as the first 5G-powered mega event but also as the first entirely demountable stadium in World Cup history. The stadium, constructed with repurposed shipping containers and modular steel, left an indelible mark on both the sporting and sustainability worlds.

With all eyes on climate change — and with proper funding — 2023 can be the year when the Gulf states work together on a strategy to quicken MENA's course towards net zero. With the region hosting consecutive COP summits — COP27 was previously held in Egypt — the climate change discourse is heating up within the Middle East. And this will certainly have an impact on both the neighboring countries and the world at large. TR

> Many of the new climate and AI technologies will increase economies of scale, making the comprehensive technological transformation of energy, transport and production processes the key narratives of the 21st-century growth story

Resilience: A Key to Telco Business Success

At a time when the global economic climate is uncertain, maintaining a business' continuous operations and, most importantly, protecting its people, seems like a tough pursuit. However, there is one key pillar in the framework of a digital economy – one imperative for the telecom sector to sail through these choppy waters no matter what challenges lie ahead. That factor is "resilience," and it seems to be the operating word and optimal strategy for the sector's future.

The beginning of 2023 witnessed mass layoffs in the technology sector as a result of dampened consumer demand due to high inflation. According to Gartner's recent survey, the worldwide shipments of total devices (PCs, tablets and mobile phones) are projected to decline 4.4% in 2023, to a total of 1.7 billion units. In 2022, the device shipment market dropped by 11.9%.

"The depressed economic market will continue to dampen demand for devices throughout 2023. End-user spending on devices is projected to decline 5.1% in 2023," notes a Gartner analyst.

The post-pandemic recovery has suddenly taken a southward trend. Despite various inflation-curbing measures by financial heads, market professionals remain wary of a looming recession.

Furthermore, to fight inflation, the US Federal Reserve raised its target interest rate several times, stating that "inflation has eased somewhat but remains elevated." Consequently, most central banks in the GCC region have raised their rate percentages; higher interest rates can impact cash flow, borrowing, reinvesting and even hiring.

The Resilience Factor

Business resilience has been defined as an organization's ability to speedily adapt to disruptions while maintaining continuous business operations and safeguarding people, assets and overall brand equity. Business resilience should incorporate pre- and post-disaster management and business continuity strategies to insulate businesses from unnecessary downtime and unexpected overhead expenditures.

A prime example of such a company — one that has performed exceptionally well despite the current economic headwinds — is Nokia. Nokia reported an expectation-beating annual profit, soaring to 4.3 billion euros in 2022, a whopping 159% jump from the previous year. Annual net sales grew 12% to 24.9 billion euros. "The Nokia team did a great job navigating geopolitical, economic, and supply challenges, successfully executed our strategy, and delivered a strong full-year performance," said the company's president and CEO, Pekka Lundmark, who remains a formidable force behind such a successful strategy.

Business resilience warrants a thorough understanding of each business process and workflow to chart through the hostile market environment. Upon reviewing some of the successful companies that have withstood the test of trying times, some important factors that strengthen an organization's resilience are as follows:

Timely Releases

Services and products rolled out on time can attract investor interest. A case in point is OpenAI's ChatGPT, an AI-supported chatbot service that is

capable of producing conversational responses based on the user's inputs or prompts. OpenAI has been termed the "hottest startup" in Silicon Valley right now as tech giant Microsoft is reportedly planning to push an initial investment of $1 billion to $10 billion as a clear move to compete with search engine giant Google. If the planned investment goes through, the market value of OpenAI is set to be worth $29 billion, seen as a rare success in the tech world at a time when big players such as Meta, Twitter and Amazon are cutting costs and offloading employees. In the same vein, telcos must always stay in sync with the trends and technological shifts taking place in the market to roll out offerings that can draw the attention of both consumers and investors.

Acquisitions and Mergers

Telcos can achieve large capital gains if acquisitions and mergers are planned systematically.

To revive their attractiveness to investors, operators can increase revenues and profits by diversifying into new businesses. Since we are now operating in a global economy, expanding the global footprint through acquisitions and mergers is a winning proposition. UAE's leading telco, Etisalat Group, which is now rebranded as e&, has evolved into a "techo" given the demands of the changing times. e& is sustaining its leadership in the global digital landscape and has remained resilient by transforming its technology model and excelling in customer and employee experience. The company is maximizing value for its customers and shareholders through its various subsidiaries, including etisalat by e&, e& life, e& enterprise and e& capital. "The evolution in the telecom sector is all about conquering crossroads by showcasing resilience. The industry has continuously adapted in the face of disruption, adjusting to endure and grow in a drastically evolving ecosystem," maintains etisalat by e& CEO, Masood M. Sharif Mahmood. In a recent development, e& increased its stake in Britain's Vodafone Group and now holds more than 3.272 billion shares in Vodafone, representing 12% of the British mobile phone firm's issued share capital, excluding treasury shares. As per the technology group, the rationale behind the investment is "to obtain significant exposure to a global leader, leverage potential commercial partnership and realize the future return on our investment." Unsurprisingly, e& was awarded the most valuable portfolio of telecom brands in the Middle East and Africa (MEA) several times by several leading brand valuation firms. e& has also partnered with various specialist companies to make significant strides in artificial intelligence (AI), blockchain, virtual reality (VR), augmented reality (AR), the internet of things (IoT), cloud computing and technologies supporting the emergence of the metaverse.

Who's at the Helm of Affairs?

One of the key challenges of business resilience planning has been the management of human capital. To deliver a compelling value proposition, both leaders and staff should be familiar with the organization's contingency strategies at times of unexpected upheavals. Lack of planning in crisis management and incident management will impact business continuity. Performing organizations have leaders who are capable of taking stock of the situation no matter what. The business resilience factor of the telecom sector was put to the test during the COVID-19 pandemic, and its exceptional performance in supporting the business continuity of other organizations dependent on them was indeed a paradigm shift of sorts. However, the telecom landscape is a dynamic one, to say the least. Hence, it becomes imperative that telcos' value propositions, which are evolving to meet new demands, should be less rigid and offer more flexibility and more empathy. The latter both epitomize a qualitative and thus valuable investment in human capital.

Monitoring Key Economic Indicators

According to the latest market predictions, the overall spending on the information and communications technology (ICT) sector across the Middle East, Turkey, and Africa (META) will top $233.8 billion in 2023, an increase of 3.9% over 2022. The findings suggest telecommunications services spending to increase 3.6% year on year (YoY) in 2023 to reach $133.9 billion, with IT spending set to grow 4.3% YoY to $99.9 billion.

With digital transformation sweeping across public and private organizations as well as government, the investment decisions of telcos must take into account the realistic functionality of emerging technologies such as 5G, cloud, edge computing, AI/ML and automation, among others. Experts predict that the MENA region will continue to encounter headwinds throughout 2023, including impulsive demand, inflation, interest rate hikes, supply chain disruptions and currency fluctuations. To generate maximum business value from their tech investments, telcos must strengthen their digital resiliency and employ innovative strategies to succeed in the new market environments. TR

> Business resilience has been defined as an organization's ability to speedily adapt to disruptions while maintaining continuous business operations and safeguarding people, assets and overall brand equity

e& Adds Online Platform ServiceMarket to Smiles Ecosystem

Etisalat UAE, branded as etisalat by e&, has completed the acquisition of Service Souk DMCC "ServiceMarket," acquiring a 100% shareholding of the online marketplace. This acquisition is in line with the Group's strategy to empower consumers, strengthen Smiles' online marketplace presence and drive diversification.

ServiceMarket is a leading online marketplace for household services, offering over 40 services in several segments across the UAE. ServiceMarket's strong market position complements etisalat by e&'s existing marketplace services under the brand "Smiles," which already include online food and grocery delivery, lifestyle offers and the ability to earn and redeem points at more than 10,000 outlets across the UAE.

Commenting on the acquisition, Khaled ElKhouly, chief consumer officer of etisalat by e&, said, "The online household services market has demonstrated strong growth over the past few years, with an increasing number of consumers preferring to access a broad range of services at the comfort of their homes and through digital platforms they can trust. As a pioneer in the digital transformation journey for all UAE citizens, we have been expanding our portfolio of lifestyle services on the Smiles platform, including the recent addition of food and grocery delivery services. This acquisition is in line with our strategy to continue enriching the lives of our customers with convenient range of services, within the Smiles ecosystem and drive diversification of our business."

Meanwhile, Bana Shomali, chief executive officer of ServiceMarket, added, "We are excited to join the etisalat by e& family, which will enable ServiceMarket to leverage e&'s digital capabilities and customer base to accelerate our growth and unlock significant synergies. As part of the Smiles ecosystem, we will continue to provide best-in-class services to consumers in the UAE and enrich our portfolio with new services to offer greater convenience every day."

stc Kuwait Reports Net Profit KD 33.2 Million in 2022

Kuwait Telecommunications Company (stc), reported a net profit of KD 33.2 million and a revenue increase of 13.5% to reach KD 336.4 million in its financial results for the fiscal year ended December 31, 2022.

The 13.5% increase in revenue represents the highest since the company's inception.

Commenting on the results, Dr. Mahmoud Ahmed Abdulrahman, stc's chairman, said, "stc has witnessed a number of achievements during 2022 in terms of expanding the Company's operating model, supporting the digital transformation strategy and adding value to its shareholders."

"stc's total assets reached KD 424.4 mn by the end of December 2022, while total shareholders' equity increased by 2%, reaching KD 241.4 mn. Moreover, stc has a strong solvency position among its peers in the Middle East," he added.

The Board of Directors has recommended distributing cash dividends of 30 fils per share representing 30% of the nominal value of the shares for the year ended 2022, subject to the approval of the company's Ordinary General Assembly.

Commenting on stc's achievements in 2022, Eng. Maziad Alharbi, stc's CEO, said, "stc's robust results demonstrated the successful implementation of its corporate strategy with all the operational and financial KPIs adopted. This was the key factor behind reaching stc's best results aimed at exceeding the aspiration of our customers, in addition to placing stc amongst the leading companies for supporting the digital transformation process and providing integrated technical solutions with a value added to the traditional telecommunications sector."

stc's EBITDA witnessed a growth of 3.1% to reach KD 82.0 mn in 2022, compared to KD 79.6 mn in 2021. In an analysis of stc's net profit in 2022, which reached KD 33.2 mn (earnings per share of 33 fils) compared to KD 44.9 mn (earnings per share of 45 fils) in 2021, the decline in net profit was attributed to the nonrecurring and extraordinary gains from legal claims in 2021. Whereby, without considering these nonrecurring and extraordinary gains, stc's net profit in 2022 witnessed a growth of 12.7%, with the support of the growth in revenue and cost operational efficiencies.

Zain KSA and Qualcomm to Drive Next-Generation of 5G Infrastructure

During LEAP 2023, Zain KSA and Qualcomm Technologies, Inc. announced an expanded collaboration to drive cloud-native, virtualized and O-RAN-compliant 5G infrastructure in Saudi Arabia. This collaboration will focus on 5G networks of the future — using Open RAN technology — and make cellular infrastructure more innovative, competitive and cost-efficient.

Zain KSA and Qualcomm Technologies will leverage Qualcomm Technologies' industry-leading solutions, including the Qualcomm X100 5G RAN Accelerator Card and Qualcomm QRU100 5G RAN Platform. This will ultimately accelerate the development of high-performance massive MIMO solutions, advance the cellular ecosystem and push forward the innovation cycle.

"Zain KSA is pleased to collaborate with Qualcomm Technologies to drive the next-generation of 5G infrastructure," said Eng. Sultan bin Abdulaziz Al-Deghaither, chief executive officer, Zain KSA. "By combining our expertise in building high-capacity, large-scale networks with Qualcomm Technologies' cutting-edge infrastructure solutions, we are able to provide our customers with the best possible 5G experience."

"We're excited to partner with Zain KSA to bring the power of our 5G technology to cloud-native, O-RAN-compliant networks," said Durga Malladi, senior vice president and general manager, cellular modems and infrastructure, Qualcomm Technologies, Inc. "With the Qualcomm X100 5G RAN Accelerator Card and Qualcomm QRU100 5G RAN Platform, we are helping to lower total cost of ownership and streamline 5G deployment to push the transition toward modern networks."

The Qualcomm X100 5G RAN Accelerator Card is a robust turnkey solution designed to deliver high-performance along with low latency to ease deployment and accelerate the adoption of virtualized RAN platforms for operators. Additionally, the PCIe inline accelerator card boasts an upgradable architecture of L1 software to enable rapid rollout of future 3GPP release features, extend platform lifespan and help reduce the total cost of ownership. The Qualcomm QRU100 5G RAN Platform provides a high-performance, energy-efficient 5G solution designed to be O-RAN compliant, enhance coverage, improve cell-edge data speeds and increase the overall capacity of the network for operators. Together, these technologies allow for more effective use of network resources, a faster rollout of 5G services and for end users to fully realize the benefits of 5G.

EITC (du) Reports Net Profit of AED 1.22 Billion in 2022

Emirates Integrated Telecommunications Company PJSC ("EITC"), branded as du, announced its financial results for the year ended December 31, 2022. Full-year revenues grew by 9.2% to AED 12.75 billion on sustained demand for broadband services and 5G handsets as well as a gradual recovery of mobile services. It reported a 10.8% improvement in net profit to AED 1.22 billion as higher EBITDA and lower net finance costs were offset by an increase in depreciation and royalty charges.

The company's revenues in Q4 grew (+8.0%), attributed to steady growth in service revenues. Full-year EBITDA increased by 12.0% to AED 5.14 billion on the back of strong growth in service revenues and margin expansion, as well as cost control despite inflationary pressure.

In 2022, EITC invested AED 2.2 billion, as evidenced by the rapid 5G network roll-out. Operating Free Cash Flow (EBITDA – Capex) for the year increased by 47.3% to AED 2.9 billion, due to higher EBITDA and the start of the normalization of Capex spend.

On the basis of these solid results, the Board has recommended increasing the full-year dividend to 24 fils per share, out of which 11 fils per share were paid as an interim dividend in August 2022.

2022 Operating Highlights

Mobile customer base grew 8.9% year-over-year, ending the year with 7.9 million subscribers on strong net additions in the last quarter (494,000).

Fixed customer base increased by 37.3% year-over-year, ending the year with 537,000 subscribers on solid net additions of 27,000 in Q4 (full-year 2022 net additions: 146,000).

Commenting on the results, Malek Sultan Al Malek, chairman at du, said, "Our results confirm the success of our strategy and the efficiency of our operating model. I am optimistic that the management team will continue to deliver on our objectives."

Meanwhile, Fahad Al Hassawi, CEO at du, said, "We made tangible progress on our 5G network roll-out, fiber deployment and IT transformation. I would particularly praise my team for their commercial dynamism, their management of the cost base in an inflationary environment and their continuous effort to transform the business.

Ooredoo Group FY 2022: Net Profit Increase of 27%, Best Result Since 2013

Ooredoo Group announced its financial results for the year 2022, with a revenue increase of 4% to QAR 22.7 billion and a net profit surge of 26% at QAR 2.8 billion. The consolidated customer base across Ooredoo's operating markets stands at 56 million. It is worth noting that the normalized Proforma numbers revealed exclude Indosat Ooredoo and major non-recurring items.

Operational Highlights:
Ooredoo Qatar achieved record-breaking revenue at the conclusion of the FIFA World Cup, a sporting mega-event, cementing its position as a world-leading telecommunications and ICT provider. Additionally, the company has named Sheikh Ali Bin Jabor Al Thani as its new CEO.

In December, Ooredoo Kuwait became the first Kuwaiti telecoms company to integrate Apple Pay within its application, and Ooredoo Maldives received the Gold 100 award, a prestigious recognition given to the leading 100 business entities in the Maldives.

During the Telecom Review Leaders' Summit, Ooredoo Algeria won the Best African Operator and Best African CSR Initiative awards, while Ooredoo Oman received the Best Middle Eastern Digital Customer Experience award.

Commenting on the results, HE Sheikh Faisal Bin Thani Al Thani, chairman of Ooredoo, said: "Ooredoo Group ended the year 2022 with outstanding results, boasting a revenue of QAR 22.7 billion and a remarkable increase in normalised net profit. This success is a testament to our commitment to delivering robust connectivity, exceptional customer experiences, and maximizing shareholder value.

"Furthermore, I am proud to announce that the company's credit rating has been upgraded by S&P Global to A/A-1 with stable outlook. This reflects the company's robust financial position. This upgrade is a testament to our commitment to delivering value to all our stakeholders and is a direct result of our improved free cash generation.

"Driven by our digital transformation strategy, we are effectively capitalizing on market opportunities and are confidently poised for further success. Our ability to remain agile and adapt to the rapidly evolving nature of the markets in which we operate positions us well for continued growth and strong returns.

"Finally, I am pleased to announce that the Board will recommend the distribution of a cash dividend of QAR 0.43 per share at the annual general meeting, taking place on 7 March 2023."

Virgin Mobile Middle East and Africa Acquired by Global Investment Company

A newly formed subsidiary of private global investment company Priora Management Holding Dubai announced the acquisition of Virgin Mobile Middle East and Africa (VMMEA), the largest mobile virtual network operator (MVNO) in the region, with active operations in the Kingdom of Saudi Arabia, the United Arab Emirates, Oman and Kuwait under the brands Virgin Mobile and Friendi Mobile.

The agreement marks the first for Beyond ONE, a TMT sector investment and operations company founded in Dubai in 2021. It is also the first foreign ownership transaction to be approved under the 2021 Royal Decree, which allows foreign direct investment and full ownership of organizations in a variety of sectors within the Kingdom.

Since its founding in 2006, VMMEA, a pioneering MVNO in the Middle East, has seen significant success. It now serves more than three million users across several GCC nations and runs profitable, market-leading digital communication platforms for both its Virgin Mobile and Friendi Mobile operations. Virgin Group invests alongside Beyond ONE in the deal, keeping a small ownership stake in the business and a board seat.

Markus Tagger, Group CEO of Beyond ONE, said: "We are looking at the acquisition of companies with a strong position and significant growth potential in their respective markets; VMMEA's operations comfortably meet these requirements. Both Virgin Mobile and Friendi Mobile benefit from strong brand equity and significant trust from their customers, partners and employees, and we will do what is in our power to maintain this."

Beyond ONE acquires the entire operation of VMMEA and is increasing its shareholding to control positions in all local country operations by buying out minority shareholders. For VMMEA, the timing of the acquisition is on track with the long-term strategy agreed upon by its shareholder base following its successful 15-year growth path.

Vodafone and Other Major Telcos Partner in EU-Approved Ad Tech Platform

Vodafone Group, Deutsche Telekom AG, Orange SA and Telefónica SA will form a joint venture for the implementation of a privacy-by-design digital marketing technology platform in Europe that seeks to benefit consumers, advertisers and publishers alike.

The creation of this new entity has been approved by the European Commission pursuant to the European Union Merger Regulation.

The four companies will each take 25% stakes in a newly formed joint venture holding company, which will be based in Belgium and run by independent management under the oversight of a shareholder-appointed supervisory board.

The joint venture is the outcome of a project launched by Vodafone and run by the four operators to develop a technological solution for digital advertising in Europe. The platform has been designed from the outset to be compliant with European data protection policies such as GDPR and the ePrivacy Directive. The partners have already initiated a trial in Germany. Other trials are being considered in France and Spain to further develop the platform with the intention of making it available to any operator within Europe. The trial platform requires affirmative opt-in consent by the consumer to activate communications from brands via publishers. The only data that is shared is a pseudo-anonymous digital token that cannot be reverse-engineered. Consumers are free to opt in or deny consent with a single click, as well as revoke any other consents given either on the brand's or publisher's website or via a dedicated, easily accessible privacy portal.

The platform is specifically designed to offer consumers a step change in the control, transparency and protection of their data, which is currently collected, distributed and stored at scale by major, non-European players.

The trial run by Vodafone last year successfully tested the platform on Vodafone's and Deutsche Telekom's networks in Germany, together with online publishers and advertisers. This enabled the four operators to evaluate the platform's ease-of-use in providing consumers with greater control and transparency over how brands communicate with them. Furthermore, the initiative has examined how consumers' personal data is used and their privacy protected in the online advertising ecosystem while upholding the principles of a free Internet. The joint venture will outline its vision and strategy in due course, including its plans for adapting the trial technology for commercial implementation.

Orange Presents Its New Strategic Plan: 'Lead the Future'

Orange, a major digital player in Europe, Africa, and the Middle East, has presented its strategic plan, Lead the future. This plan was designed to project Orange into the future and capitalize on its unique strengths in the telecoms sector. The quality of its core assets combined with a solid financial position allow it to address the many structural and economic challenges facing the industry. The explosion of digital uses is accompanied by ever-increasing customer demands, notably in terms of resilience, making the telecoms sector essential in the years to come.

Lead the future aims to respond to these challenges and focus Orange on its core business. This ambitious and pragmatic plan will build on the Group's strengths to create value. Orange, a pioneer in fiber, will continue to deploy, innovate and invest in the best technologies to respond to its customers' needs for reliability, security and resilience. In addition, Orange will consolidate its strong position in cybersecurity and undertake a complete repositioning of its B2B activities to better meet the expectations of its customers. Finally, this plan strengthens the position of the Group in Africa and the Middle East, a region of high growth.

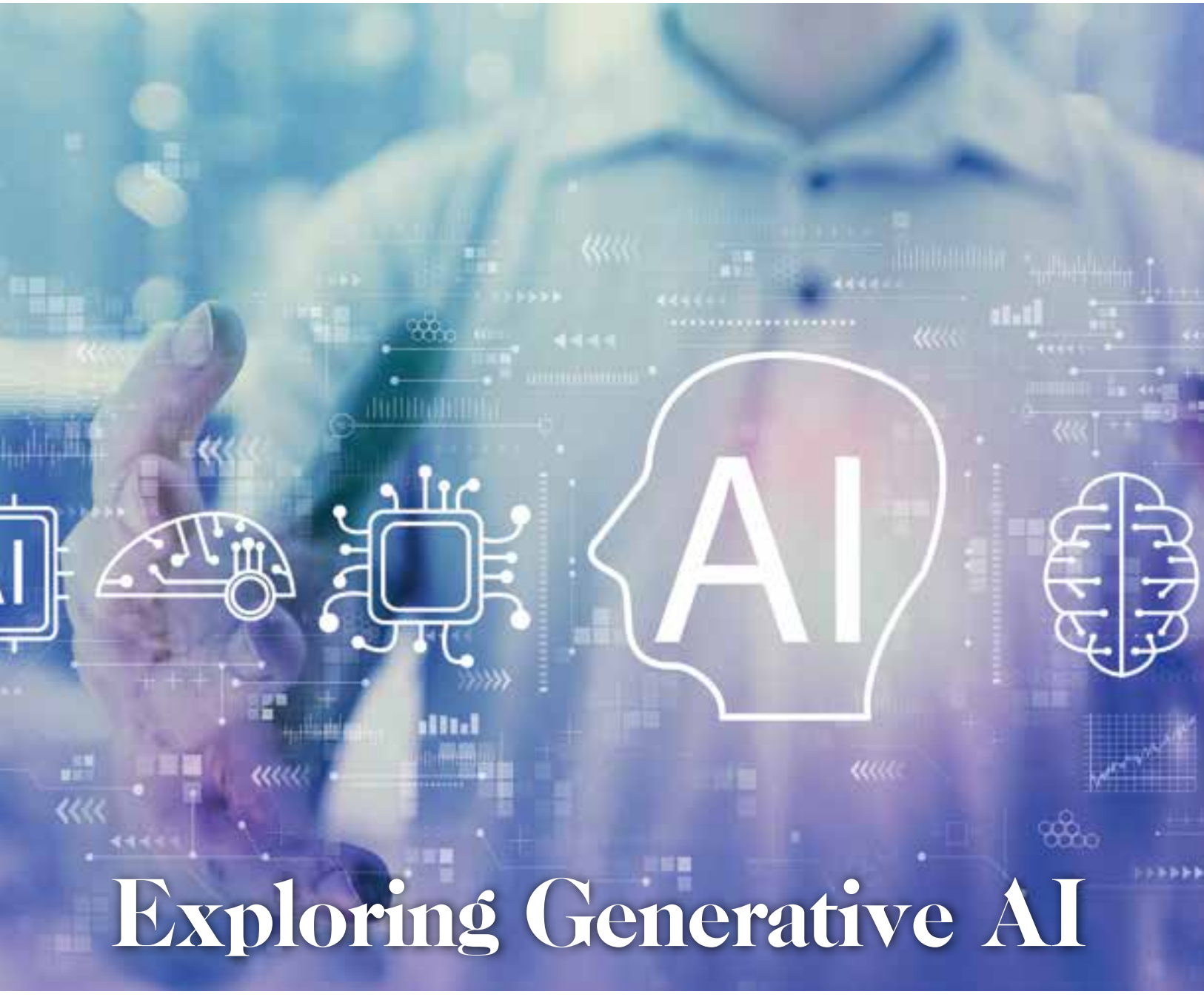
At the launch of the Lead the future plan, Christel Heydemann, Orange's CEO, said, "The quality of our infrastructure, where we are a pioneer in fiber, our customers' satisfaction (NPS), and the expertise of our teams, as well as our solid finances, give us an unrivalled competitive advantage. In addition, thanks to our mastery of connectivity, security and resilience, Orange is uniquely placed in the sector. This plan aims to enhance and develop these strengths to position Orange as the group that builds the future of telecoms and digital solutions. Our aim is to achieve sustainable growth, particularly in cybersecurity, in Africa and in the Middle East. We have already taken the first steps with the sale of OCS, the consolidation projects in Spain and Belgium and targeted acquisitions in cybersecurity. To succeed, three principles will guide the company over the coming years: performance, excellence and trust."

Four Pillars of Lead the Future:
Capitalizing on our core business to reinforce our excellence and service quality

Capitalizing on infrastructure in all the countries where the Group is active

Continuing to grow in Africa and the Middle East

A new company model guided by responsibility and efficiency



Exploring Generative AI

An 80s American TV series called "Small Wonder" had everyone glued to their sofas during prime time. It was about a robot modeled as a 10-year-old girl who was adopted as a daughter by her maker and his family. The amusing conversation between "Vicki" — a morphed translation of Voice Input Child Identicant (V.I.C.I.) — and the family members as she tried to pick up human behavior through her super-powered learning system made for exciting TV watching.

Fast forward to 2022, and we have a chatbot that can translate and respond conversationally in almost any language on earth and is increasingly being seen as a breakthrough in artificial intelligence history.

US AI research lab OpenAI's ChatGPT is fine-tuned from GPT-3.5, a part of the GPT-3 language model trained to produce text. GPT stands for Generative Pretrained Transformer. Such "transformer" models are sequence-to-sequence deep learning programs that can produce a sequence of text given an input sequence. ChatGPT was optimized for dialogue by using Reinforcement Learning with Human Feedback (RLHF), a method that uses human demonstrations to guide the model toward achieving human-like behavior.

As such, it is capable of producing articles, essays and even poetry in response to user inputs or prompts. ChatGPT uses generative artificial intelligence (AI) algorithms to create content, including audio, code, images, text, simulations and videos, from large data sets fed into it from the internet. AI-generated art models like DALL-E (a combination of surrealist artist Salvador Dalí and Pixar robot WALL-E) can create extraordinarily beautiful images on demand. Generative AI falls under the broad category of machine learning.

Further, the ChatGPT system is designed to maximize the similarity between outputs and the dataset it has been trained on. However, at this stage of development, ChatGPT makers maintain that "such outputs may be inaccurate, untruthful and otherwise misleading at times."

When it comes to the truthfulness of the chatbot's responses, its makers claim, "ChatGPT is not connected to the internet, and it can occasionally produce incorrect answers. It has limited knowledge of world events after 2021 and may also occasionally produce harmful instructions or biased content."

Can It Be a Disruptive Technology?

In the world of AI, many large language models perform tasks ranging from the simplest to the most complicated. Large language models can be game-changer for productivity as they can access and process real-time information, tackle complex problems and get more done in less time. AI can be used to create prediction/planning models and also curate massive data sets. For instance, the GPT-3 model was used by a UK theater group to write a play. The system generated a story based on the inputs of the writers. The story was further edited before the final version of the narrative was ready for the play. In another instance, the US news agency The Guardian used the GPT-3 model to write eight different articles, which were later compiled into one.

In a recent development, Chinese researchers from the Institute of Oceanology, the Chinese Academy of Sciences and Nanjing University of Information Science & Technology built an AI inference and prediction system for the Indonesian Throughflow (ITF), one of the largest movements of water on the planet, that can make valid ocean current predictions seven months in advance.

> Generative AI falls under the broad category of machine learning

The researchers used a convolutional neural network (CNN or ConvNet), a network architecture that can learn directly from data through deep learning methodology. CNNs are used for detecting patterns in images to identify objects, classes and categories. They are also effective for classifying audio, time series and signal data.

The researchers used sea surface heights between the Indian and Pacific Ocean basins to design their AI model and trained the model with oceanic data sets. According to the researchers, the new system reported in the journal Frontiers in Marine Science could provide a new tool for studying ocean circulation and climate change in the Indo-Pacific Ocean and simplify real-time oceanographic observation. Similar data crunching and analysis using generative AI will likely follow suit in other industrial sectors, potentially changing market dynamics.

How Is Generative AI Different From Search Engines?

At a basic level, the range of memory is perhaps the biggest differentiator between the two. Chatbots can retain data for an extensive length of time, whereas search engines typically have short-term memory. Chatbot outputs can be comprehensive and specific as the bot analyzes the query inputs based on the entire historical data that it has been trained on. Search engine software scans its index of web pages to find relevant responses to the user's query. The results are ranked by relevancy and displayed to the user in the form of links to web pages, images, videos, infographics, articles, research papers and other types of files based on previous searches. Furthermore, chatbots depend on AI neural networks, NLP, audio, video and media processing to interact with users. Essentially, chatbots are function-specific, while search engines have a wide range of indexed information.

Technically speaking, search engines generate revenue through performance-based advertising. So, search engines like Google get paid by advertisers if their links are clicked. However, chatbot results have no links but are fairly comprehensive, so instead of checking the prompted links one by one, searchers can get the details in one post. It would be interesting to observe if the consumer trend might shift toward a chatbot response rather than search engine results, which could give search engine businesses a run for their money. However, the latest GPT3 model has been trained on data up to the end of 2021, which will potentially limit its capacity to identify emerging trends and, as a result, generate a bland output.

Ban on AI-Generated Content

The superior capacity of generative AI to create content in real-time has professionals in some sectors rethinking their career prospects. Teachers and academics are wary about the quality of written assignments and have already started banning the use of AI-generated applications on their campuses and universities. They feel that the bots can be used to plagiarize essays, which could be hard to detect for invigilators who are pressed for time. Other concerns related to AI-modeled texts are that they could even influence public opinion based on what data has been fed. In some instances, racially biased information has been generated, potentially in violation of the ethical code of conduct of the specific location. Another argument against AI-generated content is its ability to curtail human brain power for critical thinking. Proponents stress that such a technology can render humans lazy rather than productive.

Investments Pouring In

Despite a mixed response related to generative AI from various quarters, massive investment in the technology from both venture capitalists and tech giants such as Google, Microsoft and Amazon is painting a different story. According to Pitchbook, venture capitalists have increased investment in Generative AI by 425% since 2020, to $2.1 billion. Furthermore, rather than spending a hefty amount of capital to clean and compute big data, the introduction of APIs and open-source tools is allowing entrepreneurs to develop existing foundation models using generative AI and fine-tune specific verticals like gaming, graphic design, marketing materials, media, entertainment, etc.

It is not hard to see that generative AI has the potential to streamline a lot of business activity through automating patent writing, generating drafts of marketing materials or computer codes and generally optimizing the virtual world experience through new use cases. And the sophistication will likely increase as more and more inputs are reviewed and fine-tuned over time.

Conversely, the United States, the European Union and some additional countries are grappling with how to regulate the use of technologies such as biometric data, facial recognition and artificial intelligence to prevent racial bias or errors in data input. Ultimately, in all cases, the evaluation of data remains a key factor for the meaningful and purposeful use of these technologies. As of now, there is no alternative for humans to qualify for this critical responsibility. TR

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ZainTech Finalizes BIOS Middle East's Acquisition to Expand Managed Cloud Offering

ZainTech, the one-stop digital and ICT solutions powerhouse of Zain Group, has completed the acquisition of BIOS Middle East, a leading provider of Managed Private Cloud Services in the region. This transaction was first announced in October 2022 and aligns with Zain Group's strategy to maximize value and expand into growth verticals beyond standard mobile services.

The integration of BIOS, with a presence in the UAE, Saudi Arabia and Oman and over 150 professionals serving over 300 regional customers, has strengthened ZainTech's portfolio of hybrid and multi-cloud managed services.

Commenting on the acquisition, Andrew Hanna, ZainTech CEO, said, "This is a major milestone in our growth journey that uniquely positions ZainTech as a leading integrated provider of hybrid and multi-cloud services, providing customers with the best resources in the region. We are thankful of Zain Group's trust and support in the completion of this transaction, and now our focus turns to growing the business further and seeking other prime opportunities that enhance our capabilities and create value for all stakeholders."

News of the tie-up between ZainTech and BIOS Middle East has already garnered positive market reaction, with ZainTech having been awarded a major accolade at the Telecom Review Summit Excellence Awards 2022 gala ceremony for "Best Middle Eastern ICT Investment" for the deal.

ZainTech's cloud business supports organizations in regulated and non-regulated industries across its footprint in leveraging the power of the cloud to deliver transformational IT outcomes. Through global alliances, significant investments in automation, and strong advisory, professional and managed services, ZainTech's cloud business brings customers high-quality cloud capabilities with flexible pricing that helps optimize and reduce their total cost of ownership.

Ericsson Mobility Report: Growing Revenue for CSPs in Leading 5G Markets

Flattening revenues have been a challenge for service providers in all parts of the world, often impacting network investment decisions as part of their business growth strategies, known as "monetization" in the industry.

A special Ericsson Mobility Report edition — the Business Review edition — addresses these monetization opportunities as they relate to 5G.

The report highlights a positive revenue growth trend since the beginning of 2020 in the top 20 5G markets: Australia, Bahrain, China, Denmark, Finland, Hong Kong, Ireland, Japan, Kuwait, Monaco, Norway, Qatar, Saudi Arabia, Singapore, South Korea, Switzerland, Taiwan, the UAE, the UK and the US. These account for roughly 85% of all 5G subscriptions globally, which correlates with increasing 5G subscription penetration in these markets.

Highlights of the Report:
Tiered pricing models are key for service providers, both for effectively addressing the individual needs of each customer and for continuing to drive long-term revenue growth.

The top 20 5G markets have seen a significant network performance boost following the introduction of 5G services.

After a period of slow or no growth, wireless service revenue curves are again pointing upward in these leading markets. These correlate with 5G subscription penetration growth. Fredrik Jejdling, executive vice president and head of networks, Ericsson, says, "Meeting our customers' challenges is at the heart of our R&D efforts and every resulting product we develop. The link between 5G uptake and revenue growth in the top 20 5G markets underlines that not only is 5G a game changer, but that early adopters benefit. What is particularly encouraging about this is that while 5G is still at a relatively early phase, it is growing fast with proven early use cases and a clear path to medium- and long-term use cases."

As expected, Enhanced Mobile Broadband (eMBB) is the main early use case for 5G, driven by increasing geographical coverage and differentiated offerings. More than one billion 5G subscriptions are currently active across some 230 live commercial networks globally. 5G eMBB offers the fastest revenue opportunities for 5G, as it is an extension of service providers' existing businesses, relying on the same business models and processes. Even in the top 20 5G markets, about 80% of consumers have yet to move to 5G subscriptions — one pointer to the potential for revenue growth.

The Importance of Web Accessibility

The COVID-19 pandemic has made digital accessibility even more crucial and essential. Due to the quick expansion of information and interactive services made available by the web and mobile devices, a portion of the population may be excluded from basic private and public sector services like obtaining information from public services, grocery shopping, getting medical advice, online banking, messaging, and video calls, to name a few.

The ability to make Internet content and services available to the widest possible audience, particularly people with disabilities, is done through web accessibility, also known as digital accessibility.

Slight modifications that improve the "accessibility" of websites and applications can benefit all users, not just those with disabilities. Examples include listening to text (when there isn't enough light to read or multitask, for instance) or playing subtitles from a video in a noisy setting. Businesses that offer accessible services can reach a larger, largely untapped clientele and profit financially.

Why Improve Accessibility on the Web?

By making a website more accessible, the overall user experience is enhanced and accelerated. With easy navigation and readable content, users can quickly

find the information they were looking for. Because even though accessibility is particularly important for people with disabilities, these features will be useful for all Internet users.

In addition, expanding the target audience and reaching new customers may aid and support companies and individuals who own websites.

A business can reach a wider audience by emphasizing accessibility in many digital marketing campaigns.

There are millions of people who live with a disability, and they may find it challenging to use the internet without certain accessibility features.

Moreover, search engines are placing more and more value on the relevance and quality of website content. Web accessibility is starting to receive more consideration in search engine algorithms, especially those used by Google.

These can be used by search engines to more successfully evaluate any digital marketing effort and steer users to the right website. In addition to potentially lowering website bounce rates, this will increase your chances of being found by potential customers, which will help your search engine ranking.

Website Accessibility Standards

According to the POUR method, information should be perceivable, interfaces should be usable, content should be understandable, and the meaning of the content should be resilient to changes in how it is accessed.

POUR stands for Perceivable, Operable, Understandable and Robust, the four cornerstones of website accessibility standards.

Perceivable

Users need to be able to perceive the information and user interface components.

This implies that the information must be visible to users. By ensuring this, you take away any obstacles users might have in their way of viewing your content. This includes providing text alternatives and a logical structure so that websites can be accessed by screen readers.

Operable

User interface components and navigation must be operable. This means that users must be able to easily operate the interface.

Understandable

Information must be easy to understand, as should how the user interface functions.

In order for both the information and the user interface's functionality to be easily understood by users, neither the information's content nor its functionality can be too complex for them to comprehend.

Robust

The information must be trustworthy enough to be understood by a variety of user agents, including assistive technologies. This implies that users must be continuously able to access the content, even as technologies advance (the content should remain accessible as user agents and technologies change).

Disability and Assistive Technology

Access to digital content is possible via websites, desktop documents, multimedia platforms, corporate intranets, mobile applications, etc. All disabled users can now perceive, understand, navigate and interact with the Web.

To ensure equal access to online information and services without discrimination, digital accessibility is an essential political and social issue. That is part of the process toward social equality.

Making appropriate technical tools available to people with disabilities is necessary for web accessibility, and they can indeed use their computers and access various forms of content more easily with assistive technologies. We're talking about distinct categories of both software and tangible support for people with disabilities:

- Visual (screen reader, text magnification, etc.)
- Auditory (sign language translation, text transcription of audio or video content, etc.).
- Engine-related (access to keyboard, mouse, voice recognition software, etc.)
- Mental (navigation facilitated by the use of voice recognition, display of icons, etc.).

Examples of Web Accessibility

Alternative text for images

Images should have corresponding alternative text (alt text) in their markup/code. For instance, users of screen readers who are blind and rely on the alt text for visual images to be read aloud on a page cannot access the information contained in the images if the alt text is not provided.

When an equivalent alt text is offered, visually impaired individuals and those who disable images (for example, in areas with expensive or constrained bandwidth) can access information. It can also be accessed by search engines and other tools that don't see images.

Keyboard input

Some individuals find it difficult to use a mouse, including many older users with weak fine motor skills. A website that is accessible enables users to use the keyboard instead of a mouse to access all functionality. Then, individuals with disabilities can use assistive technologies that perform like a keyboard, such as speech input.

Transcripts for audio

For people who are blind or visually impaired, audio files are less accessible than images. By providing a text transcript, the audio content (as well as search engines and other non-auditory technologies) is accessible to those who are hard of hearing or deaf.

Transcripts can be downloaded cheaply and easily from websites. There are also transcription services that produce transcripts of text in HTML format.

As machine learning's ability to measure user experience improves, it is anticipated that the importance of providing positive, accessible user experiences will become even more crucial in Google's Core Web Vitals. It is anticipated that the algorithms will be updated frequently to accurately reflect user interest. More users will be able to access more websites as they improve their usability. TR

TELUS Announces Honorable John Manley as New Board Chair

The TELUS Board of Directors has approved the appointment of the Honorable John Manley as Chair of the Board, effective following his re-election at TELUS' annual general meeting in early May 2023.

Manley will succeed Dick Auchinleck, who is retiring after 20 years of exemplary service on the TELUS Board, including eight years as Chair. Manley's appointment is a result of the company's robust succession planning process.

"John's appointment as our new Board Chair is a testament to our robust succession planning process," said Darren Entwistle, President and CEO of TELUS. "Over the course of his tenure on our Board, John has demonstrated exceptional professionalism, thought leadership and integrity, playing a key role in TELUS' industry-leading growth strategy. We look forward to his continued contribution with his expertise, insightful guidance and deep understanding of our industry. This leadership progression will enable our continued success in our highly competitive and dynamic marketplace."

Entwistle continued: "...Thanks to Dick's leadership and wisdom, our organization has consistently delivered industry-leading operational and financial results, significantly outperforming our peers. Moreover, we delivered superior value for shareholders, offered industry-best customer service, and bolstered our globally recognized networks so that all Canadians have access to the information and resources that matter most..."

"Working alongside the TELUS Board, Darren and the TELUS leadership team over the past two decades has been highly gratifying: we achieved the largest tech IPO in TSX history with TELUS International, launched and expanded TELUS Health and TELUS Agriculture & Consumer Goods, earned global recognition for our world-leading networks and reached 18 million customer connections across our offerings, representing growth of 318 per cent since 2000," expressed Auchinleck.

T-Mobile Technology Leadership Transition Set to Happen

T-Mobile US recently announced that President of Technology Neville Ray plans to retire from the company by Fall 2023 and current Executive Vice President and Chief Network Officer Ulf Ewaldsson will be his successor.

Through his 23 years at T-Mobile, Ray has played a critical role in architecting the Un-carrier's network strategy – from 2G to 5G – and building and leading a best-in-class team that has brought it to life.

"Under Neville's network leadership we have accomplished so much together, and it's amazing to think that milestones he's helped T-Mobile achieve – the many network firsts, breakthroughs and innovations – have brought us to where we are today, taking the crown as the nation's overall network leader," said T-Mobile CEO Mike Sievert.

"There are so many things Neville has contributed to this company but one of the most important has been his commitment to building the best, most effective Technology team in this industry that will continue to deliver for our future. Neville and his team have worked tirelessly to bring the Un-carrier from last to best in network performance and made T-Mobile's network a true competitive weapon. What's even more exciting is that we're just getting started! As this next chapter of the Un-carrier story is beginning to unfold, we owe a lot of gratitude to Neville for all he's done to carve this path that will continue to lead us into the future," Sievert added.

Apple iPhone Sales Drop, Revenue and Profits Nosedive

Apple reported a decrease in quarterly revenue and profits for the October-December period of 2022, hit by a drop in sales of its flagship iPhones.

The company's revenue was pegged at $117.2 billion, down around 5% from the same period last year, the first quarter of its fiscal year.

The drop in sales has been primarily attributed to the strict COVID restrictions in China, which is a key manufacturing hub for iPhones, and the drastic measures adversely affected Apple's ability to export the iPhone 14 during the key holiday season.

"As we all continue to navigate a challenging environment, we are proud to have our best lineup of products and services ever, and as always, we remain focused on the long term and are leading with our values in everything we do. During the December quarter, we achieved a major milestone and are excited to report that we now have more than 2 billion active devices as part of our growing installed base," CEO Tim Cook said.

The company generated $34 billion in operating cash flow and returned over $25 billion to shareholders during the quarter while remaining invested in long-term growth plans, according to CFO Luca Maestri.

Apple is the only US tech giant that has not announced major layoffs in recent weeks.

Google parent Alphabet's revenue of $76 billion and profit of $13.6 billion in its fourth quarter were below what they were in the same period a year earlier, with share prices falling more than 3% in after-market trade.

Intelsat Appoints Gaurav Kharod as APAC Regional Vice President

Intelsat has appointed Gaurav Kharod as the regional vice president for its Asia Pacific (APAC) region. Kharod comes from Intelsat's India office, where he served as the managing sales director for South Asia and India.

Kharod will assume the responsibilities from Terry Bleakley, who previously led the APAC team. Bleakley will transition on April 1 to a part-time senior advisory role at Intelsat and will continue to support key growth opportunities in the region.

"Intelsat is on an ambitious growth trajectory in the APAC market, and Gaurav brings with him the expertise that will help us achieve these goals," said Jean-Philippe Gillet, senior vice president, global sales, network and media at Intelsat. "I look forward to achieving many milestones under Gaurav's leadership in the region."

In Kharod's last assignment, he led the media business sales team, driving the organization's strategy in the region. Kharod also implemented a successful entry strategy for Intelsat's high-throughput satellite (HTS), IS-33e, in the Indian market. This created a roadmap for the growth of all the different business verticals of Intelsat, including media, networks, FlexMaritime, and commercial aviation, to be fully represented in the Indian and South Asia markets.

Before joining Intelsat, Kharod held leadership roles at Hughes India and Viasat Inc. in the satellite domain, along with a stint at Conax AS in the media industry. He brings a mix of expertise across sales, product management, business development and regulatory and policy affairs.

Zoom Joins Tech Layoff Spree With 15% Workforce Cut

Video conferencing platform Zoom has become the latest tech company to join the mass employee cutback spree due to the volatile global economy.

Zoom Video Communications Chief Executive Eric Yuan notified the employees of the decision to lay off about 15% of its workforce, reportedly via a blog post. Yuan also declared a 98% cut in his salary this year as well as the cancellation of his executive bonus.

While people and businesses continue to rely on Zoom "as the world transitions to life post-pandemic," the Silicon Valley-based firm is seeing customers cut back on spending, Yuan wrote in the post.

Zoom has made the "tough but necessary" decision to lay off about 1,300 people, or roughly 15% of its staff, according to Yuan.

"Our trajectory was forever changed during the pandemic, when the world faced one of its toughest challenges, and I am proud of the way we mobilized as a company to keep people connected," Yuan said.

He added that members of his executive leadership team are taking a 20% salary reduction and also forfeiting bonuses this year.

Zoom tripled its ranks of employees during the pandemic, as people used the platform for remote work, court hearings, social events and more, while COVID-19 risks barred them from getting together in person, according to Yuan.

"We are seeing that people and businesses continue to rely on Zoom. But the uncertainty of the global economy and its effect on our customers means we need to take a hard look inward to reset ourselves so we can weather the economic environment, deliver for our customers and achieve Zoom's long-term vision. Zoom will continue to invest in strategic areas," Yuan noted.

The cuts follow similar steps by tech giants Microsoft, Facebook owner Meta, Google parent Alphabet, Amazon and Twitter as the industry braces for an economic downturn.

2Africa Makes Its Fourth Landing in South Africa

2Africa, the world's largest undersea cable, landed in Amanzimtoti, KwaZulu-Natal, and is expected to be the catalyst to drive the region's digital economy. The massive subsea cable, which will connect Africa, Europe and Asia, has already landed in some parts of the country, and KwaZulu-Natal became the latest shore to welcome the 2Africa cable.

The 2Africa subsea cable system landed at the Vodacom network facility in Gqeberha, Eastern Cape. In December, Vodacom's competitor, MTN SA and MTN GlobalConnect — also 2Africa landing partners — announced the landing of the cable in Yzerfontein and Duynefontein, Western Cape.

The cable is expected to land in 40 new locations in the coming months. The 2Africa consortium is comprised of China Mobile International, Meta, MTN GlobalConnect, Orange, STC, Telecom Egypt, Vodafone and WIOCC.

Moreover, the highly anticipated subsea cable system is set to connect three billion people upon completion, representing 36% of the global population and connecting three continents: Africa, Europe and Asia. At 45,000 km, 2Africa will be the longest subsea cable ever deployed, serving communities that rely on the internet for services ranging from education to healthcare and business, noted the consortium.

Artificial Intelligence Brings Web Search Giants Into Action

Artificial intelligence has taken the spotlight once again, and this time it's all about quick, detailed responses in a humanlike manner. A new generation of AI chatbots has unleashed a battle between Microsoft and Google, driven by the pressure arising from the popularity of ChatGPT.

Microsoft has gone all-in with a multibillion-dollar investment in OpenAI, the firm behind the fastest-growing consumer application in history. What seems to be an 'overnight success,' ChatGPT was estimated to have reached 100 million monthly active users just two months after launch.

Microsoft aims to revolutionize its Bing search engine and Edge web browser using the generative AI technology. On the other hand, Google has owned the search market for two decades and released its in-house bot Bard.

Unfortunately, Google's stock tanked while Microsoft's shot up as Bard's first demo included a factual error about the James Webb Space Telescope. Employees are saying that the company was "rushing" Bard to market.

In parallel to this, Google's $400 million investment in AI startup Anthropic is focused on developing and deploying Claude, an AI assistant based on the company's research into building safe, steerable AI.

According to its official statement, Anthropic has created safety techniques like Constitutional AI to create AI technologies that are easier to rely on and understand.

"We are eager to use the Google Cloud infrastructure to build reliable, interpretable, and steerable AI systems. This partnership with Google Cloud will let us build a more robust AI platform," said Antropic CEO Dario Amodei.

Additionally, Chinese firm Baidu announced its own bot called "Wenxin Yiyan" in Chinese or "ERNIE Bot" in English, which stands for "Enhanced Representation through Knowledge Integration." It will launch in March and is currently being tested internally.

Large language models are being used to train the algorithms that are being utilized by ChatGPT and its rivals.

Telecom Companies' Daily Earnings to Be Monitored in Kenya

The Kenya Revenue Authority (KRA) has announced plans to implement a system to better measure voice, Internet and SMS traffic. Using this system, the government hopes to fight fraud and improve its collection of the daily revenues reported by telecom operators.

The move is part of the Kenyan government's plan for economic recovery during the 2023/2024 fiscal year. The plan aims to raise around Ksh3 trillion (US$24.1 million) in revenue, and possibly as much as Ksh4 trillion. These ambitious fiscal projections, to which telecoms are expected to contribute, are contained in the draft 2023 budget policy statement, which was submitted for government review on January 24, 2023.

Safaricom's CEO, Peter Ndegwa, explained that if the move is approved by law, telecom operators would comply. "We have heard about the new draft proposals, which the KRA Commissioner General has spoken about; they're still at the proposal stage; I'm sure we'll be engaged as a critical stakeholder in this proposal. Of course, we'll always follow the law; if KRA has the right to do certain things and are approved in the normal way through Parliament, I'm sure we'll follow the law as we have always done," he said.

Vietnam Mobile Service Revenue to Grow 5.7% CAGR Over 2022-2027, Says Study

Vietnam's mobile service revenue is poised to increase at a compound annual growth rate (CAGR) of 5.7% from $4.3 billion in 2022 to $5.6 billion in 2027, according to a report by data and analytics company, GlobalData.

The study said that the growth will be mainly driven by the mobile data segment, which will be supported by the growing availability and adoption of 4G services and the evolution of 5G services.

GlobalData's Vietnam Mobile Broadband Forecast (Q4-2022) reveals that mobile voice service revenue will decline at a 0.9% CAGR over the forecast period due to the widespread consumer shift towards over-the-top (OTT) communication platforms and the subsequent decline in the voice service average revenue per user (ARPU) levels.

Hrushikesh Mahananda, Telecom Research Analyst at GlobalData, comments: "The average monthly data usage will increase from 2.3GB in 2022 to 6.5GB in 2027, driven by the increasing consumption of online video and social media content over smartphones, thanks to the data-centric offers extended by MNOs with their 4G and 5G service plans.

4G will remain the leading mobile technology, in terms of subscriptions, over the forecast period. With all the major telcos engaged in 5G network roll outs across the country, GlobalData expects 5G subscriptions to accelerate over the forecast period, although from a low volume base.

Capacity Middle East

The largest carrier meeting for the Middle Eastern region will once again unite the region's key ICT players.

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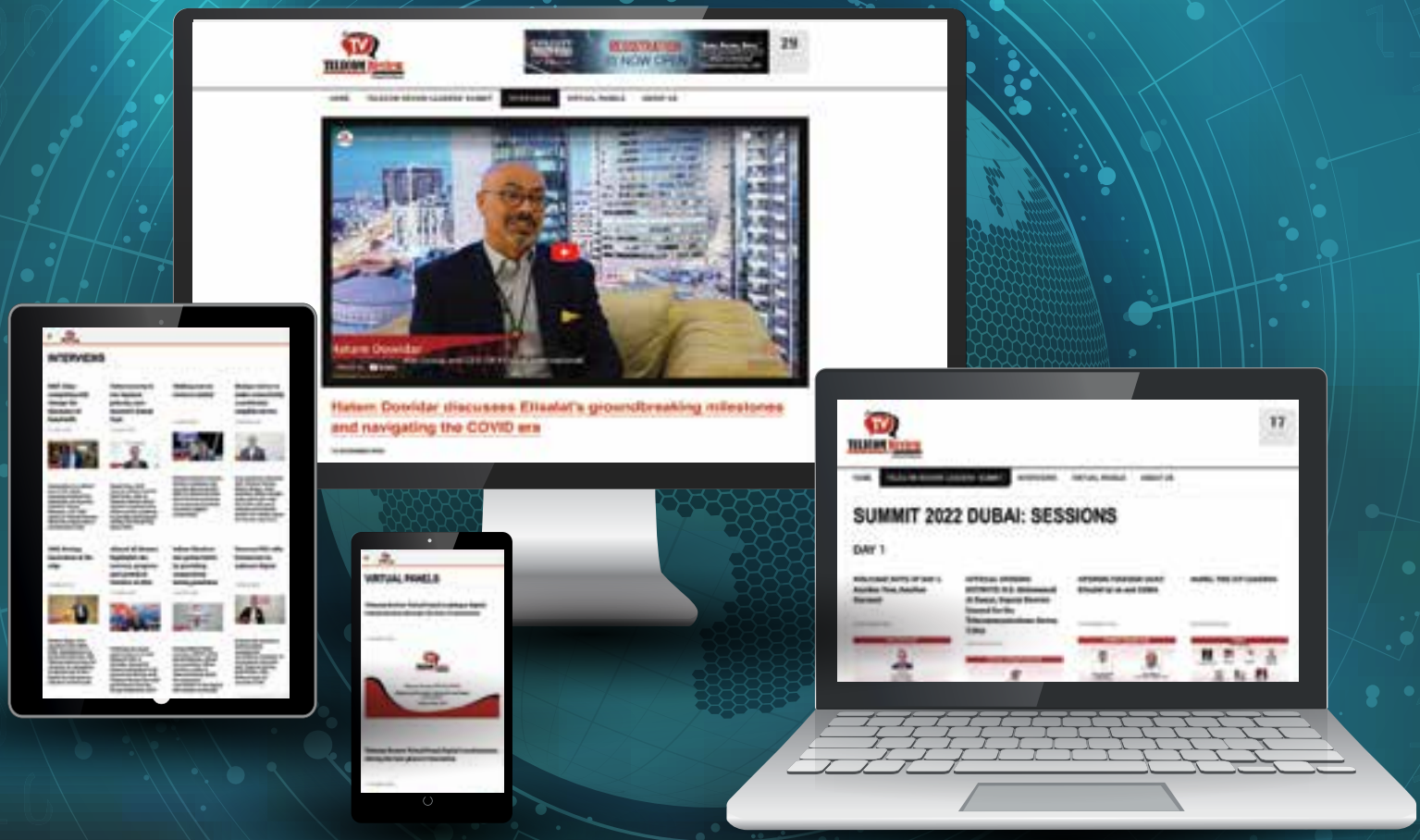

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