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Omo:
'I Encourage African Governments and Organizations to Embark on Their Own Digital Transformation Journeys'

Omo :
'J'encourage les gouvernements et les organisations africaines à se lancer dans leur propre transformation numérique'

John Omo, Secretary-General,
African Telecommunications Union

- **From Reseller to Innovator: The Evolution of Virtual Network Operators in Telecom**
- Du vendeur à l'innovateur : L'évolution des opérateurs de réseaux virtuels dans le secteur des télécommunications

- **The Rapid Evolution of the Tunisian Telecommunications Industry**
- L'évolution rapide de l'industrie des télécommunications tunisiennes

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Is every catastrophe also an opportunity?

What is this coincidence of the recent collapses of Silicon Valley Bank –the startup-focused bank –in the US and Credit Suisse in Europe? Is it a signal to a start of a greater financial crisis? Certainly, other countries and markets are anxious about whether other banks could follow.

Many crypto people believe that cryptocurrency and blockchain are superior technology for running the world financial system especially after the worldwide crisis that happened in 2008. Those crypto experts say that the SVB collapse emphasizes how cryptocurrency is essential to the economy. In their opinions, it provides a substitute to the banking system where you do not have to put trust in someone else doing things that you are not inevitably even aware of.

There is another point of view that is shared by people who are anti-crypto that do believe that virtual money hasn't come to its peak maturity; as they do consider that any currency that is not backed up by countries, governments and federal banks is not legitimate for kind of transaction or even barter.

Besides, here at Telecom Review, we have hit a new milestone: we reached over 15,000 followers on Telecom Review ME LinkedIn page and we are expecting more to come as we carry on to deliver on our commitment to provide the latest and most reliable news and updates across the technology landscape, mainly in the ICT sector. We are as well available on Instagram now: where we share highlights, breaking news and exclusive interviews.

Telecom Review's 2023 Virtual Panel Series continues on May 2. Join us for an informative and engaging panel discussion with CSP experts to learn how to modernize DDI solutions for the future of telco cloud.

Register on this link: <https://primetime.bluejeans.com/a2m/register/bwxybrpy>



John Omo, Secretary-General, African Telecommunications Union

Omo:

'I Encourage African Governments and Organizations to Embark on Their Own Digital Transformation Journeys'

Telecom Review Africa conducted an exclusive interview with Mr. John Omo, Secretary-General, African Telecommunications Union, who is also a 2022 recipient of the Telecom Review ICT Leader-of-the-Year Award in the Governmental/ Non-Governmental category, to discuss the mission and biggest challenges of the ATU. Also, he shed light on some of the most promising technologies for accelerating digital transformation in Africa. He stated some notable future plans and goals for the organization.

Can you tell us more about the mission of the African

Telecommunications Union?

The African Telecommunications Union (ATU) is a specialized agency of the African Union responsible for promoting the development of telecommunications and ICT in Africa. Our mission is to provide the necessary platform for cooperation and collaboration among African countries in the development and use of telecommunications and ICTs.

To achieve this mission, we work with our 51 member states and 56 associate members, together with other stakeholders, to develop policies, regulations and standards that promote the growth of the telecommunications and ICT sector in Africa. We also organize conferences, workshops and other events to facilitate knowledge sharing and collaboration among African countries.

What are some of the biggest challenges Africa is facing in terms of achieving digital transformation, and how do you think these can be addressed?

Achieving digital transformation is crucial for Africa's development, but the continent faces several challenges in this regard, more significantly the challenge of inadequate ICT infrastructure, such as the fiber optic network, that would support delivery of broadband services. While broadband penetration has increased in recent years globally, it remains low in many parts of Africa, and therefore there is a need for Africa to enhance its investment in cutting-edge ICT infrastructure.

In addition to infrastructure challenges, low digital skill levels among the population is another issue. Many Africans lack the necessary digital skills to participate in the digital economy, making it difficult for them to access new jobs and business opportunities and improve their livelihoods. This is particularly true for rural areas, where access to digital training and education is limited.

To address these challenges, African countries need to prioritize infrastructure development, such as expanding broadband access and building more fiber optic networks. Governments should also promote innovation and local content by supporting local entrepreneurs and start-ups. Investing in skills development and digital literacy programs is also crucial to ensure that all Africans have the necessary skills to participate in the digital economy.



In your opinion, what are some of the most promising technologies for accelerating digital transformation in Africa?

There are several promising technologies for accelerating digital transformation in Africa, including 5G networks, cloud computing, artificial intelligence and the Internet of Things (IoT). These technologies have the potential to transform industries, improve service delivery and enhance the quality of life for Africans.

By enabling faster data transfer rates and reduced latency, 5G networks can help facilitate the growth of other emerging technologies, such as autonomous vehicles, smart cities and virtual reality applications. Cloud computing, on the other hand, can help organizations and governments in Africa manage data and applications more efficiently. Cloud-based services provide scalability, flexibility and cost savings, making them an ideal solution for businesses and governments looking to streamline their operations.

Artificial intelligence (AI) is another technology with great potential to



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Investing in skills development and digital literacy programs is essential to drive digital transformation

transform Africa's economy. AI can help organizations in Africa improve their efficiency, productivity and decision-making capabilities. With the use of machine learning algorithms, AI can analyze vast amounts of data and identify patterns that can lead to improved business processes and new revenue streams.

The Internet of Things (IoT) is another technology that can accelerate digital transformation in Africa. The IoT is a network of interconnected devices that

can collect and exchange data, making it possible to automate many processes and services. IoT applications can be used in a variety of industries, from agriculture to healthcare, to improve service delivery and reduce costs.

These technologies have the potential to drive significant economic growth and social development in Africa. By investing in these technologies and building the necessary infrastructure to support them, African governments and businesses can take advantage

of the opportunities offered by digital transformation and lead the continent into a prosperous future.

What advice would you give to African governments and organizations looking to embark on their own digital transformation journeys?

African governments and organizations must prioritize infrastructure development, invest in skills development and digital literacy programs, promote innovation and local content, and collaborate with other stakeholders to drive digital transformation.

Infrastructure development is crucial for enabling digital transformation. African governments and organizations should invest in building reliable and affordable broadband infrastructure, data centers and cloud services to support the implementation of emerging technologies such as artificial intelligence, machine learning and the Internet of Things.

Investing in skills development and digital literacy programs is also essential to drive digital transformation.

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Governments and organizations should prioritize training and capacity-building programs to ensure that their workforce has the necessary skills to adopt and utilize digital technologies. These programs should be designed to reach a broad range of individuals, from high school students to professionals in various fields.

Promoting innovation and local content is another critical aspect of digital transformation in Africa. African governments and organizations should encourage the development of local technology solutions and support the growth of the local tech industry. This can be done through initiatives such as start-up incubators, funding opportunities and collaborations with local universities and research institutions.

What notable future plans and goals lie ahead for ATU?

ATU has several plans and goals for the future, including promoting the development of 5G networks in Africa, supporting the growth of the digital



There are several promising technologies for accelerating digital transformation in Africa, including 5G networks, cloud computing, artificial intelligence and the Internet of Things (IoT)



economy, promoting cybersecurity and data protection, and working to bridge the digital divide between and within African countries. We are committed to driving digital transformation in Africa and ensuring that all Africans can benefit from the opportunities that ICTs provide.

ATU's commitment to bridging the digital divide between African countries

involves promoting connectivity in rural and underserved areas, ensuring that all Africans have access to affordable and reliable Internet services, and promoting digital literacy and skills development. By bridging the digital divide, ATU aims to ensure that all Africans can benefit from the opportunities provided by ICTs and contribute to the development and growth of the continent. **TR**



Fadi Pharaon, President of Ericsson Middle East and Africa (MEA)

Ericsson MEA: Strongly Promoting Mobile Finance and Energy-Efficient Products

During MWC 2023, Telecom Review held an exclusive interview with Fadi Pharaon, president of Ericsson Middle East and Africa (MEA), to discuss their participation in this year's event, their contribution to the MEA region's 5G demand and his insights on Africa's technological trends.



What we do today sets the foundation for what's possible tomorrow." What are the values that Ericsson hopes to both impart and gain from MWC 2023?

We're very happy to see the entire interest and crowd coming back to MWC after the pandemic era. We are focusing on three main topics this year. First is 5G monetization. One [question] which is on everybody's mind, particularly the operators who have already launched 5G, is how can we monetize on this latest mobile generation and what kind of services

and innovations can we offer to our customers, be they consumers or enterprises.

The second one is how to accelerate networks, especially focusing on sustainability. The power consumption and how to minimize that throughout the entire chain of telecom fulfillment is a very hot topic.

Third is transforming enterprise, where we are looking at the opening and exposure of the network elements and characteristics to the wide population of developers so they can use them for their own applications.

From your point of view as regional president, what is the role of technology in supporting Africa's sustainable future?

We've seen all over the world how critical and impactful communication — and in particular, mobile communication — has been in enabling growth for the economy and society, coupled with financial inclusion, empowered by mobile money. This has increased the GDP between 1–1.5%.

If you look at Africa, just three years ago, we saw that the 4G penetration was below 10%. And fast forward to today; it is actually above 20%. And I'm so happy to hear from all of our customers that they see an increase of smartphone-enabled 4G devices on the market, reaching 40 to 60% in coverage. And this is really opening up the door for the population of Africa to enjoy brand-new services that require high speeds and data for productivity, sales or even entertainment.

How do you keep up with emerging telecom technologies and industry trends in Africa?

Africa, actually, has been the center for one of the hottest topics that everyone is speaking about: mobile financial services. It started in Kenya and, since then, has really flourished across the continent. That is evolving now from being just a wallet transferring money from one phone to another to exposing the network ecosystem where service providers offer insurance and banking services, among others.

This will be continuing to flourish, and Ericsson is a big provider of such

platforms. And another one where we see a lot of demand is how can we make our radio products less power-consuming, a very relevant topic today across the African continent. And I'm happy to say that our product line on the radio — on the hardware side — is already giving 30 to 50% benefits in power savings, and when you introduce AI software on top of that, such as deep sleep, you get another 15 to 20%. These are some of the technologies that are really coming in to benefit Africans.

As the demand for 5G technology continues to grow, what will be the role of Ericsson in MEA's telecom industry to create a better world for tomorrow?

Ericsson is a technology leader, and we to pride ourselves [on being] ahead of the curve on 5G. We are super proud of the collaboration we have with all of our operators. Everybody looks at 5G as being about high throughput and low latency, but we believe that 5G can do much more than that. In fact, this is the technology that can really enable immersive experiences such as augmented reality, digital twins or the metaverse itself. We want to continue the great collaboration with all of our customers, enabling them to monetize 5G and to start offering more and more unique services to both consumers and enterprises alike. 



I'm so happy to hear from all of our customers that they see an increase of smartphone-enabled 4G devices on the market, reaching 40 to 60% in coverage





Guillaume Boudin,
CEO, Sofrecom Group

Digital Players Have Power to Promote Ecological Focus on Economic Development

In an exclusive interview with Telecom Review, Sofrecom Group's CEO, Guillaume Boudin, detailed the company's biggest challenges in the telecom industry and how Sofrecom is helping to meet them head-on. He also shed light on the role of technology in the decarbonization of the telecom sector.

What do you see as the biggest challenges facing the telecoms industry

when it comes to decarbonization?

Telcos face growing pressure from customers, investors, and regulators to achieve their net-zero targets and do their part to solve the climate crisis. As telecommunications companies ramp up their decarbonization efforts, many executives are overlooking a key part of the equation: There's a ton of upside for their businesses.

Most telcos are far from decarbonizing their own operations. Most telcos have announced commitments to achieve net-zero emissions, but so far, few have followed through with real planning and execution. Even telcos that have already crafted a decarbonization strategy will likely need to continuously revise it because it will quickly become obsolete.

Decarbonization tools that were previously out of reach or not economically attractive are now increasingly accessible. That's because advanced batteries, solar panels, and other technologies that support renewable energy capture and other decarbonization initiatives are progressing rapidly, and their adoption costs are dropping.

One of the challenges that industry executives would point to is that around 85% of telcos' carbon emissions are Scope 3 emissions attributed to suppliers and partners.

But many telcos have yet to fully evaluate how they can strengthen their businesses through their actions for carbon footprint reduction.

We believe that there are four areas of significant business opportunity for telcos that take full advantage of their decarbonization efforts:

1- Climate change will likely increase the usage of telecom services as companies across industries seek to reduce their own carbon emissions by increasing remote operations, work-from-home and digitization.

2- With high inflation on raw materials and energy costs, most of the time, decarbonization and cost reduction will go hand in hand. This is the case, for instance, when telcos are moving to solar energy or rolling out circular economy projects.

3- With the growth of environmental awareness, more and more consumers are ready to pay a premium for "greener" services. Telcos that can successfully differentiate themselves this way will attract these customers.

4- Lastly, telcos can create additional revenue streams through new products and services that play a significant role in helping companies across industries decarbonize. Telcos could also use their expertise in bundling offers to promote new "green solutions" alongside their partners.

What role do you see technology playing in the decarbonization of the telecoms sector, and what innovations will be most important to this end?

Even if it's much less compared to other industries, Digital equipment manufacturing, networks and datacenter operations are generating direct carbon emissions.

But more importantly, Digitalization has the potential to fight against climate change. Digitalization has become an indispensable tool for achieving the objectives of a green economy:

- Digital solutions can promote climate protection, clean air, intact soil and the preservation of biodiversity.
- Digital offers solutions to monitor, mitigate and adapt to the impacts of climate change.
- Digital technologies offer the opportunity to help address the world's most pressing climate

concerns and enable the much-needed shift to a circular economy.

- Dematerialization can help reduce emissions and solid waste emanating from non-digital sectors of the economy.

Digital technology is also accelerating education all over the world. Increased awareness and education can have a positive effect on promoting a mindset of environmental responsibility among stakeholders, including the ICT sector, policymakers, citizens and academia. Different ecosystem stakeholders must take responsibility for this very complex issue and take concerted and timely action.

How is Sofrecom helping to meet these challenges?

As telco sector experts, we are working for a more inclusive and sustainable digital world. We help our customers to:

- **Make decisions** — assisting them in the definition of their green strategy by learning from the industry best practices and trends.

- **Get reliable, objective, and detailed data regarding their activity's impact.**

- **Convert Green challenges into an operational action plan:** think, build and run approach.

- **Build an energy efficiency plan** tailored to their context: energy cost assessment, energy savings master plan, design and deployment of an energy consumption measurement solution.

- **Launch and conduct a circular economy strategy.**

From defining a CSR strategy to implementing it operationally, our approach is all-encompassing, based on interaction and co-construction.

To learn more about decarbonization, we are glad to share our latest white paper:

["Digital & Decarbonation, the next winning duo?"](#) 





From Reseller to Innovator: The Evolution of Virtual Network Operators in Telecom

The telecommunications industry is witnessing a significant shift towards virtual network operators (VNOs), which are companies that provide wireless communication services to customers without owning the underlying network infrastructure. This emerging trend is transforming the traditional telecommunications industry and opening new opportunities for innovative business models.

Here are some advantages of the VNO model:

Lower Capital Expenditure: VNOs do not have to invest in building or acquiring network infrastructure, which reduces

their capital expenditure and allows them to operate with lower fixed costs. This enables them to offer competitive pricing to customers while maintaining profitability.

- Faster Time-to-Market: Since VNOs do not have to build or acquire network infrastructure, they

can enter the market faster than traditional telecommunications companies. This allows them to offer innovative services and solutions more quickly and efficiently.

- Scalability: VNOs can scale their business more easily than traditional operators, as they can add or remove

capacity as needed without having to invest in new infrastructure. This allows them to respond more quickly to changing customer demands and market conditions.

- **Access to Multiple Networks:** VNOs can offer services across multiple networks, which allows them to provide coverage in areas where traditional operators may not have a presence. This also enables them to offer better coverage and service quality in areas where multiple networks are available.
- **Customization:** VNOs can offer customized service plans, bundled services or pay-as-you-go options, which allows them to cater to the specific needs of their target customers. This enables them to differentiate themselves from traditional operators and attract a wider customer base.
- **Innovation:** VNOs are driving innovation in the telecommunications industry by offering new services and solutions that traditional operators may not have considered. This is leading to increased competition and better customer experiences.
- **Increased Competition:** VNOs are introducing new competition to the market, which is putting pressure on traditional telecom operators to innovate and differentiate their services. This is leading to increased competition and better value for customers.
- **Partnering Opportunities:** Traditional telecom operators are partnering with VNOs to expand their service offerings and reach new customer segments. This allows them to leverage the VNOs' agility and innovation while providing the VNOs with access to established networks and infrastructure.
- **Reduced Barriers to Entry:** The VNO model reduces the barriers to entry in the telecommunications industry, which is enabling new market entrants to compete with established players. This is leading to increased innovation and disruption in the market.
- **Market Fragmentation:** The emergence of VNOs is leading to market fragmentation as customers have more options to choose from. This is leading to increased competition and a more diverse range of services and solutions for customers.

The Impact Combined With Some Challenges

- While VNOs offer several advantages, their emergence is also having a significant impact on traditional telecom operators. Here are some ways in which VNOs are affecting traditional telecom operators:
- **Lower Profit Margins:** The increased competition from VNOs is putting pressure on traditional telecom operators' profit margins, meaning they may need to reduce prices to remain competitive. This can impact their ability to invest in new infrastructure and technologies.
- **Network Utilization:** VNOs are able to utilize the underutilized network capacity of traditional telecom operators, which can help traditional operators reduce their network costs by maximizing the utilization of their network infrastructure.

There are also some challenges that come with being a VNO, however. One of the biggest challenges faced by VNOs is the quality of the underlying network infrastructure. VNOs depend on the traditional operators' network infrastructure, which can impact the quality and reliability of their services. This can lead to service disruptions, dropped calls or slow data speeds, which can impact customer satisfaction.

Another challenge that VNOs face is the regulatory hurdles in some markets. Some regulators may require VNOs to own or lease network infrastructure to operate, making it difficult for VNOs to enter certain markets and limiting their growth opportunities.

Limited control over the network infrastructure is a third challenge faced by VNOs. They may have to rely on traditional operators for network upgrades, maintenance and repairs, impacting their ability to deliver high-quality services to their customers.

Network capacity is yet another challenge faced by VNOs. Traditional operators may prioritize their own customers or charge high fees for access to network capacity, limiting the VNO's ability to scale their business and serve a larger customer base. VNOs also face the challenge of revenue sharing. They typically have to pay a fee to the traditional operator for network access, which can impact their profitability. The revenue-sharing model can also lead to disputes between VNOs and traditional operators over the fees charged for network access.

VNOs will need to address these challenges in order to successfully compete in the telecommunications market and provide high-quality services to their customers moving forward. **IT**



Traditional operators may prioritize their own customers or charge high fees for access to network capacity, limiting the VNO's ability to scale their business and serve a larger customer base



Eng. Ahmed Mekky, Confirms That 'Benya Factory' Has the Capacity to Produce Optical Fiber Cables



Egyptian Prime Minister, Dr. Mostafa Madbouly, along with a group of accompanying ministers, visited several projects in the Economic Zone of the Suez Canal and Ain Sokhna Port and inspected the Benya factory for fiber optic cables, established in partnership

with the Arab Organization for Industrialization.

"We are proud to announce that the first production batch of our factory, which is currently in its trial operation phase, is being directed towards the infrastructure of the presidential

initiative 'Hayah Karima' project. We commend the Benya team for their exceptional work in building and establishing the factory in record time, utilizing advanced production lines boasting a production capacity of 60 thousand kilometers of fiber optic cables suitable for both indoor and outdoor use. We are proud to announce that the indoor cables are the first of its kind to be manufactured in Egypt," noted Prime Minister Madbouly.

The Egyptian market's demand for fiber optic cables is being addressed through a national project, which not only supports the country's digital transformation goals but also promotes the export of "Made in Egypt" products.

SES Confirms Merger Discussion With Intelsat



European satellite telecommunications provider SES is exploring a possible merger with Intelsat, another tie-up in the sector as the race for space-based internet service heats up.

In response to rumors in the market, SES confirms that the "company has

engaged in discussions regarding a possible combination with Intelsat."

The firm added that there is no certainty that a transaction "would materialize."

The satcom sector has been seeking to consolidate in the wake of the arrival

on the scene of billionaire players Elon Musk (SpaceX's Starlink satellites) and Jeff Bezos (Amazon's Project Kuiper).

Several other mergers have already been announced in the satellite scene, including the merger of France's Eutelsat with UK counterpart OneWeb as well as that of US provider Viasat and Britain's Inmarsat.

According to Bloomberg, a tie-up between SES and Intelsat would lead to the creation of a \$10 billion-plus group and require approval from the Luxembourg government, SES's top shareholder.

Intelsat has bounced back strongly after being placed in Chapter 11 bankruptcy in May 2020, after which it embarked on a massive restructuring. On the other hand, SES generated over €1.9 billion in revenue by the end of 2022.

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Imane Najari, Director of Cloud and Cybersecurity, inwi

Najari: 'inwi Places Innovation at the Heart of All Its Actions'

Telecom Review Africa conducted an exclusive interview with Imane Najari, director of cloud and cybersecurity, inwi, to discuss how the company supports Moroccan companies in their digital transformation journeys. She also shed light on inwi's strength as a leader in sovereign cloud and data center hosting solutions.

How does inwi support Moroccan companies in their digital transformation? Digital transformation is one of the pillars of economic and social development in Morocco. As a

committed and innovative operator, inwi's mission is to support Moroccan companies and organizations in their digital transformation journey to improve their agility and competitiveness and offer innovative services to their customers. To achieve this, inwi activates several levers to support and accelerate the digital

transformation of the Moroccan economy: infrastructure, connectivity, innovative solutions, customized services and support for the digital digital ecosystem in our country.

inwi is a catalyst for the digital transformation of Moroccan businesses by offering them

connectivity solutions supported by a diversified technological mix: Fiber Optics, 4G, ADSL, VSAT, etc., as well as mobility and IoT solutions, Cloud and Cybersecurity solutions and Unified Communications solutions. Our experts work closely with our customers to accelerate their digital transformation projects and achieve business outcomes.

The strength of inwi's positioning as a leader in sovereign cloud, data center hosting solutions, and cybersecurity solutions:

As a key player in the digital transformation of the Moroccan economy, inwi offers hosting solutions in our numerous data centers in Morocco, sovereign cloud solutions, and cybersecurity solutions to help Moroccan businesses accelerate their digital transformation.

We provide these businesses with more than 4,000 square meters of data center space in several regions of Morocco to support their IT infrastructure outsourcing projects or extensions. These data centers are certified to the highest international standards of availability and security.

inwi is the leader in sovereign cloud in Morocco, the first on the market to provide Moroccan companies and organizations with sovereign cloud solutions to host their data and applications on Moroccan territory in compliance with our country's policies and jurisdiction. Our expertise in complex and large-scale projects enables us to support our customers on their digital transformation journey.

inwi is also partner of choice for addressing and protecting Moroccan companies against all web threats, cyber-attacks and data breaches with a comprehensive security portfolio adapted to the needs of all businesses and strategic partnerships with global cybersecurity leaders.

Innovation at the heart of the operator's strategy:

inwi places innovation, deeply rooted in its DNA, at the heart of all its actions, both internally and towards its customers and ecosystem. Our ability



to innovate is essential to constantly anticipate our customers' expectations and bring them value continually.

In this spirit, inwi continually modernizes its infrastructure and network architecture, equipping itself with scalable network infrastructure and innovative solutions.

In 2019, inwi launched its 100% digital telecom brand "Win by inwi." A first in Africa, 'Win by inwi' is a new, interactive and evolving universe where the whole customer experience and services, from subscription to customer support, are dematerialized.

inwi was also the first telecom operator in Morocco to launch a Mobile Money service. "Inwi money" provides access, with a simple click, to a range of financial services and actively participates in the financial inclusion of the Kingdom of Morocco.

inwi also encourages innovation among entrepreneurs and start-ups by supporting them in their digital transformation. The operator is working towards the emergence of an integrated, competitive and innovative digital ecosystem. 



inwi's mission is to support Moroccan companies and organizations in their digital transformation journey to improve their agility and competitiveness and offer innovative services to their customers





Greening the Telecom Industry: Technologies and Challenges for Reducing Carbon Footprint

Climate-driven operations and solutions have become increasingly important in recent years as the world grapples with the growing threat of climate change. Many companies and organizations are now looking for ways to reduce their carbon footprint and adopt more sustainable practices.

First, reducing carbon emissions and adopting sustainable practices can help companies save money in the long run. By investing in energy-efficient technologies and renewable energy sources, companies can reduce their energy costs over time and become more resilient to future energy price increases.

Second, consumers are becoming more environmentally conscious and are increasingly choosing to do business with companies that share their values. By adopting sustainable practices, companies can differentiate themselves in the market and appeal to a growing segment of environmentally aware consumers. Also, reducing carbon emissions and adopting sustainable practices is simply the responsible thing to do. Companies have a duty to consider the impact of their operations on the environment and take steps to minimize that impact. By doing so, they can help create a more sustainable future for everyone.

Useful Technologies

Telecom operators can adopt several useful technologies to reduce their carbon footprint and adopt more sustainable practices. Some of these technologies include:

- **Renewable energy sources:** Telecom operators can shift towards using renewable energy sources, such as solar, wind and hydropower, to power their infrastructure. This can significantly reduce their carbon footprint and help minimize their reliance on fossil fuels.
- **Energy-efficient technologies:** Operators can adopt energy-efficient technologies, such as LED lighting and high-efficiency cooling systems, to reduce energy consumption and costs.
- **Virtualization and cloud computing:** By virtualizing their networks and moving to cloud computing, telecom operators can reduce the need for physical infrastructure and

equipment, thereby lowering their energy consumption and carbon footprint.

- **IoT-enabled smart solutions:** Telecom operators can leverage the Internet of Things (IoT) to develop smart solutions that can help to optimize energy consumption in buildings and reduce the wastage of resources.
- **Sustainable supply chain management:** Operators can adopt sustainable supply chain management practices, such as sourcing materials from environmentally responsible suppliers, to reduce the environmental impact of their operations.

5G Climate Concerns

One technology that is often touted as a potential solution to climate change is 5G. Compared to previous generations of mobile networks, 5G is less polluting because it is more energy-efficient. This is because 5G uses a different architecture that allows for a more targeted and efficient use of resources. Specifically, 5G networks use what is known as "network slicing," which allows for different parts of the network to be optimized for different types of traffic. For example, a slice of the network could be dedicated to high-bandwidth applications like video streaming, while another slice could be dedicated to low-bandwidth applications like text messaging.

By optimizing the network in this way, 5G can reduce the amount of energy required to transmit data, which in turn reduces greenhouse gas emissions. Additionally, 5G networks can also enable a range of other climate-driven solutions, such as smart buildings, renewable energy management and precision agriculture. For example, 5G-powered smart buildings can use sensors and other connected devices to optimize energy use, reduce waste and improve indoor air quality. Similarly, 5G-enabled renewable energy management systems can help utilities better manage their grids and integrate more renewable energy sources, which can further reduce greenhouse gas emissions.

Overall, while 5G is not a silver bullet for solving climate change, it does offer significant potential for reducing the carbon footprint of digital technologies and enabling a more sustainable future. As such, many companies and organizations are now investing in 5G as part of their broader climate-driven operations and solutions strategies.

Furthermore, while there are many advantages to telecom operators adopting more sustainable practices and reducing their carbon footprint, there are also some potential disadvantages or challenges that they may face. Some of these include:

1. **High upfront costs:** Many sustainable technologies require significant upfront investments, which can be a barrier for some telecom operators, particularly smaller ones. While the long-term cost savings may be significant, the initial capital outlay can be a challenge.
2. **Technological limitations:** Some sustainable technologies may not yet be fully developed or may not be suitable for certain types of infrastructure, such as older buildings or remote areas with limited access to renewable energy sources.
3. **Limited availability of renewable energy sources:** In some regions, access to renewable energy sources such as solar or wind power may be limited, making it more difficult for telecom operators to shift away from fossil fuels.
4. **Lack of regulatory support:** Without supportive policies and regulations, telecom operators may face challenges in implementing sustainable practices, particularly if these practices are not yet widely adopted by others in the industry.
5. **Challenges in managing supply chain sustainability:** Telecom operators may face difficulties in ensuring that their suppliers and partners are also adopting sustainable practices, which can limit the effectiveness of their own efforts to reduce their carbon footprint.
6. **Ultimately, by taking these steps and avoiding others to reduce their carbon footprint, telecom operators can help create a more sustainable and environmentally responsible industry for everyone. **

BlueJeans by Verizon Produces Interactive, Production-Grade Virtual Events and Live Streams

In an exclusive interview with Zach Bosin, VP of product & growth marketing, BlueJeans by Verizon, he shared how the platform combines high-quality audio featuring Dolby Voice (R), HD video and web-conferencing capabilities for cloud-based meetings or significant interactive events, making it a perfect fit for partners like Telecom Review Group in catering to webinars and virtual events business.



Zach Bosin, VP of product & growth marketing, BlueJeans by Verizon

Can you describe BlueJeans and its core services? And how do you ensure the security and privacy of users during video conferences?

BlueJeans by Verizon is a video engagement platform that fuses video and mobility to create a more flexible, inclusive workplace, helping enterprises work smarter, more collaboratively and more efficiently. When combined with Verizon's network and mobile connectivity, BlueJeans provides users with secure

and reliable video conferencing and eliminates latency and network errors.

How does BlueJeans by Verizon differ from other video conferencing solutions on the market?

BlueJeans by Verizon provides a unique meeting experience for its users with unparalleled features, including:

- Dolby Voice Audio, a breakthrough in audio for online meetings, elevates the meeting experience by allowing attendees to hear clearly and communicate naturally, regardless of location in high-

definition (HD) sound.

- Enterprise Grade Security that prevents unwanted participants from joining meetings and protects end-user privacy with default security settings enabled. Meeting organizers can lock meetings at any time and expel unwanted participants.
- A powerful, fully featured Mobile App for iOS and Android with crystal-clear audio, intelligent bandwidth management, dynamic screen-sharing, safe driving mode, mobile room controller, town hall and webinar support, and flexible join options.
- A premium desktop experience through the BlueJeans Desktop App 2.0 that allows you to join meetings faster, offers a more intuitive user interface and provides an immersive audio and video experience.
- Improved productivity with Smart Meetings, an intelligent meeting management software that allows users to capture important meeting discussion points, assign action items and catch up with timesaving highlight reels.
- BlueJeans' event platform is able to host up to 150,000 interactive event participants. Within the platform, a new production tool, BlueJeans Studio, allows event organizers to customize live streams to better engage their audience.

Can you discuss any recent updates or improvements that BlueJeans by Verizon has made to its platform?

BlueJeans Events empowers organizations to produce interactive,

BlueJeans

by Verizon

production-grade virtual events and live streams.

We have recently introduced BlueJeans Studio, an all-in-one event production suite, to our Events platform. Studio allows users to create stunning live streams by adding logos, backgrounds and colors; engage audience members with real-time chat, Q&A and polls; and expand their reach to Facebook Live, YouTube Live and other streaming platforms simultaneously.

BlueJeans Gateway, a Microsoft-certified cloud video interop solution, is the easiest way to bring the power of Teams video meetings into conference rooms and huddle spaces to create intelligent workspaces. BlueJeans' pure SaaS (Software as a Service) solution works in conjunction with thousands of room system configurations, including Cisco, Poly and Lifesize.

BlueJeans' Corporate Learning & Training platform facilitates immersive, engaging, and inclusive meetings, with features like Weather Person Mode, Collab Board, multi-language, and closed captioning.

How does BlueJeans address common video conferencing issues, such as connectivity problems or

audio/video quality issues?

To limit connectivity problems or audio/video quality issues, video platforms depend on low-latency networks and plenty of bandwidth. Verizon's 5G network enables both of those by computing to the edge of the network, where the application is, to reduce the response times needed. This allows for higher levels of video quality.

Can you discuss any integrations or partnerships that BlueJeans has with other software or platforms?

Most recently, BlueJeans announced a partnership with Sparq Live Limited to deliver professional-grade hybrid and virtual event experiences. Through this collaboration, enterprises seeking to create and execute exceptional on-brand events that immerse and engage audiences will have a one-stop shop for their events produced and streamed at scale with BlueJeans Events and Studio.

Last year, BlueJeans partnered with Google to equip the Glass Enterprise Edition 2 with BlueJeans Meetings. This collaboration allows workers to stream "point-of-view" video so remote coworkers can observe and troubleshoot in real-time, boosting productivity and collaboration for these businesses, which then improves their quality of work. **TR**



BlueJeans by
Verizon provides
a unique meeting
experience for
its users with
unparalleled
features



MTN GlobalConnect and BICS Expand Digital Services in Africa



MTN GlobalConnect and BICS announced the renewal of their partnership to collaborate in international mobility and connectivity for Africa. This partnership will see the complementary strengths of both companies come together to

accelerate the growth of mobile and digital services in Africa.

Through this partnership, MTN GlobalConnect, a pan-African digital wholesale and infrastructure services company, and BICS, an international

digital communications platform business, will extend affordable international communication across Africa. With expertise in innovation and digitalization, African operators and service providers will benefit from a plethora of Next-Gen technology-powered services.

The partnership reinforces both organizations' cloud communications, roaming and IoT ambitions. It will accelerate the digital transformation of communication services across Africa and particularly focus on the trust and authenticity of each interaction and dialogue. According to GSMA, by the end of the decade, there will be more than 340 million 5G connections in Africa; supporting the digital growth story and security of these services is instrumental to both MTN GlobalConnect and BICS.

Omantel and Wingu Group Collaborate to Establish Point of Presence in Djibouti



Omantel has partnered with data center operator Wingu Group to establish a point of presence (PoP) in Djibouti. The company is thus beginning its expansion into the African market. Omantel will be able to forge new wholesale

partnerships with telecom operators and hyperscalers, improve the use of connectivity between Oman and Africa, facilitate better business models and provide better support to customers with connectivity requests to and from Africa.

This partnership is part of Omantel's ambition to establish itself as a leading regional wholesale service provider in the Middle East and Africa. The company already has a presence in various countries around the world, including France, the UK, the Netherlands, Germany and Singapore, and is pursuing its vision, "From Oman to the World."

The establishment of Omantel's point of presence in Djibouti comes at a time of rapid growth in demand for high-speed telecom services and telecom traffic on the continent. Telecom operators and other digital service providers need more wholesale capacity to upgrade and improve their network coverage to meet this growing demand.

Zambia Strives for Ambitious Aim Through Hard Work



Zambia has been working hard to achieve its ambitious aim of becoming the most advanced digital hub in Southern Africa, as it will offer

a possibility to work collectively towards vital connectivity initiatives that will drive the expanding digital economy in Zambia.

Frédéric P.R.M. Schepens, CEO and Founder, GlobalConnect, MTN, paid a courtesy visit with Zambia's Minister of Science and Technology, Felix Mutati, to formally introduce MTN GlobalConnect Zambia operations and share updates on its progress and delivery on its current initiatives.

"As our journey draws to a close in Zambia, it was an honor to meet with Zambia's Minister of Science and Technology, Hon. Felix Mutati. Following our fruitful discussions, I look forward to the rollout of our connectivity initiatives that we will implement in Zambia to advance the country's digital economy," noted Schepens.

'Made in Egypt': Etisalat Egypt by e& Partners With AOI To Create Mobile Towers



During the signing of a cooperation protocol between the Arab Organization for Industrialization and Etisalat Egypt by e&, the Chairman of the Arab Organization for Industrialization, Major General Engineer Mokhtar Abdel Latif, emphasized the significance of carrying out President Abdel Fattah El-Sisi's directives to foster productive collaboration between state institutions and utilize Egypt's

manufacturing capabilities to promote and increase local production rates, localize technology, achieve industrial integration, boost production capacities and reduce imports while increasing the value added to national products with the "Made in Egypt" slogan.

In this regard, Mokhtar Abdel Latif explained that the areas of cooperation include the design and

manufacture of towers for stations at the Aircraft Factory of the Authority and the manufacture and supply of cables at the electronics factory of the Arab Industrialization, in addition to the implementation of solar stations and the supply of generators and electricity distribution panels, according to the latest technologies of the Fourth Industrial Revolution.

For his part, Engineer Hossam El-Maadawy, CEO of the institutional sector, Etisalat Egypt by e&, expressed his pride in the cooperation with the Arab Organization for Industrialization, the industrial backbone of the Egyptian state, and its expertise in various manufacturing and human capacities in accordance with international quality systems, pointing out its distinction in completing all areas of cooperation with the required efficiency and the highest levels of quality and speed in implementation and delivery on time, as well as after-sales service.



Dealing With Network Congestion: A Guide for Every User

To connect all the network components, multiple devices and the huge volumes of data flowing through them, modern businesses and work environments require a fast, secure and stable network infrastructure. Optimal network performance and the best user experience require high uptime. An issue like severe network congestion can negatively affect the user experience as well as the overall performance of the business, leading to revenue losses.

Network congestion occurs when the amount of data being transmitted through a network exceeds its capacity to handle that data. This backup of data traffic occurs when too many communication and data requests are made at the same time over a network that doesn't have enough network bandwidth to carry them. While network congestion is usually temporary, it can cause inconvenient network issues that can affect performance and be an indication of a larger problem in your network. Therefore, it's important to have network performance monitoring tools that can proactively detect network congestion in your own network as well as outside it.

The Causes

In order to fix network congestion, you need to understand the causes. Here are some of the most common reasons why network congestion occurs.

First are the "broadcast storms," the term for when a network is flooded with requests. This could happen, for example, on an unusually busy day for an e-Commerce business or when a video goes viral, creating a situation where a network can't process all the requests at once. Secondly, the low bandwidth: when considering the network as a pipe channeling data, bandwidth refers to how much data is being channeled through the pipe. If the network is not large enough for all the traffic to move through at once, problems arise with traffic not flowing smoothly, instead causing congestion. Also, this flow can be affected during peak TV streaming hours, when a video streaming service is consuming most of the internet, resulting in a prime example of network congestion.

Thirdly, the misconfiguration of network devices is a common cause of network congestion. This could be caused, for example, when network engineers introduce bugs into the system via repetitive and one-off scripts, which can be fought over by maintenance and testing:

Like all components of technology infrastructure, lack of maintenance on network devices and lack of network traffic monitoring can lead to unexpected breakdowns. Moreover, distributed denial of service (DDoS) attacks, where DDoS infiltrations can overload a network with excessive traffic, can lead to further network congestion and disruptions as well. And lastly, any packet loss or data packets that arrive damaged clearly need to be resent; if this is happening two or more times, it can result in network congestion without providing any incremental benefit.

The Prevention

Preventing network congestion issues can be challenging, but there are several steps that network administrators can take to minimize the risk of network congestion and ensure that the network operates smoothly and efficiently:

- **Monitor network traffic:** A major benefit of monitoring traffic is the capacity to design or re-design a more viable network optimized for your needs. Segmenting your network into smaller sub-networks will increase efficiency and create space to establish practical priorities. This not only permits more accurate monitoring but also produces a more viable network.
- **Upgrade network infrastructure:** Upgrading the network infrastructure can increase bandwidth capacity and reduce the risk of network congestion. This can include upgrading switches, routers and network cards.
- **Implement Quality of Service (QoS) policies:** Quality of Service (QoS) is a method for prioritizing network traffic and can solve network issues to keep the bandwidth under control. By using QoS mechanisms, network administrators can use existing resources efficiently and ensure the required level of service without reactively expanding or over-provisioning their networks.
- **Identify and address malware or virus infections:** Malware or virus infections can generate

excessive traffic on the network. Identifying and addressing these infections can help reduce network congestion.

- **Optimize network applications:** Optimizing network applications such as email or file transfers can reduce the amount of traffic that is generated.

Why Network Congestion Is a Major Challenge in Africa

Network congestion is a significant challenge in Africa due to a combination of factors, such as the lack of network infrastructure, slow internet speeds and limited bandwidth. The continent's rapid population growth and increasing demand for digital services have put a strain on the existing network infrastructure, causing congestion in many areas.

One of the main causes of network congestion in Africa is the limited bandwidth available in many regions. Bandwidth is a measure of the maximum amount of data that can be transmitted over a network in a given period, and it is critical to ensuring a smooth and fast data transfer. Many areas in Africa have limited bandwidth due to the high cost of internet infrastructure development, which has slowed down the deployment of high-speed internet services.

To address network congestion in Africa, there needs to be more investment in network infrastructure, including the deployment of high-speed internet services, the expansion of bandwidth and the optimization of network traffic. Additionally, measures such as load balancing, traffic shaping and network segmentation can also help to prevent congestion. The adoption of new technologies such as Software-Defined Networking (SDN) and Network Function Virtualization (NFV) can also help optimize network traffic and reduce congestion.

Overall, network congestion remains a significant challenge in Africa, but with the right investment and adoption of new technologies, it is possible to overcome this challenge and provide better network performance for users across the continent. **TR**



Marketing Environment Evolving Thanks to AdTech

Running a digital business or, specifically, running a digital marketing campaign requires the use of AdTech. To purchase, manage and evaluate digital advertising, advertisers use AdTech. Advertising technology, or “AdTech,” is defined as all technologies and techniques, as well as those used in the online advertising industry.

Online advertising has become increasingly popular due to a number of new issues that have emerged at a time when traditional marketing is

no longer the only factor to consider and there is a need to rethink how to interact with consumers.

Actually, it's with the help of AdTech:

- The purchase and distribution of advertising space must be as automated and planned as possible.

- The collection of customer data about their web browsing and online advertising behavior helps target and deliver the right message to the right audience.

About the technologies and solutions of AdTech

Essentially, AdTech technologies act as an intermediary between the advertiser and the website where the ad will be placed.

Data Management Platform (DMP)

A data management platform (DMP) gathers, organizes and creates active data on primary, secondary and third-party audiences. This collection can come from various online, offline and mobile sources.

It then makes extensive customer profiles using this data to support projects for targeted advertising and personalization. Publishers can feed data gathered from their websites and apps into DMPs using file uploads, APIs or pixels. DMPs can collect data for a client to use internally (first-party data) or compile data from various sources to package and sell (third-party data).

Customers of DMPs group audience identifiers into "segments" and categorize these segments according to behavior, demographics or interests. Below are a few examples of these segment types:

- **Behavioral:** An e-commerce site may add the user's identifier to a segment marked "did not check out" if they added an item to their cart but then abandoned the checkout process. Being based on an action or behavior qualifies the segment as behavioral.
- **Demographic:** By soliciting their voluntary participation in surveys, news websites can learn details about their audience, including age, gender and household income. Then, publishers can use these demographic data points to pinpoint particular users.
- **Interest:** If a user frequently browses financial articles on a publisher's website or mobile app, the publisher may classify the user as being in a "financially savvy" interest-based segment. Some DMPs also offer tools for building compound segments using AND/OR operators.
- **Ad exchanges:** Online markets where ads can be bought and sold are called "ad exchanges." They establish a connection between publishers and advertisers through ad exchange networks and servers, where publishers can provide ad inventory and advertisers can set a budget for real-time bidding.
- **Search Engine Marketing (SEM):** Ad visibility, target audience reach, and product purchases are frequently determined by carefully chosen keywords. With the help of search engine marketing (SEM), it is possible to buy ad space associated with valuable or well-liked keywords, expanding your target audience or reaching new ones. Additionally, SEM can be used in conjunction with SEO and SEA.
- **Tag management system:** Tag management systems organize, manage and change marketing and advertising tags using automation and container logic. They make sure that only the essential changes—and not the entire source code—need to be made when brand-new marketing initiatives are launched or websites are redesigned.
- **Native ad platforms:** Native advertising platforms serve more as a benchmark than a tool for seamlessly incorporating advertising content into web content, namely in the form of

suggestions, counsel and in-feed marketing.

- **Ad forecasting software:** You can make the most of your advertising budget by using "ad forecasting software." It assesses consumer purchasing and usage patterns, provides an overview of anticipated costs for ad inventory and ad placement, and offers budget optimization based on anticipated costs and projected goals.

The Future of Advertising Technology

AdTech is rapidly developing and doesn't appear to be slowing down. Advertising must evolve along with consumer behavior. AdTech will be essential to the development of advertising and has the potential to completely transform the market.

The future of advertising technology appears promising, despite the impending recession.

Several factors make the future of AdTech look promising. The top three advantages are as follows:

- AdTech is becoming more effective.
- AdTech is becoming a lot more automated.
- AdTech is moving more toward AI.

These three trends imply that businesses that invest in cutting-edge technology will weather the storm of the recession and emerge stronger. **TR**



Nokia to Support Orange and ACUD for Building of Smart Capital City in Egypt



Nokia announced that its innovative OSS/BSS software solutions have been selected by Orange and the Administrative Capital for Urban Development (ACUD) company owned by the Egyptian government to deliver a wide range of retail and wholesale services for the New Administrative Capital city. Nokia AVA products, including its operations and monetization software, will be used by the Administrative Capital for Urban Development of Egypt (ACUD)

to enable customers to order, activate and pay for utilities and data center services.

Deployment of Nokia's innovative software solutions is part of the Service Provider-as-a-Partner (SPaaS) collaboration with Orange Egypt and Orange Business Services. The deployment is expected to be completed by the beginning of 2023. Nokia AVA software will provide "Intelligence Everywhere" to help

ACUD deliver new and innovative Internet of Things (IoT) use cases to residential and enterprise users.

ACUD is a new smart city being developed about 60 kilometers outside Cairo. The city is envisioned to reach up to seven million inhabitants in the next 10 years. It will have around 2.5 million IoT devices and the largest certified tiered data center in Africa. Egypt's New Administrative Capital will allow the users to benefit from an end-to-end online cycle for procurement, activation and payment for utilities, as well as internet and data center services for enterprise subscribers.

The solution includes Nokia Converged Charging, Mediation and Digital Operations software. The AVA software solution will help ACUD efficiently manage data center services to enterprises, IoT services, and wholesale connectivity for residential and enterprise users.

ZTE and Ooredoo Group Extend Partnership for 5 More Years



ZTE Corporation, a global leading provider of information and communication technology solutions, has expanded the global frame

agreement with Ooredoo Group for Ooredoo Algeria network modernization and related implementation and maintenance services, as well as

supply and delivery of Lithium Battery products.

ZTE and Ooredoo will expand cooperation in the transport network, which includes the large-scale commercial deployment of SRv6. The new solution will transform the traditional transport network architecture into a 5G-oriented, programmable one.

ZTE will partner with Ooredoo in the energy field. With ZTE's latest highly efficient power system and Smart-Li batteries, Ooredoo will improve energy utilization efficiency, increase battery life while protecting current battery investment and realize its social commitment to building greener networks.

Huawei's DigiTruck Project: Driving Digital Inclusion in Uganda



Launched at an event celebrating International Women's Day (IWD) in Kiruhura District, the DigiTruck project is a part of Huawei's TECH4ALL initiative, the company's long-term initiative for driving inclusion and sustainability across the globe.

President Yoweri Museveni commented, "I launched the Huawei DigiTruck project in Uganda, a project that will benefit over 10,000 Ugandans in a span of three years, especially Jua-Kali, enterprise owners, women, young girls and students through Digital Skilling." He added that digital transformation is one of the key drivers of effective human capital development;

therefore, it gives him pleasure to launch this Huawei project.

Running in partnership with the Ministry of Labour, Gender and Social Development and the international social enterprise Close the Gap, the Uganda DigiTruck project is aligned with the nation's 2040 vision, the National Development Plan and the Education Digital Agenda Strategy. The focus of these initiatives includes promoting digital foundation skills, digital communications and information, digital transactions, using the Internet for problem-solving, online safety, civic responsibility and data privacy.

Converted from used shipping containers, DigiTrucks are truck-mounted mobile classrooms that can be driven to remote communities that lack training facilities. Each 40-hour course trains students in digital literacy skills such as how to use devices, office software and the Internet, along with soft skills such as writing a resume, applying for jobs online and running an online business. Connected by 4G, the Uganda DigiTruck can accommodate 20 learners in one session and comes equipped with a Huawei IdeaHub smart screen, smartphones and laptops. As all devices are solar-powered, DigiTrucks can serve communities that lack a power supply.

Huawei has so far run DigiTruck projects in Kenya, Ghana and France with a focus on bringing digital skills to people that are most likely to be left behind in the digital world, including rural communities, the elderly, unemployed youth, people with disabilities and women.

Ericsson Partners With Econet to Upgrade Network Infrastructure in Zimbabwe



Econet Wireless Zimbabwe has strengthened its partnership with Ericsson at the recently completed Mobile World Congress 2023 in Barcelona, Spain. This move comes as it prepares for 5G expansion by modernizing its Radio Access Network (RAN) and mobile Core network across Zimbabwe.

The network upgrade will pave the way for Econet to deliver 5G connectivity in more

locations, unlocking advanced consumer and enterprise use cases. As part of the mobile Core evolution, Ericsson will modernize the existing Evolved Packet Core (EPC) network to a cloud-native dual-mode 5G Core as well as upgrade the Unified Data Management (UDM) solution. The agreement with Econet also includes Ericsson's cloud infrastructure solutions, the Circuit Switch Core modernization, and the introduction of the IP Multimedia System (IMS) for Voice over LTE (VoLTE) and Voice over WiFi (VoWiFi).

Modernizing Econet's network infrastructure will enable a wide range of services to subscribers, including high-definition VoLTE and applications that require low latency and improved

responsiveness. High-speed internet will be enabled through 4G and 5G radio access networks, coupled with the modernized packet core network. Along with enhancing its user experience, Econet will also benefit from increased network coverage and capacity.

The network modernization will include Econet's existing 2G, 3G and LTE networks, along with Ericsson's latest 5G multi-band, multi-sector radios, such as Radio 4466, which offer capacity expansion, energy efficiency and an average 15% reduction in tower load. Through the partnership, Econet will realize greater LTE indoor penetration and continue its seamless deployment of 5G, Narrowband-Internet of Things (NB-IoT) and private networks.

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Did you know that
Africa's e-payments
market is expected to
grow **152%** by
2025?

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Saviez-vous
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 Telecom Review Group


Toute catastrophe, une opportunité?

Q

uel est le lien entre les faillites récentes de la banque axée sur les start-ups, Silicon Valley Bank, aux États-Unis et celle du Crédit Suisse en Europe ? Est-ce le signal d'une crise financière plus grave ? Certainement, d'autres pays et marchés s'inquiètent de savoir si d'autres banques pourraient suivre.

De nombreux spécialistes des cryptomonnaies estiment que les cryptomonnaies et la blockchain sont des technologies supérieures pour gérer le système financier mondial, en particulier après la crise mondiale de 2008. Ces experts en crypto-monnaies affirment que l'effondrement de la SVB souligne à quel point les crypto-monnaies sont essentielles à l'économie. Selon eux, elles constituent un substitut au système bancaire qui permet de ne pas avoir à faire confiance à quelqu'un d'autre pour faire des choses dont on n'est pas forcément conscient.

Il y a un autre point de vue qui est partagé par les gens qui sont anti-crypto qui croient que la monnaie virtuelle n'a pas atteint sa maturité maximale ; comme ils considèrent que toute monnaie qui n'est pas soutenue par les pays, les gouvernements et les banques fédérales n'est pas légitime pour le type de transaction ou même le troc.

Par ailleurs, à Telecom Review, nous avons franchi une nouvelle étape : nous avons atteint plus de 15 000 followers sur la page LinkedIn de Telecom Review ME et nous espérons que d'autres suivront, alors que nous continuons à respecter notre engagement à fournir les nouvelles et les mises à jour les plus récentes et les plus fiables dans le paysage technologique, principalement dans le secteur des TIC. Nous sommes également disponibles sur Instagram : où nous partageons les faits marquants, les dernières nouvelles et des interviews exclusives.

La série de panels virtuels 2023 de Telecom Review se poursuit le 2 mai. Rejoignez-nous pour une discussion informative et engageante avec des experts CSP afin d'apprendre comment moderniser les solutions DDI pour l'avenir du cloud telco.

Enregistrez-vous sur ce site : <https://primetime.bluejeans.com/a2m/register/bwxybrpy>

2023



Technologies attendues en 2023 : Transformation numérique abondante

La technologie d'aujourd'hui va se développer, ce qui conduit aussi bien à des changements qu'à des progrès encore plus rapides, accélérant ainsi le cycle du changement. Toutefois, non seulement les tendances technologiques et les technologies émergentes évoluent, mais la pandémie Covid-19 nous a tous aidés, depuis bientôt 3 ans, à vivre au quotidien dans l'incertitude, et nous a également appris à quel point certaines technologies sont importantes, de telle sorte que nous les pensions plus développées qu'elles ne le sont. Tel est le cas de l'intelligence artificielle et du machine Learning. Un spécialiste des TI apprendra constamment, désapprendra et réapprendra en 2023-2024 (si ce n'est pas au choix, ce sera plutôt au besoin).

Les tendances de consommation en évolution rapide, les préoccupations en matière de sécurité, l'application morale de l'IA et les effets croissants du changement climatique ont porté les entreprises à tenir compte désormais du risque systémique dans leur planification à long terme

Puissance informatique

La quasi totalité des appareils de l'âge numérique sont aujourd'hui informatisés, ce qui est une preuve de plus que la puissance informatique s'était déjà forgée une place dans notre ère. L'infrastructure informatique que nous construisons actuellement évoluera inmanquablement au cours des années à venir, à en croire les experts en science des données : Elle est là, elle y restera.

Il faut nous tenir prêts pour une génération de 6G en étant armés de plus de puissance et de dispositifs tout autour de nous comme nous l'avons déjà été avec 5G. Ce n'est pas encore fini ! L'augmentation de la puissance informatique est génératrice de plus d'emplois dans le secteur des technologies, bien qu'une formation spécialisée soit exigible pour les candidats dans de tels postes. Cette industrie portera les postes d'emplois au monde à leur plus haut pourcentage, dans des disciplines telles que la science des données, la robotique et la gestion des TI, auquel cas il nous faudra faire appel à plus de techniciens, d'équipes informatiques, de gestionnaires de relations et de l'industrie du service clientèle à mesure que nos appareils deviendront plus avides d'informatique.

Une branche essentielle dans ce domaine que vous pouvez acquérir aujourd'hui par l'apprentissage serait l'automatisation robotisée des processus. *Le Robotic Process Automation (RPA)* est toute une technologie de logiciel de calcul et d'automatisation qui peut vous former à un rôle très lucratif dans l'industrie de l'informatique.

Appareils plus intelligents

Notre monde d'aujourd'hui gagne en intelligence et en efficacité grâce en grande partie à l'intelligence artificielle. Loin de simuler simplement les humains, il va au-delà pour rendre nos fardeaux légers et nos vies simples. Les scientifiques des données ayant mis au point des robots, des appareils électroménagers, des appareils de travail, des appareils portables et bien plus encore, ces appareils intelligents seront présents en 2023 et bien plus tard. Les applications logicielles intelligentes sont inhérentes à quasiment chaque emploi pour accorder plus d'aisance à notre vie professionnelle. Vu que les entreprises qui adoptent des technologies numériques se font aujourd'hui de plus en plus nombreuses, les appareils intelligents deviennent un atout en supplément pour le secteur des TI qui est en forte demande. La réussite constatée dans la presque totalité des postes de niveau supérieur exige actuellement une solide maîtrise de l'informatique et de l'automatisation.

Datafication

Dans nos vies, tout a le potentiel de la datafication ou le potentiel de convertir en logiciel ou matériel axé sur les données. Par conséquent, soyons clairs, la datafication consiste à convertir des tâches manuelles exigeant des méthodes d'intense travail en une technologie axée sur les données. Les données sont là pour être plus durables que nous n'en souvenons, qu'il s'agisse de nos téléphones intelligents, de notre machinerie industrielle, de nos applications de bureau, de notre appareillage alimenté par IA ou de tout le reste. Par conséquent, c'est devenu une spécialité très recherchée dans notre économie que de s'assurer que nos données sont correctement sécurisées en stock.

Nouvelles Solutions Énergétiques

Le monde a accepté volontiers que ses paysages et l'énergie d'usage courant verdissent et reverdissent. Il en résulte des voitures roulant à l'électricité ou fonctionnant sur batterie et des maisons utilisant des

choix plus verts tels que l'énergie solaire et renouvelable. Le mieux c'est que la population a pris conscience de son empreinte carbone et de ses déchets, ce pourquoi, il est encore plus utile d'en réduire la quantité ou de les transformer en énergie renouvelable.

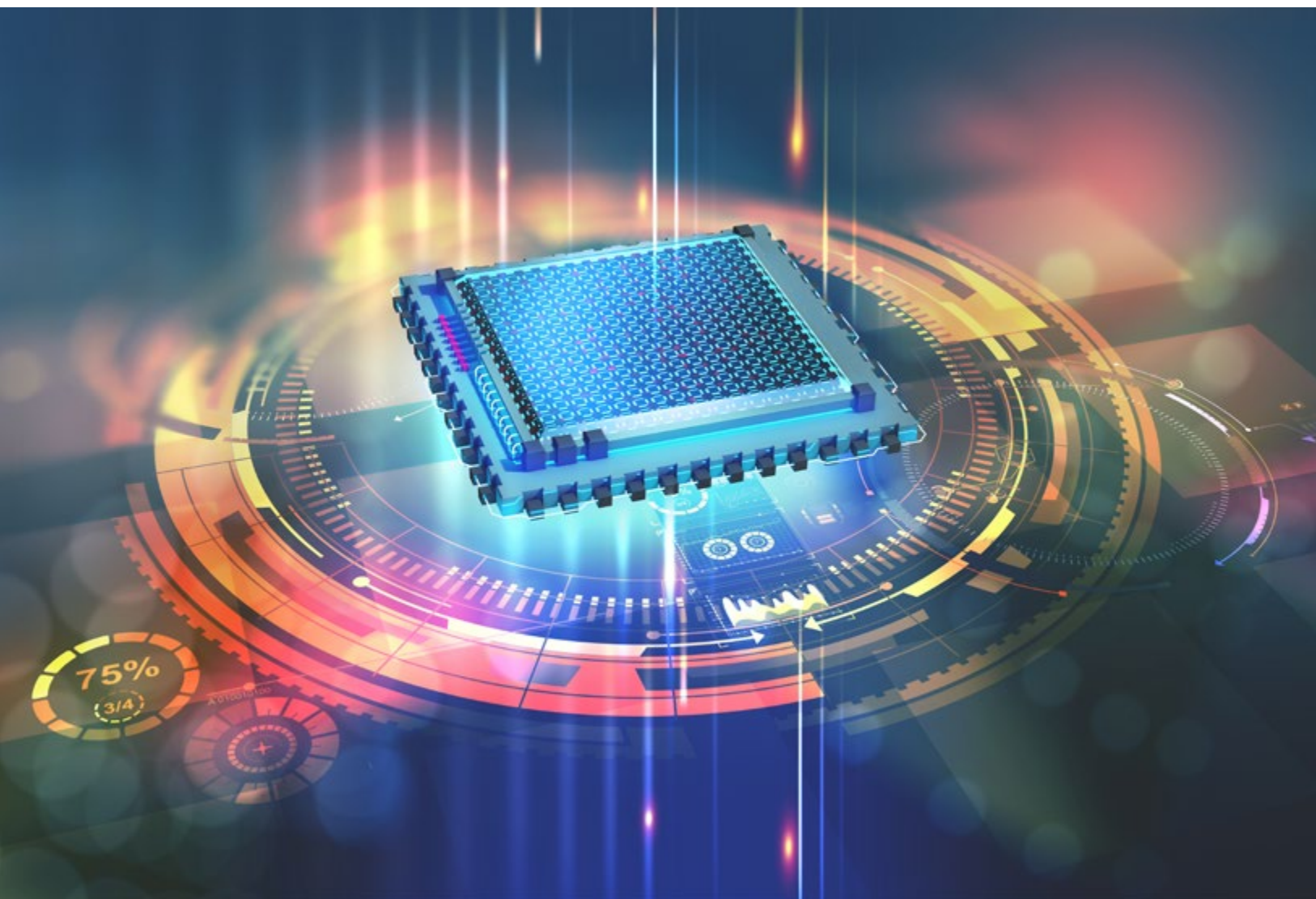
Chaines en blocs

Cette évolution technologique ne date pas d'aujourd'hui, la *Blockchain* et le *Bitcoin* ont été conçus ensemble en 2008. Par contre, il existe aujourd'hui différentes *Blockchains* et différentes cryptomonnaies. Cependant, il convient de suivre cette technologie en 2023. Plus précisément, la *Blockchain* permet l'échange et le stockage de la valeur sur le web via des jetons (*ou token*) qui sont regroupés par "blocks", puis validés par des nœuds appelés également "mineurs". **TR**



Il faut nous tenir prêts pour une
génération de 6G en étant armés de
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tout autour de nous comme nous
l'avons déjà été avec 5G





L'information quantique dans l'industrie 4.0

Dans le domaine complexe de la technologie quantique qui étudie le comportement des particules subatomiques, ou des particules plus petites que les atomes qui sont les unités de base de la matière, ces particules font l'objet d'examen pour savoir comment elles interagissent les unes avec les autres.

L'informatique quantique est un champ favorable à la recherche clé dans un domaine. Un ordinateur quantique peut traiter plusieurs calculs à la fois, à l'opposé d'un ordinateur traditionnel qui ne traite qu'un seul calcul en bloc.

Un « bit », qui représente l'une des deux valeurs binaires, soit zéro ou l'une de ces valeurs, constitue l'unité de base de l'informatique traditionnelle. L'ordinateur est à même de traduire ces valeurs en diverses représentations, telles que les mots et les images.

Grâce à ses avantages, l'informatique quantique suscite un vif intérêt pour différents secteurs technologiques qui vont des véhicules autonomes jusqu'aux prévisions météorologiques, la planification du transport en commun, la recherche pharmaceutique, les communications financières sécurisées, l'exploitation des ressources et la détection.

Outre la sécurisation accrue quand il est question d'honorer la facturation en ligne, cela pourrait profiter à une compagnie aérienne en butte aux retards, allant jusqu'à réacheminer et reporter des courriers ayant été annulés. Ce développement permet la réalisation des systèmes d'imagerie médicale encore plus spécialisés.

La modélisation des réactions chimiques et la conception des matériaux peuvent devenir plus complexes grâce aux propriétés particulières des matériaux utilisés dans les ordinateurs quantiques à l'échelle nanométrique, ce qui faciliterait aux concepteurs et aux ingénieurs la tâche de créer une meilleure médication, des batteries plus performantes et des matériaux de pointe disposant de propriétés électriques et mécaniques supérieures.

Mettant à profit le soutien fiable et sans faille du gouvernement, les entreprises peuvent créer des applications innovantes et très efficaces qui pourraient stimuler la croissance économique et la création d'opportunités d'emploi. Une

économie quantique en développement se retrouverait impactée grâce à ces résultats économiques susmentionnés

Nos initiatives doivent s'élargir pour inclure la recherche fondamentale, la traduction, l'évolution technologique et le règlement de problèmes liés aux objectifs nationaux. Cette inclusion peut s'étendre aux communications quantiques, aux ordinateurs quantiques, aux ressources locales et au personnel qualifié qui sera le bienvenu pour la recherche quantique.

Le potentiel de l'informatique quantique pour la fabrication

Dans une industrie aussi variée, fabrication comprise, l'utilisation de l'informatique quantique peut générer une infinité de possibilités. L'informatique quantique peut permettre de concevoir des matériaux présentant des rapports force-poids supérieurs, des procédés synthétiques et catalytiques plus efficaces et des batteries à haute densité énergétique.

Cependant, ce ne sont pas les seuls avantages de l'informatique quantique qui pourraient profiter au secteur manufacturier, il y a également la technologie qui pourrait améliorer la gestion du circuit d'approvisionnement et la conception de la fabrication.

On peut ajouter, dans ce même ordre d'idées, que l'informatique quantique ira jusqu'à modifier le développement de produits venant des fabricants. À l'heure actuelle, la conception et les expérimentations de produits dépendent dans une grande mesure de la simulation informatique à l'aide de laquelle les marges de sécurité peuvent toutefois s'accumuler, entraînant ainsi des différences de poids et des marchandises plus coûteuses.

L'informatique quantique pourrait rendre possibles les calculs d'entrée pour les trajectoires individuelles des composants, le bruit, les vibrations et les charges du système, donnant lieu à une précision et à une fidélité accrue. Ce faisant, la fabrication de pièces individuelles serait probablement optimisée tout en tenant compte du système global et en atténuant l'impact de nombreuses marges de sécurité. Cela permettrait aux fabricants de réduire les frais sans pour autant affecter les performances du système.

Une production meilleure, plus rapide et plus sécurisée

Les fabricants se serviront de plus en plus de l'informatique quantique en guise de moteur de changement clé. Compte tenu de ses effets attendus sur le développement et la conception des produits, les techniques de fabrication et les opérations du circuit d'approvisionnement, il peut donner aux premiers usagers qui œuvrent pour un avenir quantique entretenant un avantage décisif.

Comment un fabricant commence-t-il ?

Il encourage les gourous quantiques de son entreprise à manier des ordinateurs quantiques réels pour mener des expériences et étudier les utilisations potentielles de l'informatique quantique dans son secteur particulier. Il demandera également de signifier un rapport à un comité directeur quantique qui se constitue de cadres des secteurs d'activité et de stratégies des marchés pour les porter à se pencher sur les défis les plus déterminants. Il privilégiera les cas d'usage potentiels de l'informatique quantique en fonction de leur chance d'obtenir un avantage concurrentiel à la lumière du plan d'affaires dressé par l'entreprise, des propositions de valeur connexes pour la clientèle et des plans d'expansion à long terme. Pour maintenir les cas d'usage avancés les plus récents qui pourraient être commercialisés le plus tôt possible, il surveillera également le développement d'applications quantiques.

De plus, le fabricant envisagera de collaborer avec un écosystème quantique en développement constitué de laboratoires de recherche et d'établissements universitaires ayant les mêmes perspectives, de fournisseurs de technologies quantiques, de promoteurs et de codeurs d'applications quantiques et d'entreprises naissantes utilisant des technologies auxiliaires. Il faut, par ailleurs, citer les entreprises en proie à des difficultés identiques les empêchant d'accéder immédiatement à une palette variée d'informatique quantique qui peut être utilisée pour créer et exécuter des algorithmes quantiques pouvant répondre aux exigences de l'entreprise. Il faudra probablement changer les partenaires écosystémiques au gré des progrès de la technologie quantique. **TR**

Moov Africa, Malitel et Orange sous le coup d'une sanction



Moov Africa Malitel et Orange Mali ont été contraintes de verser une somme de 176 milliards de francs CFA au réseau des consommateurs des télécommunications du Mali (RECOTEM) pour avoir facturé des appels téléphoniques sur répondeur à leurs clients.

Africa Malitel devra payer 56,5 milliards FCFA au Recotem tandis

qu'Orange Mali paiera 115,3 milliards FCFA. Les deux sociétés devront également verser 1,5 milliard FCFA à l'association de défense des droits des consommateurs à titre de dommages et intérêts.

C'est depuis 2012 que le réseau des consommateurs maliens de téléphonie mobile essaie d'obtenir justice dans le cadre de l'affaire

dite de « facturation du répondeur » qui l'opposait à Sotelma-Malitel et Orange Mali. Dans un premier temps, l'affaire a été rejetée par le tribunal. En effet, l'Autorité malienne de régulation des télécommunications/ TIC et postes (AMRTP) avait estimé que cette pratique était légale et conforme au principe de la liberté tarifaire prévu par la réglementation en vigueur.

Finalement, Recotem a obtenu gain de cause en novembre 2021. Dès lors, la Synergie des syndicats de télécommunications avait engagé des initiatives pour faire annuler une décision de justice qu'elle juge « injuste » à l'encontre des deux principaux opérateurs mobiles du pays. Cela comprend des sit-in, des mouvements de grève, des négociations avec les autorités et un pourvoi de cassation déposé auprès de la Cour suprême.

La Tunisie vise à étendre l'accès à Internet haut débit dans ses établissements scolaires



Nizar Ben Néji, ministre des technologies de la communication, a révélé que le gouvernement tunisien envisage de raccorder 3307 établissements scolaires au réseau Internet haut débit avec la fibre optique.

Le projet visant à connecter les établissements scolaires à Internet haut débit durera 18 mois et sera

déployé dans des établissements scolaires situés dans différentes régions du pays. D'un coût total de 132 millions de dinars (42,5 millions USD), il sera financé en partie par la Banque internationale pour la reconstruction et le développement (BIRD) ainsi que par la Banque africaine de développement (BAD).

Cette initiative s'inscrit dans le cadre des actions engagées par le gouvernement tunisien pour accélérer sa transformation numérique. Son annonce intervient quelques semaines après le lancement de la seconde phase du projet de « couverture des zones blanches ». Ledit projet vise à terme

une couverture télécoms universelle dans le pays.

L'initiative rentre aussi dans le cadre du projet de réforme du secteur de l'éducation en Tunisie, indique Mohamed Boughdiri, ministre de l'éducation. Il a ajouté que son ministère prévoit de digitaliser tous les établissements scolaires en partenariat avec le ministère des Technologies de la communication.

Le raccordement des établissements scolaires à l'Internet haut débit devrait permettre d'améliorer l'éducation fournie à environ 1,5 million d'élèves des écoles, collèges et lycées secondaires.

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L'évolution rapide de l'industrie des télécommunications tunisiennes

Le secteur des télécommunications en Tunisie a été le témoin d'importants changements au cours des dernières années, le gouvernement ayant mis en pratique des politiques dont le but serait de moderniser le secteur et de rendre les services de télécommunications plus accessibles.



Le gouvernement tunisien a pris des mesures significatives pour libéraliser le secteur des télécommunications, notamment en pavant la voie à la concurrence vers le marché et en privatisant l'opérateur national de télécommunications, *Tunisie Telecom*. D'ailleurs, le gouvernement a institué une autorité réglementaire pour superviser ledit secteur, a favorisé les investissements dans l'infrastructure des télécommunications et a porté son attention au projet d'amplifier les réseaux 4G et de développer les réseaux de fibre optique pour obtenir une pénétration accrue de l'internet et une amélioration de la connectivité. Le gouvernement a

également posé une stratégie de transformation numérique destinée à l'amélioration de l'infrastructure TIC du pays et à l'accroissement de l'usage des technologies numériques, y compris les services administratifs électroniques, l'éducation numérique et le développement des compétences numériques.

Le principal opérateur de télécommunications en Tunisie

Etant le leader du secteur des télécommunications en Tunisie, *Tunisie Telecom* a adopté une série de valeurs qui prioriseront largement le client. Depuis sa fondation, *Tunisie Telecom* aide à renforcer l'infrastructure des télécommunications en Tunisie, à améliorer le taux de couverture et à renforcer la compétitivité de l'entreprise. Aussi apporte-t-elle sa

contribution active à la promotion de l'usage des TIC et au développement d'entreprises innovantes dans le domaine des télécommunications.

Le gouvernement tunisien a mis en pratique de nombreuses stratégies importantes pour libéraliser le secteur des télécommunications en privatisant l'opérateur national de télécommunications. Voici quelques-unes de ces stratégies selon lesquelles le gouvernement a :

- Autorisé la concurrence sur le marché : Il a autorisé la concurrence sur le marché des télécommunications en rendant le marché plus accessible à de nouveaux opérateurs. Il a ainsi rendu accessibles de nouveaux opérateurs de portables, tels que *Ooredoo* et *Orange*.
- Conséquence : la concurrence sur le marché s'est retrouvée renforcée et les consommateurs se sont vus offrir un plus grand choix
- Privatisé *Tunisie Telecom* : Il a privatisé *Tunisie Telecom* en cédant une participation majoritaire à l'opérateur de télécommunications *Emirates International Telecommunications (EIT)*, implanté à Dubaï, ce qui a valu à l'entreprise un fonctionnement plus efficace et facilité l'accès de nouveaux services et de nouvelles technologies.
- Promu des investissements dans les infrastructures de télécommunications : Le gouvernement a favorisé l'investissement dans l'infrastructure des télécommunications et ce, en accordant des incitations aux opérateurs de télécommunications pour leur permettre d'élargir leurs réseaux et d'améliorer la qualité de leurs services. Conséquences : d'importants investissements ont été constatés dans les réseaux de fibre optique, qui ont amélioré les vitesses et la connectivité haut débit dans l'ensemble du pays.



Opérateurs principaux

Certains des principaux opérateurs de télécommunications, énumérés ci-dessous, rivalisent dans le secteur des télécommunications en Tunisie, avec *Nokia*, *Ericsson*, *ZTE* et *Huawei* comme principaux fournisseurs du pays.

Ooredoo Tunisie : *Ooredoo Tunisie* fait partie du *Groupe Ooredoo*. Fort de plus de 7,5 millions d'abonnés, il est l'opérateur majeur de Tunisie. La société a fait son chemin dans le marché tunisien en 2002, et fournit des services de téléphonie mobile, d'Internet et de téléphonie fixe, y compris des services mobiles 2G, 3G et 4G, ainsi que des services d'Internet par ADSL et fibre optique. Les revenus de *Ooredoo Tunisie* se sont chiffrés à 1,5 milliard QAR pour l'exercice clos le 31 décembre 2022, par rapport à 1,6 milliard QAR en 2021, et le nombre de clients tunisiens est passé de 3% à 7,1 millions. Par ailleurs, le rendement positif de cette année serait attribué aux promotions spéciales dont : prestations de services étudiant, la nouvelle application *Ooredoo Express*

et la réduction des prix de l'ensemble des données pendant la Coupe du monde. Le flux de données s'est aussi accru significativement par suite des réductions des prix.

La stratégie ciblée d'*Ooredoo Tunisie* lui a valu une compétitivité accrue dans le domaine de la fibre optique, et cela lui a permis de remporter d'importants projets, en particulier dans le secteur privé. Le déploiement de la fibre optique continue de progresser à temps.

Orange : *Orange* est un opérateur de télécommunications multinational français qui s'est frayé un chemin vers le marché tunisien en 2010. L'entreprise a fourni des services de portables, d'Internet et de téléphone fixe. Les investissements multiples de *Orange Tunisie* ont été fortement présents en matière de développement de son infrastructure de réseau, en particulier de l'expansion de son réseau 4G. La société a également déployé une gamme de services innovants, services bancaires mobiles et les services de télévision numérique

compris. *Orange Tunisie* a été acclamée pour son engagement à respecter le principe de responsabilité sociale de l'entreprise, en particulier dans les domaines de l'éducation et de l'inclusion numérique. L'entreprise a signé un partenariat avec plusieurs organisations nationales pour dispenser une formation aux compétences numériques et un soutien aux communautés défavorisées en Tunisie.

La Tunisie prévoit des lancements de nano-satellites jusqu'en 2023

La Tunisie dispose de l'une des infrastructures de télécommunications les plus évoluées d'Afrique du Nord. Le taux de pénétration des services mobiles et Internet compte parmi les plus élevés de la région. Un certain nombre de mesures réglementaires et de projets d'infrastructure ont été entrepris depuis quelques années, d'autant plus que le gouvernement est incessamment impliqué dans l'expansion de l'infrastructure à large bande vers les zones reculées comme dans le développement d'une économie numérique.

Forts du soutien de *Digital Tunisia 2020*, les ORM ont mis en place une vaste infrastructure *LTE* et testé des services *5G*, bien que les services commerciaux ne soient pas attendus avant 2023 au plus tard. Bien que l'économie ait été sérieusement affectée par l'effondrement du secteur du tourisme en 2020, elle a recouvré sa croissance en 2021. Néanmoins, le taux de chômage et d'émigration est en hausse, et les ménages continuent de subir une forte pression économique. Ces facteurs ont, à leur tour, mis un frein au potentiel de croissance des revenus dans le secteur des télécommunications.

Les opérateurs de téléphonie mobile *Ooredoo* et *Orange Tunisia* sont également titulaires d'une licence d'opérateur de téléphone fixe et ont lancé des services *DSL* et *FttP*. De plus, une douzaine de fournisseurs d'accès Internet publics et privés se font la concurrence dans ce secteur, soutenus par un réseau national de fibre optique et l'accès international par fibre sous-marine et terrestre.

Les investissements en télécommunications de la Tunisie

La Tunisie a réalisé des investissements et lancé des initiatives dans le domaine des technologies des télécommunications afin d'élever la qualité de son infrastructure numérique et de soutenir sa croissance économique. En voici quelques exemples :

- Plan national haut débit : En 2018, le gouvernement tunisien a lancé un Plan national haut débit destiné à fournir un accès internet haut débit à 95% de la population vers 2023. Selon le plan, la réalisation d'investissements serait attendue dans les réseaux de fibre optique, le mobile haut débit et d'autres technologies.
- *Smart Tunisia 2020* : En 2015, le gouvernement tunisien a entrepris l'initiative *Smart Tunisia 2020*, visant à transformer le pays en un centre numérique pour la région. Cette initiative a pour point d'orgue des

investissements à réaliser dans des domaines tels que l'administration électronique, les services de santé électroniques, le commerce électronique et les ventes sur internet

- *Startup Tunisia* : Le gouvernement tunisien a soutenu la croissance de l'écosystème des startups du pays à coups d'initiatives telles que *Startup Tunisia*, fournisseur de fonds, de mentorat et d'autres ressources aux entreprises en phase de démarrage.
- Technologie *5G* : En 2020, Tunisie Telecom a entrepris le lancement de la technologie *5G* dans le pays, propulsant la Tunisie au premier plan de l'Afrique du Nord en matière de fourniture des services *5G*. Cet investissement dans la technologie *5G* devrait favoriser l'innovation dans des domaines tels que les véhicules autonomes, les villes intelligentes et l'Internet des objets.
- Centres d'innovation : Ces dernières années ont été marquées par le lancement de nombreux centres d'innovation en Tunisie, plus particulièrement le *Technopark Elgazala* et le *Tunisian American Enterprise Fund Innovation Hub* qui fournissent soutien et ressources aux startups et autres entreprises technologiques du pays.

Croissance de la connectivité

La Tunisie sert de point de passage important pour plusieurs câbles sous-marins à fibre optique reliant l'Europe, l'Afrique et l'Asie. Il s'agit notamment du *SEA-ME-WE-4*, du *Europe India Gateway (EIG)*, du *Western Mediterranean Fiber Optic Backbone (WE-MED)* et du système de câble *Tata TGN-Gulf*, qui relie de nombreux pays de la région du Golfe les uns aux autres, essentiellement les Émirats arabes unis, le Qatar, le Bahreïn et l'Arabie saoudite. Il dispose d'un point de réception en Tunisie. Ces câbles sous-marins sont inhérents aux communications mondiales, car assurant une connectivité à haut débit et à faible latence entre différentes parties du monde.

Il faut ajouter que la Tunisie a joui d'une croissance de la connectivité au cours des dernières années, en priorisant l'amélioration de l'accès à l'internet et l'extension de l'accessibilité des réseaux mobiles. D'environ 16 % en 2010, le taux de pénétration de l'internet est passé à près de 50 % en 2020. La Tunisie peut se targuer de trois principaux opérateurs de réseaux mobiles dont l'investissement dans leurs réseaux devrait rendre la couverture plus ample et la qualité du service meilleure. En 2020, Tunisie Telecom s'est embarquée dans le lancement de la technologie *5G* dans le pays, tout comme le gouvernement tunisien qui a, pour sa part, lancé un plan national de haut débit avec pour objectif de rendre l'internet à haut débit accessible à 95 % de la population d'ici 2023. En outre, la Tunisie a soutenu l'innovation numérique à coups d'initiatives telles que *Startup Tunisia* et le lancement de plusieurs centres d'innovation. Ces tentatives se sont révélées primordiales pour le soutien de la croissance économique, de l'innovation et du développement social dans le pays.

Ces investissements et initiatives démontrent, somme toute, l'engagement de la Tunisie au développement de son secteur des technologies des télécommunications et sa prédisposition à stimuler la croissance économique grâce à l'innovation numérique. **IT**



Notre monde
d'aujourd'hui gagne
en intelligence et en
efficacité grâce
à l'intelligence artificielle



MTN Côte d'Ivoire lancera la 5G pendant la CAN 2024



L'opérateur télécoms MTN Côte d'Ivoire a annoncé que ses services 5G seraient disponibles à partir de la Coupe d'Afrique des Nations (CAN) de 2024, qui se déroulera en janvier. La population locale et les visiteurs pourront ainsi bénéficier de l'ultra haut débit pendant et après la compétition. Le directeur général de MTN Côte d'Ivoire, Djibril Ouattara, a également

indiqué que la société avait commencé à déployer plusieurs sites 5G à Abidjan et dans le reste du pays.

En décembre 2021, MTN a débuté des tests de la technologie mobile 5G en Côte d'Ivoire. Cette initiative s'inscrit dans la stratégie « *Ambition 2025* » de la société sud-africaine visant à se positionner

comme le principal fournisseur de services technologiques en Afrique dans les années à venir. MTN a déjà déployé l'ultra haut débit au Nigeria, en Afrique du Sud, en Zambie et dans d'autres pays.

Par ailleurs, la 5G est l'un des piliers stratégiques du plan de MTN Côte d'Ivoire pour se positionner comme un acteur incontournable dans les transformations technologiques en cours et à venir. La société mise également sur la connectivité en zone rurale et le *Mobile Money*. Actuellement, la société contrôle 34,3 % de parts du marché de la téléphonie mobile en matière d'abonnés, selon les dernières statistiques du régulateur.

Le lancement commercial de la 5G à l'occasion de la CAN 2024 devrait accélérer l'adoption de la technologie, notamment en raison de l'explosion attendue de la demande en connectivité à haut débit et du trafic télécoms.

Une rencontre prometteuse axée sur les perspectives d'avenir



Suite à l'annonce de la nomination de Roni Tohme comme directeur général par intérim pour Ooredoo Algérie, le Ministre de la Poste et des Télécommunications,

Karim Bibi Triki a invité Tohme à une rencontre. Durant cette réunion, ils ont échangé sur les différentes questions liées au secteur des télécoms en Algérie,

notamment les perspectives d'avenir quant à la contribution de Ooredoo pour le développement du secteur de la téléphonie mobile en Algérie.

Sans oublier qu'avant d'intégrer le groupe Ooredoo, Tohme a occupé plusieurs postes de responsabilité où il s'est notamment distingué par sa connaissance du marché africain dont il a contribué de près à la croissance et ce, dans plusieurs pays. Il a participé, en tant que membre fondateur, au lancement de MTN en Guinée Bissau. Il a ensuite été nommé en tant que directeur financier à Africell au Sierra Leone, avant de rejoindre le groupe Airtel, successivement au Niger, au Congo-Brazzaville puis au Malawi. En addition, Tohme a rejoint le grand groupe asiatique Axiata au Bangladesh au sein duquel il occupa le poste directeur financier et juridique.

Celtiis annonce le lancement de la 5G au Bénin



L'opérateur *Celtiis*, filiale de la Société béninoise d'infrastructures numériques « *SBIN* », se prépare pour déployer la technologie mobile 5G. La société a déclaré que son réseau

télécoms est entièrement compatible avec la technologie.

Le lancement de la 5G fait partie des initiatives stratégiques prévues par la

société pour se faire rapidement une place sur le marché national dans un contexte marqué par une forte demande en connectivité à haut débit. Les vitesses de connectivité ultra rapides qui viennent avec la 5G devraient permettre à l'opérateur télécoms de séduire des millions de nouveaux abonnés.

Une fois déployée, la 5G devrait accélérer les ambitions de transformation numérique du gouvernement béninois. L'ultra haut débit devrait notamment faciliter l'utilisation des domiciles et bâtiments intelligents, les villes intelligentes, l'e-learning, l'e-gouvernement, la vidéo 3D, la télémédecine, la réalité virtuelle et la réalité augmentée, et beaucoup plus.

Toutefois, l'adoption de la 5G pourrait être ralentie par la cherté des téléphones compatibles avec cette nouvelle technologie.

Le gouvernement guinéen s'appuie sur MTN Guinée pour lancer Guinée Télécom



Au cours de discussions entre le ministre guinéen des postes, des télécommunications et de l'économie numérique, Ousmane Gaoual Diallo, et des représentants de l'opérateur télécom *MTN Guinée*, le gouvernement guinéen a exprimé

son souhait de tirer parti de l'expertise de *MTN Guinée* pour le lancement commercial de la société publique *Guinée Télécoms*.

Les discussions se sont principalement concentrées sur

les différents aspects de cette collaboration potentielle, tels que l'essai des cartes *SIM de Guinée Télécom* et l'élaboration du schéma directeur informatique du réseau de l'opérateur public.

L'appui de *MTN Guinée* devrait notamment permettre d'accélérer le lancement de *Guinée Télécom* qui traîne depuis des années. Le début des activités commerciales de la société était initialement prévu pour le premier semestre 2023, mais cela ne sera finalement pas possible avant 2024. La société doit d'abord mener des tests et opérationnaliser l'ensemble de ses tours télécoms. Elle devra également procéder à des recrutements pour étoffer ses départements administratif, commercial, comptabilité et réseau.

Gitex Africa

GITEX AFRICA is the hyper-connector event transforming Africa's core tech foundations that are solving global challenges. This pan-African accelerator supercharges the potential to access and build core tech infrastructure, and enable global tech players, policy-makers, start-ups, investors, and talent to realize true acceleration in the world's rising tech continent

Place : Bab Jdid, Marrakech, Morocco



Gitex Africa

GITEX AFRICA est un événement hyperconnecté qui transforme les fondations technologiques de l'Afrique qui résolvent les défis mondiaux. Cet accélérateur panafricain renforce le potentiel d'accès et de construction des infrastructures technologiques de base, et permet aux opérateurs technologiques mondiaux, aux responsables politiques, aux start-ups, aux investisseurs et aux talents de réaliser une véritable accélération sur le continent technologique en plein essor.

Lieu : Bab Jdid, Maroc, Marrakech

GITEX Global

GITEX GLOBAL features every major technology player, trend and vertical, and it covers sectors including smart cities, cybersecurity, metaverse, the data economy, mobility, healthcare and telecoms.

Place: Dubai World Trade Center, UAE



GITEX Global

GITEX GLOBAL présente tous les acteurs, tendances et secteurs de la technologie, et couvre des domaines tels que les villes intelligentes, la cybersécurité, les métavers, l'économie des données, la mobilité, les soins de santé et les télécommunications.

Lieu : Dubai World Trade Center, UAE

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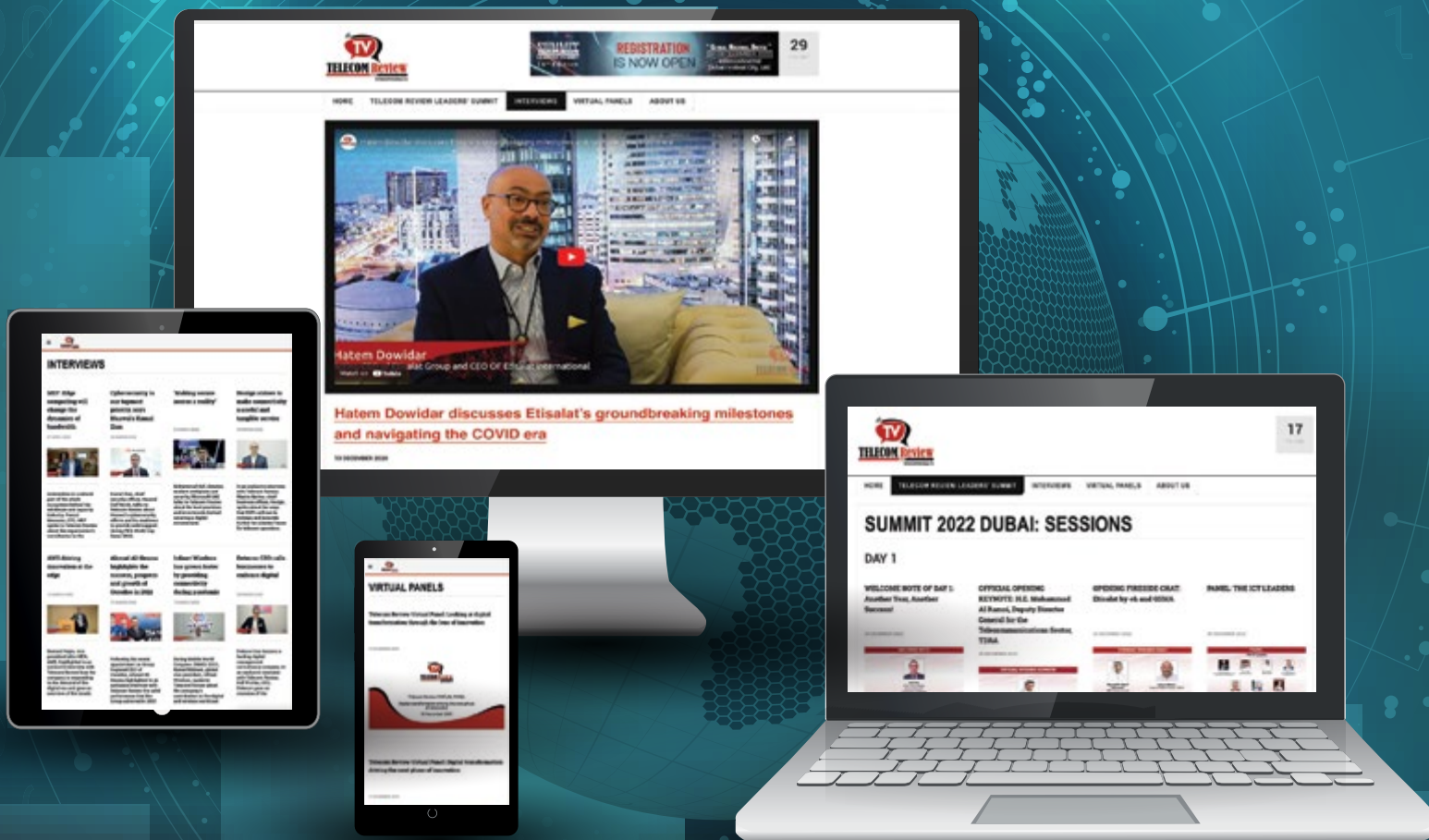
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