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Navigating the Future of Telecom, Technology, and Beyond with PMP Strategy

Gilles Vaqué,
President and Managing Partner, PMP Strategy

Partner, Build, or Buy? How Telcos Can Succeed in the Long-Run

Digital Inclusion Starts with Her: Empowering Women in ICT and Beyond

Digitalization and Fraud Risks: The Role of Telcos in Ensuring Protection

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Published by
tracemedia Ltd.
www.tracemedia.info

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Printing
United Printing & Publishing LLC.

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Year 20 | Issue 221

Gilles Vaqué, President and Managing Partner, PMP Strategy

Navigating the Future of Telecom, Technology, and Beyond with PMP Strategy

In an exclusive interview with Telecom Review, Gilles Vaqué, President and Managing Partner at PMP Strategy, elaborated on how the firm is uniquely positioned to lead the financial services, transport, and energy sectors in addition to their core expertise in the TMT sectors (telecom, media and culture, and technology) in the Middle East and globally.

What are the core factors that differentiate PMP Strategy from other consulting firms operating in the Middle East and globally, particularly in relation to your approach to client relationships and strategic solutions?

PMP Strategy stands out in several ways. Firstly, we have a very deep understanding across four industries with partners who are recognized experts in their respective sector. We are not generalist consultants; we are multi-specialists, focusing on a few sectors in which we want to be the best business partners.

Secondly, our partners are former CXOs (Chief Experience Officers) and strategy consultants with extensive operational experience and deep strategic insight. Our unique model goes

beyond recommendations by providing support all the way from initial strategic positioning through to achieving real results. For instance, we can start based off merger and acquisition (M&A) files, business plans, due diligences, go/no go recommendations, transformation framing, diversification advice, and the shareholder strategies phase, and go all the way through the process to execution and tangible results. This unique hand-in-hand model establishes us as true business partners for our clients.

We benefit greatly from our strong presence in Europe and North America. Our global headquarters are in Paris, and we have a large base in London, Brussels, Luxembourg, and Madrid. We benefit from a very strong foothold in the United States, with our North American headquarters in New York City and a West Coast office in Seattle. In Canada, we have offices in both Toronto and Montreal. In the Middle East and Africa (MEA) region, we have a long-standing presence in Casablanca. Dubai is our key office in the Middle East and we are opening an office in Riyadh—And that's just the beginning. We see enormous potential for us to help clients transform and accelerate their businesses in the region.

We share best practices across our different sectors and locations with multiple industries. Our deep expertise allows us to provide tailored guidance that addresses the unique challenges and opportunities of each client.

Our 360° capability and vision helps funds invest and choose their data center strategy, the best set-up, and the right ecosystem to build scalable businesses for these multi-billion-dollar projects. We help operators diversify into business-to-business (B2B) and information and communication technology (ICT) and transform internally by rethinking their IT and 'make-or-buy?' transformation strategy, many projects for which our 'strategy to execution' expertise is key.

Our broad ability to address complex issues enables us to provide tailor-made solutions, avoiding the one-size-fits-all standard. We work closely with our clients to develop strategies that are innovative and practical and align with

their long-term goals. To implement these strategies, we emphasize building capabilities and ecosystems that help our clients implement operational changes and achieve sustainable growth.

Our recent project in which we helped a telecom operator launch a new fintech is also a very good example of our personalized support. We helped them right up to launch day, bringing expertise in finance, marketing, distribution, technology, compliance, how to launch new businesses, how to disrupt a market... And they were amazed by the early results and numbers.

In a world increasingly driven by technology and innovation, what role does PMP Strategy see itself playing in shaping the future of industries like telecom and technology in the Middle East by 2026?

In Europe, the telecoms market is very fragmented, and there is very little, if any, growth. Even in the technology sector, there is a great lack of scale and financing.

In North America, and particularly in the United States, it's a different picture. The telcos are big traditional players undergoing massive transformation. In addition, thanks to the abundance of funds and capital, there are big tech

Our broad ability to address complex issues enables us to provide tailor-made solutions, avoiding the one-size-fits-all standard

> The Middle East is on the cusp of a technological revolution, and we are excited to be part of this transformation. We see the Middle East as a major technology hub of the future

companies who often lead the way in this space.

In the Middle East, you have strong players operating in an extremely dynamic environment. They are visionaries with a lot of competence, talent, knowledge, a high funding capacity, and a global way of thinking. We see the Middle East as a major technology hub of the future.

Today, there are significant infrastructure projects in the region addressing fiber and 5G, and especially data centers, particularly to support the explosion in artificial intelligence (AI) services.

As a result, we foresee that the Middle East will be very dynamic in the areas of AI, cloud, and the Internet of Things (IoT). Local players in the region are adopting all the technologies very quickly to transform themselves, and, in many cases, are transforming more rapidly than companies in more mature countries.

The public sector in the Middle East is accelerating and transforming very quickly too. To witness this transformation, one must simply go to the airports and observe the dynamic border controls.

PMP Strategy is very involved in the media, art, and cultural sectors, and we are amazed at the extent to which the public sector is incorporating technology there. We see the region as the future center of culture, art, and entertainment, with the tourism boom set to continue. We are involved in many projects where we can bring our expertise in framing, sourcing, partnering, building museums, and using technology to create more than just visits; to create real experiences.

On another topic, thanks to the IoT, some telecom champions are accumulating significant market share, diversifying and transforming many verticals and industries. This is just the beginning; it's a key growth path for telcos and a key path for transforming existing sectors.

We are involved in many MaaS (Mobility-as-a-Service) projects, where logistics are totally rethought thanks to the IoT and AI in many sectors, including complex industrial production sites thanks to PMN (private mobile network) capabilities. The Middle East is on the cusp of a technological revolution and we are excited to be part of this transformation. Our role is to provide the strategic foresight and operational expertise that companies need to thrive in this new era to optimize their operations and explore new business models that can drive growth and profitability. IT transformation is a key element in our approach.

As telecom companies in the Middle East look to expand their services into adjacent sectors such as cloud computing, AI, and data analytics, what role do you see PMP Strategy playing in helping them diversify and capture new revenue streams?

I'd say that, in the Middle East, particularly in telcos, we see a huge opportunity. Firstly, these are growth markets, so they can be more easily leveraged. Secondly, the region has the capacity to invest in building infrastructure that is key to sustainable growth in tomorrow's 5G and fiber activities, both of which are critical issues for the future.

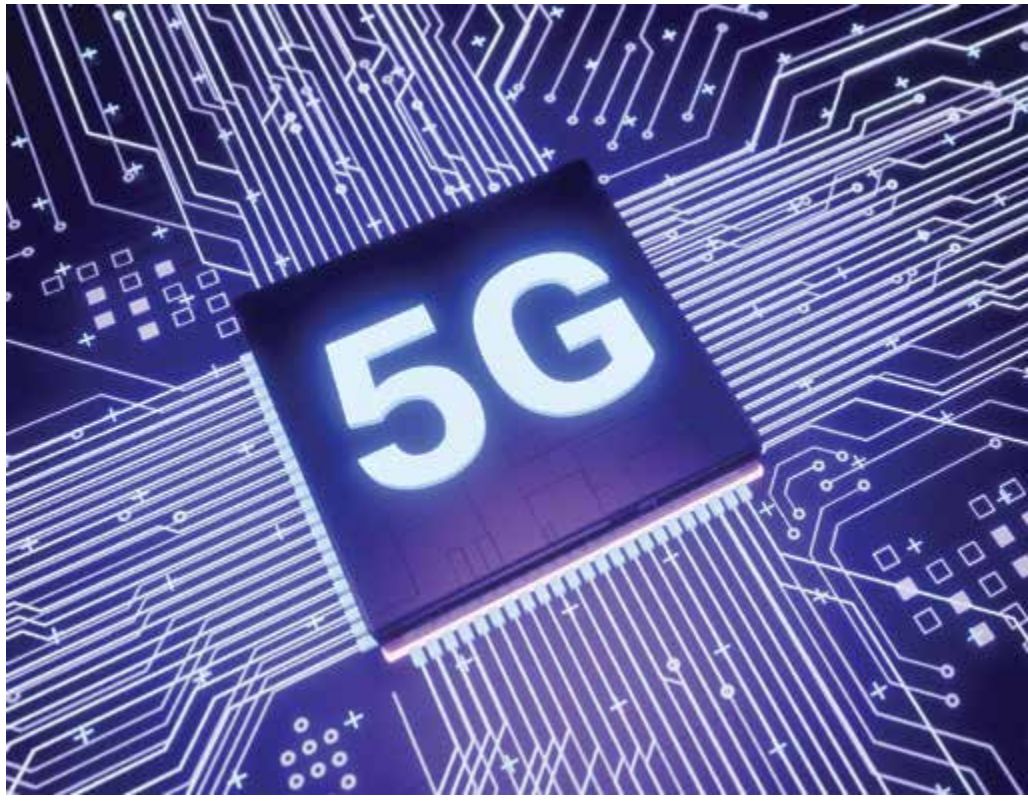
There is a strong need to develop cloud, AI, ICT, and IoT services. These new opportunities require different business models from the existing traditional ones. To be successful, they require the establishment of new organizations, the development of cross-sector partnerships, and the creation of new ecosystems.

AI for telecom operators is one of our main strengths. We draw on our Seattle office, which is innovative in this area, and our expertise across different clients around the world. For example, we believe strongly in AI and customer care. We are involved in very advanced projects, helping telecom companies set up 100% virtual call centers with AI agents that can respond by phone, chat, and email to any request with an unrivalled level of customer satisfaction. Extended or virtual agents present a huge opportunity for telecom companies (for whom customer relations are essential) and serves as a new avenue for growth and diversification. They can also set up new businesses, offering technologies and agents to their B2B customers.

Diversification is not just about entering new markets; it's about creating synergies between existing and new services to maximize value. It's a challenge which requires deep knowledge of the telco sector, the different business models, and key success factors. We have a great deal of expertise in these new markets and help our clients identify the most promising opportunities, guide them on how to position themselves in the market, and develop strategies to capitalize on them to accelerate their growth.

For example, we helped launch one of the most dynamic fintech companies in the market today. Telcos and banking now overlap; they are no longer siloed. We have the experience to help our clients succeed in this rapidly changing landscape.

To recap, the Middle East is one of the most dynamic regions in the world for these cross-sector diversifications. It's very exciting to transform these challenges into opportunities that help local players evolve into leaders by integrating AI and data analytics to enhance their service offerings and improve customer relationships. Our goal is to ensure that our clients can execute their diversification plans smoothly and achieve the desired outcomes.

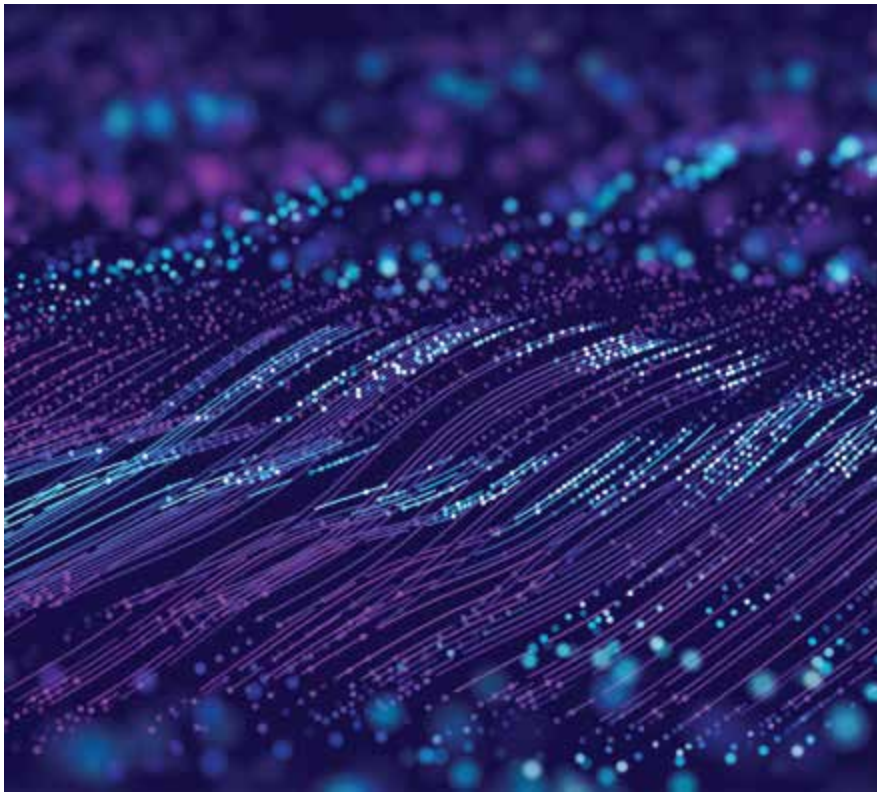


The Middle East is experiencing rapid digital transformation, with a focus on smart cities and 5G infrastructure. How does PMP Strategy position itself to help telecom companies contribute to these large-scale initiatives?

Smart cities and 5G are two major key themes for all regions of the world, and especially for the Middle East. Europe has had a few success stories, but there are no major players who have really succeeded in this area. In the US, there have been some good experiments and successes; however, in the end, I think that we will see the most interesting use cases and successful new businesses catering to smart cities and 5G in the Middle East.

It's important to remember that, thanks to slicing, 5G can be used to develop a whole host of specific services in different industry and business verticals. The most important thing that 5G will enable is the development of private mobile networks, or PMNs, particularly for ports and other industries. This is a very important tool

> Smart cities and 5G infrastructure represent a significant opportunity for telecom companies, but they also come with unique challenges



> We integrate best practices from around the world into strategies tailored for the specific needs and opportunities of the Middle East region

in the development of the region's entire economy.

PMP Strategy's large Mobility and Transport practice has a great deal of experience in this area. Notably, in Canada, where they work closely with our Telecoms practice on similar projects, the synergistic result is state-of-the-art support on MaaS, a current critical issue. Many players want to position themselves in this key area and create new service models for the transport of tomorrow.

Smart cities require a high level of public consent on a myriad of transport, mobility, and tech issues. The strong determination to develop these areas in the Middle East, coupled with the high level of public investment and strong technological capacity, means that the prognosis for increased development in these sectors is like the boom we have seen in Asia.

Smart cities and 5G infrastructure represent a significant opportunity for telecom companies, but they also come with unique challenges. Our approach is holistic, considering not only the technical aspects of these initiatives but also the social, economic, and environmental (SEE) factors that can impact their success. By doing so, we help our clients create solutions that are technologically advanced and both sustainable and socially responsible.

As April marks the celebration of women in ICT, what initiatives or perspectives does PMP Strategy have in place to promote gender diversity and support women in the ICT sector, particularly within the Middle East?

At PMP Strategy, we are committed to fostering an inclusive diversity, equity, and inclusion (DEI) environment. Remember that, on average, women are vastly under-represented in engineering. It's a global problem. While there is progress being made in encouraging women to study science and interest them in technology, there's a long way to go. That means that the talent pool is restricted, which is a real shame. We do quite a bit to help spark young women's interest in tech, including outreach programs at universities, etc. It's frustrating, because women in the field excel. In fact, many technology companies have women in very senior positions and they often lead the company.

Case in point, at PMP Strategy, our Telecoms sector is headed up by a brilliant woman, Chrystelle Briantais. She leads a practice at the cutting edge of technology, ICT, cloud, diversification, and tech. We are extremely lucky to have her, as well as a team of talented young women, working with us on these complex technology issues.

We have implemented several initiatives designed to support women at all stages of their careers, from entry-level positions to leadership roles. This includes providing mentorship and networking opportunities, offering flexible work arrangements, and ensuring equal pay and advancement opportunities. We have also created a Diversity Council and we work with our clients to promote diversity within their organizations, helping them create more inclusive cultures and practices.

We organized a program in March to celebrate International Women's Day, featuring inspiring women leaders who

shared their journeys and the challenges they faced as professionals in male-dominated fields. These sessions were open to all employees. The feedback was positive, and we are committed to continuing these initiatives, fostering discussions on gender parity, and exploring ways to create a more inclusive workplace at PMP Strategy—one that drives meaningful change today.

Promoting diversity is not just a moral imperative; it's a business imperative. Diverse teams bring different perspectives and ideas, leading to more innovative solutions and better decision-making. We are committed to creating a workplace where everyone can succeed.

What specific trends and demands in the Middle East market do you see driving PMP Strategy's strategic direction in the coming years?

The Middle East is a region where we see great demand. The demands have evolved from a desire to understand the challenges, benchmarking, and recommendations to an accelerated demand for support in executing the implementation and/or acceleration of new strategies, organizations, and business models.

There is a growing demand from companies for a true business partner to accompany and advise them, who can work in a very operational way with people in the field, can commit to results, and has the expertise and ability to help and challenge senior management and shareholders effectively. Twenty years ago, PMP Strategy made the choice to integrate expert teams in finance, strategy, and technology to ensure strong knowledge of best practices worldwide, so that we could partner with our clients locally and leverage our global vision.

Our multi-specialist model is applicable to all sectors we focus on, from telecoms to media, culture, technology, transport, financial services, and energy. Across the region, these sectors are represented by a team of over 50 experts, accompanied by senior advisors who provide very specific in-depth expertise, and are fully equipped to support clients in the Gulf Cooperation Council (GCC). They help them maneuver the greatest opportunities. For example, the financial

services revolution, the explosion in renewable energies, and the growing transportation business models. We integrate best practices from around the world into strategies tailored for the specific needs and opportunities of the Middle East region.

In conclusion, while facing all these opportunities, transformations, and technological challenges, we need to remain open-minded. There is a great deal that needs to be co-constructed in order to maximize growth across the different industries present in this dynamic region.

PMP Strategy's capacity to go beyond advising and become a business partner capable of working hand-in-hand with clients, creating ecosystems of experts to accelerate their growth, is the position we foresee for ourselves in across the region.

The GCC is one of our most dynamic offices, where we're investing heavily, recruiting the best and brightest, and bringing our strong consolidated expertise from Europe and the United States. We look forward to playing our part in the transformation of this region. TR

“The GCC is one of our most dynamic offices, where we’re investing heavily, recruiting the best and brightest, and bringing our strong consolidated expertise from Europe and the United States”

The Path to Autonomous Networks: AI and Automation

As we go further into 2025, the buzz around autonomous networks (AN) is getting bigger, louder, and more relevant for the telecom industry. While the concept itself isn't new, the level of commitment and momentum from communication service providers (CSPs) signals a turning point.

Over the past decade, CSPs have invested in cloud, automation, and artificial intelligence (AI) to achieve autonomy in their networks. Now, CSPs—like Vodafone, T-Mobile, Verizon, MTN Group, Orange, and Telefónica—are doubling down on their strategies and targeting advanced automation levels to enhance efficiency, sustainability, and reliability.

So, what's really driving the autonomous operations push? Is it just ambition? Or are there tangible and measurable benefits? If we look at research from STL Partners, they highlight an average annual benefit of USD 800 million for CSPs that embrace autonomous networks. This includes USD 300 million in capital expenditure (CapEx) savings, USD 350 million in operational expenditure (OpEx) reductions, and USD 144 million in revenue uplift. Notably, unlocking Levels 4 and 5 of the TM Forum's Autonomous Network Maturity Model accounts for 30% of these gains. And I believe that this is a compelling reason to move beyond the early stages of automation.

AI + Automation: A Powerful Partnership

When it comes to autonomous operations, it is hard to ignore the importance of AI. In fact, AI is in the spotlight today and it is impractical to separate automation and AI. Automation is truly driving operational efficiency, and when combined with AI, it forms the bedrock of autonomous networks. While AI excels at generating insights and enabling intelligent decision-making, automation powered by agentic AI ensures those insights translate into actionable, scalable processes.

By 2028, artificial intelligence for IT operations (AIOps) is projected to account for 26% of CSP automation spending, according to Appledore Research. One Tier 1 CSP in Europe, the Middle East, and Africa (EMEA) reported a 75% reduction in incidents after adopting AI-driven service assurance over the past decade.

However, the path to automation isn't uniform. Factors like cloud maturity, existing automation levels, and AI expertise vary across CSPs. The key takeaway? AI and automation aren't competing priorities; they are complementary tools that, when combined, set the stage for advancing automation maturity.

Cloud-Native Networks: The Unsung Heroes

Another aspect of autonomous network transformation is cloud-nativeness and the flexibility that it brings to architectural design. The backbone of autonomous network transformation, the modularity, and scalability of these architectures allows CSPs to innovate rapidly while optimizing costs.

Omdia estimates that CSPs are already investing USD 14.7 billion annually (or 4% of industry CapEx) in cloudifying network functions. Cloud-native networks offer unparalleled flexibility and resilience, enabling CSPs to scale services in real-time and adapt to shifting customer demands.

By embracing cloud-native architectures, CSPs are not just simplifying operations; they're unlocking new avenues for innovation.

The Evolution from Automation to Autonomous Networks

Pulling all these aspects together—automation, AI, cloud nativeness—is needed to achieve fully autonomous networks. Several key enablers drive this transition:

- **GenAI:** Accelerates this journey with intelligent content generation, advanced observability, and decision-making based on diverse inputs.
- **Intent Management:** Simplifies capturing business needs and translating them into actions.
- **Digital Twin-led Simulations:** Reduces operational risk through predictive modelling.

At Nokia, the Athena Telco GenAI platform is a cutting-edge solution designed to streamline the deployment, management, and optimization of large language models (LLMs) in real-time. Leveraging advanced capabilities such as experiment tracking, model database management, and hallucination management, Athena ensures robust and efficient handling of LLMs across various applications. Complemented by Nokia's Advanced Consulting Services and AI governance framework, our Telco GenAI approach offers comprehensive support for data preparation, training, and inference on telco-specific data, enabling industries to harness the power of AI with greater accuracy and reliability.

Security: The Non-Negotiable Foundation

While the benefits of automation and AI are clear, it is crucial not to overlook the importance of a robust security framework; rather, security becomes even more critical. Furthermore, security can be a part of the autonomous network model, where it automates operations, but also secures them. Without a strong security foundation, the autonomous network vision fails. Autonomous networks require a zero-trust approach that includes encryption, authentication, and real-time threat detection. Every layer, from physical infrastructure to cloud resources and applications, must be designed with security in mind.

At Nokia, we embed security into every facet of our 'Sense, Think, Act' framework. Instead of reacting to threats, CSPs can transition to predictive security, where networks proactively identify and mitigate vulnerabilities. This shift is critical for building trust and resilience in a hyper-connected world. Security can't be an afterthought; it must be a central part of the conversation as CSPs advance their automation journeys.

The Future of Autonomous Networks

The future of autonomous networks is driven by AI, machine learning (ML), and advanced automation, leading to fully self-managing, self-healing, and self-optimizing systems. These networks will require minimal human intervention, significantly reducing operational costs while improving reliability, efficiency, and scalability.

One major shift will be intent-based networking (IBN), where AI interprets business goals and autonomously configures the network to meet them. Real-time predictive analytics will further enhance network resilience, detecting and resolving issues before they impact users.

Security will also evolve, with AI-driven threat detection and zero-trust architectures ensuring networks can autonomously defend against cyber threats. Additionally, sustainability will be a key focus, with AI optimizing energy consumption, reducing carbon footprints, and enabling green networking.

As telecom operators, enterprises, and cloud providers accelerate digital transformation, autonomous networks will become the foundation of the hyper-connected world, delivering seamless, intelligent, and resilient connectivity across industries and everyday life. TR

By Rohit Chowdhary, Head of Advanced Consulting Services, Europe-MEA, Nokia

> AI and automation aren't competing priorities; they are complementary tools that, when combined, set the stage for advancing automation maturity

Pierre Ehsani, Senior Director of Product Management, Akamai

Akamai's AI-Driven Approach to Advanced Application Security and Performance

As the digital landscape continues to evolve, security and performance have become critical concerns for enterprises. The rise of sophisticated cyber threats has fueled the demand for more robust solutions to protect applications and network infrastructures. Akamai, a global leader in cloud and security solutions, is at the forefront of addressing security challenges through innovative technologies.

In an exclusive interview with Telecom Review at MWC Barcelona 2025, Pierre Ehsani, Senior Director of Product Management at Akamai, highlighted how the company is leveraging artificial intelligence (AI) to address security and performance concerns and emphasized the growing significance of application programming interface (API) security in global digital transformation.

Drawing on your expertise in product management, what are the key trends shaping the future of application security and performance, and how is Akamai adapting to these changes?
In terms of applications, we are seeing several key trends in application security and performance. For instance, as organizations undergo digital transformation and adopt more modern applications, they must manage a growing number of applications along with the increasing API traffic that comes with them. As APIs become the backbone of digital interactions, they're also a prime target for cyber threats, making real-time API security a necessity, not an option.

Another key area is API security, which presents new challenges. For example, organizations must identify all API endpoints, assess their security posture, determine whether they are authorized, and understand how they are being used by partners or 3rd parties. We're seeing that many traditional security solutions are struggling to provide API visibility and protection required for modern applications.

Additionally, AI is playing an important role in how attackers are now positioning their actions with more advanced and faster attacks that are harder to detect. As a result, security organizations are leveraging AI to enhance their defenses, strengthen security services, and improve threat detection and control.

To consolidate and simplify security services, organizations are looking for comprehensive security solutions that cover aspects such as application, infrastructure, and user access.

We have significantly focused on security and cloud compute during the past few years, and have substantially invested in application security. More importantly, our security solutions enable customers to effectively monitor API traffic, discover unauthorized and vulnerable API endpoints, and protect organizations from API-targeted threats.

We have also been increasing our investment in AI to enhance protection. At Akamai, we are continuously strengthening our capabilities in API security, application security, micro-segmentation, and DDoS protection to help businesses secure their digital assets. Our goal is to provide a consolidated security approach that simplifies protection across applications, APIs, and multi-cloud environments—helping organizations to stay ahead of evolving threats.

Akamai plays a crucial role in securing and optimizing digital experiences. From a product management perspective, what are the biggest challenges in balancing security, speed, and scalability for businesses today?
Balancing security with performance, scalability, and usability is an ongoing challenge that many organizations face. Since you're adding security layers, if it's not done correctly, you could introduce additional latency, affecting the overall experience. However, in today's world, even a fraction of latency drives away subscribers or customers.

Scalability in security is just as crucial as its implementation. You need to make sure your security dynamically scales with your applications and infrastructure as your organization grows.

In terms of user experience, there are a lot of solutions that rely on additional software and connectors, making it more difficult to adopt and rule out services. From an API security perspective, we have a more comprehensive security solution that covers all aspects. With API security, we can detect behaviors in API traffic, discover API endpoints, and provide an easy way for organizations to detect and mitigate various vulnerabilities in API user experience.

We have a variety of security solutions and services that are either network-wide or network-based. Through these services, we can provide role-out security services to customers without the need for hardware or software deployment. Whether we're protecting IoT solutions or endpoint devices, we offer comprehensive security across a wide range of environments.

From a performance perspective, we leverage Akamai Connected Cloud which connects core cloud computing and edge computing to apply security policies at the edge rather than relying on a centralized security solution which can potentially introduce delays. By distributing some of the security controls to the edge of the network, we can provide security controls faster without any delays in the overall user experience and behavior.

Our goal is to make security seamless —so businesses don't have to compromise between protection, performance, scalability, and usability.

As cyber threats become more sophisticated, how is Akamai leveraging AI and automation to enhance security and threat mitigation in its product offerings?
AI is becoming commonly used by many cyber attackers, and our goal is to make sure our customers and organizations stay ahead of these cybercriminals and attackers. One of the key areas we're focusing on is threat intelligence, which we feed into many of our products to protect our customers from a variety of threats. We have been using machine learning (ML) and AI-based analysis

to enhance our algorithms, ensuring greater security efficiency and more effective threat intelligence. This enables us to deliver robust threat detection and real-time threat feeds to our products and customers. We are also using ML and a variety of AI approaches to more effectively analyze the large volume of traffic and data across Akamai Connected Cloud network. This allows us to identify anomalies and potential threats faster than traditional methods.

We're also using machine learning to improve predictive threat intelligence. Instead of just reacting to known threats, our models proactively identify patterns and emerging attack vectors, enabling businesses to stay ahead of cybercriminals. By continuously learning from new data, our threat detection becomes more effective over time.

Automation is another crucial piece of our strategy. With automated threat mitigation, our security solutions can instantly respond to attacks without waiting for manual intervention. This reduces response times and ensures protection even against the most sophisticated threats.

Ultimately, AI and automation allow us to provide stronger, faster, and more adaptive security—so businesses can focus on growth without worrying about evolving cyber risks. At Akamai, we're committed to continuously innovating in this space, ensuring that security stays a step ahead of attackers.

What are the most common security gaps among organizations adopting cloud infrastructures, and how does Akamai help bridge these vulnerabilities?

As organizations move towards the cloud, traditional parameter-based security solutions are no longer effective. This is because there are no defined parameter in the cloud. This shift has introduced a new demand for security products, and that's what we're focusing our efforts

One of the key gaps is zero-trust access. In a cloud environment, it's crucial to ensure that users have access only to authorized applications based on identity, context, and necessity. To achieve this, implementing zero-trust network access (ZTNA) is essential as it provides the right level of access while maintaining strict security controls.

As applications move to the cloud, they may become vulnerable to threats, making it essential to ensure that one compromised application or workload does not impact others or applications or workloads. To achieve this, organizations need to implement micro-segmentation, which helps protect applications within cloud or hybrid environments and prevents attacks from spreading laterally once access is gained.

For growing applications, there are significant concerns regarding API security postures, the type of API you're using, and the identification of vulnerable APIs, in particular, if those APIs are used for sensitive data.

Those are the three key gap areas that we're seeing in the market. As organizations undergo digital transformation, consideration is needed. At Akamai, we help bridge these gaps by providing holistic security capabilities covering Application Security, Advanced API security, intelligent micro-segmentation, and Zero Trust to secure cloud applications at every layer. By replacing outdated perimeter-based security with modern, adaptive protection, we help organizations stay secure in a cloud-first, hybrid workforce environment.

What innovations or enhancements can we expect from Akamai in the 'Power & Protect' business vertical to help organizations stay ahead of emerging threats?

There's a lot of activity in this space; the law of innovation is occurring again and our goal is to make sure that our customers, and the organizations we're serving, stay ahead of cyber attackers and security threats.

One key area of innovation is AI-driven threat intelligence. We're enhancing our security solutions with machine learning-powered detection and response, allowing us to identify and mitigate threats in real-time. This means our customers can proactively defend against emerging attack patterns rather than just reacting to them.

Another major enhancement is next-generation API security. With APIs becoming a primary attack vector, we've invested in advanced API discovery, anomaly detection, and automated protection to help businesses secure their growing API ecosystems.

We're also pushing forward with zero-trust architecture to help businesses reduce risk in an increasingly perimeter-less world. Our micro-segmentation and access control solutions ensure that even if attackers gain access to part of the network, they can't move laterally and cause widespread damage.

Additionally, we're improving DDoS and bot mitigation. Attackers are using bots and AI to launch more sophisticated automated attacks, and Akamai is countering this with behavioral analytics, AI-driven bot detection, and ultra-low latency mitigation solutions—all deployed at the edge to stop threats before they reach critical infrastructure.

We are introducing new monetizable security services targeting MSPs and carriers, enabling them to protect their SMB and residential subscribers from a variety of attacks across both fixed and mobile networks, without the need for extensive integrations or capex investments.

The company will also focus on the Akamai Connected Cloud and the improvement of services and capabilities in cloud computing. We are expanding our presence in cloud computing, core, and edge points. We're also providing new services and focusing on cloud-native services like Kubernetes management services and container management services to enable organizations to run their applications in modernized cloud environments. TR

The UAE's 6G Vision: The Latest in Pioneering the Future of Connectivity

As the first in the Arab region to deploy 5G network technology, the United Arab Emirates (UAE) is poised to maintain its technological leadership by pioneering the rollout of 6G networks before 2030.

In doing so, the UAE aims to cement its position at the forefront of global technological innovation, enhancing the quality of life of its residents while driving economic growth and competitiveness.

Building upon 5G and 5G-Advanced (5G-A) developments, 6G's transformative capabilities will usher the world into a new era of intelligence, far surpassing the capabilities of current technologies.

As we stand on the cusp of another technological leap, the UAE is leveraging the capabilities of existing technologies and the power of strategic collaborations to pioneer the innovation and deployment of 6G.

Unlocking New Possibilities with 6G Technology

The 5G to 6G transition represents a quantum leap in connectivity, promising to revolutionize industries and reshape the digital communication landscape.

IMT-2030, or 6G technology, is poised to become the primary mobile technology in the 2030s, significantly supporting the advancements in advanced artificial intelligence (AI), robotics, and immersive extended reality (XR) experiences.

Its advent promises to revolutionize connectivity and digital experiences in ways previously limited to science fiction. Not only will it enhance user experiences (UX) but also facilitate seamless communication between individuals and devices, establishing a hyper-connected ecosystem.

In the 6G era, it will be common for devices to be seamlessly embedded in clothing, enabling continuous connectivity and smart functionality. Networks will be more predictive, anticipating user needs and preferences with accuracy, and holographic telepresence will transform the global workplace. Real-time 4D maps, smart contact lenses and haptics, and breakthroughs in augmented and virtual reality (AR/VR) technologies will also ensue.

This next-generation network will seamlessly integrate the physical and virtual realms and support groundbreaking applications. Interestingly, 6G technology is expected

to facilitate the digital transmission of human senses, including taste, touch, and smell, unlocking new possibilities across various industries, particularly healthcare.

It will also ensure the large-scale integration of the Internet of Things (IoT), creating a hyper-connected environment that will support innovative applications including autonomous vehicle (AV) networks, smart cities, and industrial automation.

One of the most anticipated features of 6G technology is the advent of real-time holographic communication, which will transcend traditional communication methods. This will allow people to remotely experience and convey both their physical presence and emotions in real-time 3D.

Moreover, 6G will drive the deployment of mobile robot swarms and drones across various sectors such as hospitality, warehousing, and package delivery, leading to increased efficiency. Digital twins are also poised to evolve, simulating complex systems.

The UAE's 6G Roadmap

Building on its status as one of the world's most 5G-ready nations, the UAE is leveraging its technological prowess to become a pioneer in 6G development and deployment.

The UAE's Telecommunications and Digital Government Regulatory Authority (TDRA) stands at the forefront of accelerating the country's advancements in the digital landscape. Building on the success of its 5G deployment, the TDRA unveiled its comprehensive 6G roadmap in 2024, outlining a strategic approach to 6G research and development (R&D). The TDRA has also announced the allocation of the 600 MHz and 6 GHz frequency bands for international mobile telecommunication (IMT) systems, supporting advanced technologies crucial for developing smart cities, IoT, AI, and Fourth Industrial Revolution (4IR) applications.

The country has established multiple centers of excellence (CoE) to cement its status as a global hub for 6G innovation, including the Khalifa University 6G Research Center, Khalifa University Center for Cyber-Physical Systems (C2PS), Emirates ICT Innovation Center (EBTIC), Artificial Intelligence and Digital Security Research Center (Technology Innovation Institute), Big Data Analytics Center established by the United Arab Emirates University (UAEU), National Space Science and Technology Center, Center for Artificial Intelligence and Robotics at NYU-Abu Dhabi, and AI Software R&D Center. These centers aim to attract global talent and investments, fostering a robust ecosystem for 6G development.

To accelerate 6G innovation, the country is actively engaging with global partners, including the Institute of Electrical and Electronics Engineers (IEEE), the 3rd Generation Partnership Project (3GPP), and the International Telecommunications Union (ITU) to establish policies and regulations for 6G deployment, including spectrum allocation, licensing frameworks, and regulatory best practices.

In 2024, UAE-based telecom operator, e&, collaborated with Ericsson to explore 6G foundations, such as cognitive networks, enhanced compute fabric, and sustainable connectivity.

Additionally, e& is exploring 6G-enabling technologies, such as reconfigurable intelligent surfaces (RIS) for high frequency (HF) bands.

Recently, Nokia and du collaborated to form a structured framework for 6G research, involving field trials, proof-of-concept (PoC) demonstrations, and research on key 6G enablers.

Driving Sustainability amid Technological Advancements

The UAE's 6G roadmap strategically integrates sustainability goals, aiming to significantly reduce the UAE's carbon footprint and energy consumption. This commitment aligns with global efforts to curb the environmental impact of next-generation wireless technologies.

According to the TDRA's '6G: Next-Generation Connectivity in the UAE' report, the UAE has set a target to cut the average power consumption in 6G networks by half compared to 5G networks, while simultaneously supporting peak capacities ten times higher. This vision reflects the UAE's commitment to both technological innovation and environmental responsibility.

To support these sustainability goals, 6G networks will scale down capacity when the demand is low, optimizing energy consumption. This next-generation network will also be able to turn off specific frequencies during lower-traffic periods to reduce the number of operating cells.

Beyond network efficiency, 6G will connect vehicles and optimize traffic flow, potentially reducing carbon emissions in the transportation industry. Smart factories driven by 6G will also advance energy and water monitoring and management.

By including sustainability in its 6G roadmap, the UAE is cementing itself as a leader in environmental responsibility amid technological advancements. This will further support the UAE's broader sustainability initiatives, such as the Net Zero 2050 strategy.

Final Thoughts

The UAE's 6G approach not only reinforces its commitment to digital transformation but also positions it as a key player in shaping the future of global connectivity.

By advancing R&D, fostering international collaborations, and aligning with global sustainability goals, the UAE is establishing a robust ecosystem that drives innovation across all sectors.

As the UAE accelerates its goal to deploy 6G technology before 2030, it is setting new benchmarks for technological innovation in the Middle East and beyond. This ambitious vision positions the UAE as a global technological leader, demonstrating its commitment to enhancing the quality of life of its residents while driving economic growth in the digital age. TR

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Bahrain Made: The First AI-Advanced Nanosatellite in the Middle East

In a historic achievement, Bahrain's National Space Science Agency (NSSA) has successfully launched Al Munther, the Kingdom's first locally designed and built satellite. The satellite was carried into space aboard a SpaceX Falcon 9 rocket from the United States, marking a major milestone in Bahrain's advancement in space technology.

Al Munther was deployed into orbit at an altitude of 550 km, where it will undergo a series of tests before full-scale operations begin. Equipped with cutting-edge technology, the nanosatellite features a medium-resolution space camera (20 meters/pixel) to capture high-quality images of Bahrain and its territorial waters. It is the first nanosatellite in the region to integrate artificial intelligence (AI) for real-time image analysis.

Security is also a key focus, with Al Munther incorporating advanced encryption technologies to protect its data from unauthorized access. Additionally, the satellite has a unique capability to broadcast Bahrain's national anthem and a special message from His Majesty King Hamad bin Isa Al Khalifa, which can be received by radio enthusiasts worldwide.

Developed entirely by Bahraini engineers and scientists, Al Munther showcases the Kingdom's commitment to fostering homegrown expertise in space technology. NSSA CEO, Dr. Mohamed Ibrahim Al Aseeri, emphasized that the project represents a significant step in localizing space innovation, empowering young engineers, and setting the foundation for future national space missions.

"This accomplishment is a testament to Bahrain's growing capabilities in space science and technology, and I couldn't be prouder of the team's hard work, passion, and commitment. This launch is more than just a technological feat; it's a symbol of Bahrain's vision, ambition, and determination to contribute to the global space industry. It's a moment that inspires us all to dream bigger, reach higher, and push the boundaries of what's possible," said Al Aseeri.

Cybersecurity Threats Surge in the Middle East

In 2024, the Middle East experienced a significant surge in cybersecurity challenges, with state-sponsored attacks and hacktivism emerging as prominent threats. Gulf Cooperation Countries (GCC) were targeted, reflecting the region's strategic importance.

Advanced persistent threats (APTs) saw a 4.27% increase in the Middle East and Africa (MEA) region, with 27.5% of these attacks linked to state-backed espionage groups targeting GCC nations.

Other countries saw a significant rise in cyber threats including Egypt (13.2%), Turkey (9.9%), Jordan (7.7%), and Iraq (6.6%). African nations, such as Nigeria, South Africa, Morocco, and Ethiopia, also experienced growing vulnerabilities, which are likely attributed to the ongoing development of their digital infrastructures.

The Region's Increasing Cyber Threats

Hacktivism was an evident cybersecurity challenge, with the MEA region ranking third globally, accounting for 16.54% of attacks. Europe and the Asia Pacific led hacktivism rankings with 35.98% and 39.19%, respectively. The targets of these attacks include government and military sectors (22.1%), financial services (10.9%), education (8%), and media and entertainment (5.2%), disrupting essential services and critical infrastructure.

Phishing and data breaches remained dominant threats across the region. The energy and oil and gas sectors showcased vulnerability, accounting for 24.9% of attacks, followed by financial services at 20.2%. Phishing campaigns also substantially affected internet services (32.8%), telecommunications (20.7%), and financial institutions (18.8%) across the region.

Ransomware attacks were relatively low in the MEA region, with only 184 incidents reported. However, other sophisticated cybercrimes have emerged, involving initial access brokers (IABs), who sell access to compromised systems on underground markets. In 2024, GCC countries accounted for 23.2% of IAB activity in the region, followed by Turkey at 20.5%.

Meanwhile, over 6.5 billion leaked data entries were globally identified, including email addresses, phone numbers, and passwords, highlighting the critical role of underground forums in amplifying cyber risks across the region.

Cybercriminals utilize advanced tactics to breach systems and steal data from organizations across the Middle East and Africa. These techniques include social engineering, ransomware deployment, credential theft, and newly identified methods such as extended attribute (EA) attacks, facial-recognition trojans, and ClickFix infection chains.

GCC Companies Focus on AI Investments for Strategic Value Creation

Artificial intelligence (AI) remains a top priority for business leaders worldwide in 2025. According to the latest findings from Boston Consulting Group's (BCG) AI Radar global survey, one in three companies globally plans to allocate over USD 25 million to AI this year, while in the GCC, one in four companies is set to make a similar level of investment.

The survey, featuring input from 1,803 C-level executives across 19 markets and 12 industries, highlights widespread optimism about AI's potential, tempered by significant challenges in realizing its full value.

AI as a Tool for Productivity and Innovation

Leading companies in the GCC are focusing their AI investments on two strategic priorities: reshaping core business functions and creating entirely new AI-powered business models. This involves fundamentally transforming existing operations for greater efficiency while creating new AI-powered business models that enable offerings that weren't possible before AI.

This strategic approach is reinforced by the fact that 81% of GCC companies plan to increase their investments in technology in 2025 and 72% of GCC companies rank AI/generative AI (GenAI) as a top-three strategic priority. This approach begins with deploying AI for immediate productivity gains in everyday operations, then moves towards reshaping critical business functions to achieve substantial efficiency improvements, and ultimately focuses on developing entirely new AI-powered business models that create lasting competitive advantages.

At the country level, executives in Qatar (88%), the UAE (72%), and KSA (69%) rank AI/GenAI among their top three strategic priorities, compared to the global average of 73%.

In the GCC, 66% of executives expect AI to boost productivity; however, they agreed that more research and development (R&D) is needed to ensure that current workforce talent is ready to meet AI demands. Overall, this positive outlook on workforce retention in the GCC and the broader Middle East stands out as a key finding from the survey, with only 7% of executives in the Middle East anticipating headcount reductions due to AI automation—an even lower percentage than the global average of 8%.

The GCC's efforts also emphasize practical AI applications rather than limited experimentation. For successful AI implementation, the region's organizations are increasingly adopting the "10-20-70 principle" (a proven framework for AI value creation). Entities are dedicating 10% of their efforts to algorithms, 20% to data and technology, and 70% to people, processes, and cultural transformation. This strategic balance suggests that technology alone isn't enough; organizational and cultural changes are essential for AI success. This commitment is evident in the UAE, where 27% of organizations have already trained more than a quarter of their workforce on AI tools. While the UAE is currently leading in AI workforce development within the region, this comprehensive training approach represents a model that other GCC countries are working to adopt, recognizing that employee upskilling is critical for maximizing AI's potential.

UAE Data Center Market to Attract USD 1.5 Billion in Investments by 2027

The United Arab Emirates (UAE) is set to experience a significant data center expansion, with new research indicating a surge in capacity and investments over the next few years.

According to the 'UAE Existing and Upcoming Data Center Portfolio' report, Abu Dhabi is emerging as the frontrunner in the upcoming data center market, accounting for approximately 40% of the total power capacity. The emirate is projected to add nearly 150 MW of additional power capacity by the end of 2025, significantly advancing the Middle East's digital infrastructure.

Currently, the UAE's existing data center capacity exceeds 250 MW, with plans for an additional 500 MW. This strategic expansion is expected to attract approximately USD 1.5 billion in new investments for upcoming data centers by 2027.

Major operators and investors in the UAE data center market include Equinix, Khazna Data Centers, etisalat, and Gulf Data Hub, among others.

As the UAE continues to cement itself as a regional technology hub, this significant expansion and investment in data center infrastructure aligns with the country's vision to establish a data-driven economy and commitment to digital transformation.

Partner, Build, or Buy? How Telcos Can Succeed in the Long-Run

The substantial investments in 5G and advanced technologies have strained profit margins, prompting global telco leaders to embark on transformative journeys to redefine their business strategies.

Amidst these shifts, calculated decisions are crucial. A recent McKinsey survey highlighted the concerns of 60 telco CEOs and top executives worldwide, emphasizing profitability, competitive pressures from new business models, and regulatory complexities as main challenges.

To navigate these complexities and drive sustainable growth, telcos are focusing on accelerating innovation, elevating customer experiences, and embracing continuous digital evolution.

These companies aim to secure shareholder value by either partnering, building, or buying.

Partnering

To stay ahead, telcos are forming partnerships to enhance their networks, optimize costs, and expand service capabilities. However, alignment is key. Partnerships should be built on shared objectives, technological compatibility, and robust data governance to maintain security and regulatory compliance.

Nowadays, telcos are collaborating with hyperscalers and leveraging their cutting-edge technologies to accelerate time-to-market (TTM). During COMEX 2024, Omantel proudly announced a strategic partnership with two hyperscalers: Amazon Web Services (AWS), to establish a sovereign cloud services center and build an integrated e-commerce platform in the country, and Google Cloud, to set up the first distributed cloud edge service in the META region. center3 also announced a strategic collaboration with Oracle to provide hosting and data services for the planned Oracle Cloud Riyadh Region as well as support the expansion of the existing Oracle Cloud Jeddah Region.

Joint ventures (JVs) also help operators share the financial burden of deploying expensive infrastructure, making large-scale rollouts more feasible, and expanding their reach. Investing around USD 600 million, Telecom Egypt and 4iG Group signed an MoU to establish a joint venture to build a modern fiber network in Egypt that equips an average of six million households with access to a state-of-the-art, high-speed network in the coming decade.

Additionally, Zain and Omantel have launched Zain Omantel International (ZOI), which aims to manage all international wholesale requirements for Zain and Omantel's operations in eight countries, serving over 55 million customers. In Europe, Vodafone Group, Deutsche Telekom, Orange, and Telefónica are jointly working to implement a privacy-by-design digital marketing technology platform that seeks to benefit consumers, advertisers, and publishers alike.

More importantly, successful digital transformation often hinges on an extensive partnership ecosystem. Telcos must align with solution providers to gain technical expertise. For example, Software-as-a-Service (SaaS)-driven collaborations enable rapid integration through standardized application programming interfaces (APIs) and cloud technologies.

Zain KSA recently concluded a comprehensive digital transformation initiative in collaboration with Netcracker Technology. This ambitious cloud-based business support/operations support system (BSS/OSS) overhaul spanned all business segments and was completed in under three years. The successful implementation has significantly boosted operational efficiencies, resulting in a 50% reduction in both product development time and customer line activation duration.

Infrastructure investment remains a major financial strain for telcos, making network-sharing agreements increasingly attractive. By 2020, nearly 500 such agreements had been announced globally, with savings of 10-25% in operating expenditure (OpEx) and 15-40% in capital expenditure (CapEx), depending on the model used (passive or active network sharing). These collaborative efforts not only reduce costs but also accelerate the deployment of next-generation connectivity.

In the business-to-business (B2B) sector, network APIs represent a promising revenue stream. By developing interoperable APIs for key 5G capabilities—such as speed-on-demand and low-latency connections—telcos can empower enterprises to build new applications while improving their own monetization strategies. In September 2024, telecom players united to combine and sell network APIs on a global scale, spurring innovation in digital services.

Telcos also hold a strategic advantage in connectivity and in-country cloud infrastructure, making them valuable partners for IT and digital service providers. By offering premium technical support, service-level agreements (SLAs), and regulatory-compliant cloud services, they can strengthen relationships and secure long-term collaborations.

These companies aim to secure shareholder value by either partnering, building, or buying

As the industry shifts, telecom operators must embrace strategic partnerships to drive innovation, optimize investments, and capture emerging digital opportunities.

Those that successfully align with the right partners will be well-positioned to thrive in an increasingly interconnected ecosystem.

Building

When expanding their services, telcos must decide whether building is a feasible option. While building in-house grants full control and customization, it demands high upfront investment, specialized talent, and lengthy development timelines. Hence, companies are advised to only build when it aligns with their core competencies, such as when offering solutions no competitor can replicate.

One of the common strategies among telecom companies today is their transformation into technology companies, or techcos. Through this model, telcos expand internally to maximize their strengths. In order to do so effectively, they must balance innovation, efficiency, and strategic investments to deliver next-generation connectivity while maintaining profitability and differentiation. In fact, GCC techcos are anticipated to garner a double-digit increase in revenues as they explore novel avenues for operational expansion and diversify their revenue streams.

Telcos have been diversifying their revenue streams beyond traditional infrastructure investments.

One promising avenue is private 5G networks for small and medium-sized businesses (SMBs) and other industry verticals. In the B2B space, telcos are already providing solutions like managed security services and Network-as-a-Service (NaaS). Many are now tailoring these offerings to specific verticals, creating industry-specific value propositions.

Customer experience (CX) is also a key focus, with many telcos streamlining and automating interactions to achieve simplicity and seamless transactions. KPMG emphasizes that long-term success hinges on strengthening core connectivity to deliver high-speed, reliable networks at scale.

Buying

Telcos often turn to acquisitions rather than developing technology from scratch to stay competitive and accelerate innovation. Buying provides immediate access to new capabilities, enabling telcos to enhance their offerings without long development cycles.

Accurately representing this model in the latter half of 2024, Nokia acquired Rapid's technology assets. The integration of Rapid's API technology with Nokia's Network as Code platform is set to deliver substantial enhancements to operators. Both e& and stc have also expanded to Europe with billion-dollar acquisitions.

Beyond full acquisitions, telcos are also purchasing licensing agreements, allowing them to access proven solutions without incurring the risks associated with in-house development.

However, integrating acquired technology with existing infrastructure can be complex, requiring careful planning to avoid incompatibility issues.

Thus, post-merger integration remains a key challenge. Beyond technological integration, telcos must align acquired companies' staff, culture, and processes. While acquisitions can be faster than internal development, it's worth noting that complications can arise that could eventually lead to losses.

Nevertheless, the benefits of buying are significant. It allows telcos to stay focused on core competencies while capitalizing on external expertise. Furthermore, this strategy can also strengthen competitive positioning by eliminating potential rivals and expanding access to a broader customer base. Additionally, telcos can achieve cost efficiencies by integrating complementary technologies, leveraging economies of scale, and optimizing operations.

Conclusion

The most successful telcos will be those that strike the right balance when making strategic decisions: building ensures control and differentiation, buying accelerates innovation and market reach, while partnerships optimize costs and drive scalability.

In a fast-evolving industry, agility and foresight will determine which companies lead the next era of connectivity and digital transformation. TR

The most successful telcos will be those that strike the right balance when making strategic decisions: building ensures control and differentiation, buying accelerates innovation and market reach, while partnerships optimize costs and drive scalability

Digital Inclusion Starts with Her: Empowering Women in ICT and Beyond

International Girls in ICT Day 2025, set for April 24th, will highlight the theme 'Girls in ICT for Inclusive Digital Transformation.' This global initiative emphasizes the urgent need for greater female representation in the ICT sector.

As technology continues to shape industries and define future careers, equipping girls with tech skills is more important than ever. By fostering interest and participation in ICT, we can drive innovation and create a more inclusive digital future where everyone can thrive.

Serendipitously, this year's World Telecommunication and Information Society Day (WTISD), to be held on May 17, 2025, will focus on gender equality in digital transformation.

With two global celebrations emphasizing the importance of gender parity in digital transformation, now is the time to accelerate actions to close this gap and motivate people and societies to achieve sustainable development.

In celebration of the International Telecommunication Union's (ITU) 160th anniversary, the Government of Canada is partnering with the ITU to bring nine young women (ages 18–25) to Geneva, recognizing their contributions to digital development and transformation worldwide. The ITU160 Gender Champions initiative especially encourages applications from young women in developing nations, least developed countries, landlocked developing states, small island developing states, as well as indigenous women and women with disabilities.

Education is Key for Inclusivity

Quality education is a fundamental pillar of human development, as recognized by the Sustainable Development Goals (SDGs); yet over 250 million children remain out of school, particularly in South Asia and Africa, limiting their opportunities and their communities' growth. This needs to be addressed because ensuring equitable and inclusive education for all—regardless of gender, race, religion, or social background—is crucial for sustainable progress.

In the digital age, equipping women with strong digital literacy skills is a must. From basic competencies like navigating the internet to advanced ICT skills in artificial intelligence (AI), big data, cybersecurity, and software development, digital expertise opens doors to high-demand careers. However, women remain underrepresented in tech fields, making up only 22% of AI and data science professionals. This imbalance impacts the development of digital services tailored to women's needs.

Moreover, while gender gaps in digital access have narrowed over the past two decades, progress has slowed, particularly following the pandemic. In some regions, women's participation in ICT fields has declined, including in Australia, Europe, Latin America, and Korea. These disparities persist across geographies, limiting women's ability to engage with, and benefit from, digital transformation.

Achieving gender balance in research and innovation enhances creativity, improves product design, and ensures broader user representation. Unfortunately, women account for only a third of graduates in ICT and engineering fields. This gap requires stronger recruitment, retention, and career advancement strategies to be pursued.

Do Females Have Enough Internet Access?

Despite advancements in education, women remain underrepresented in high-potential careers, particularly in the tech sector. Globally, women have less than two-thirds of the economic opportunity that men do, and progress toward gender equality is slowing, with economic parity projected to take 170 years at the current rate.

Although access to the internet is a crucial factor in closing this gap, geographic and economic barriers continue to limit connectivity for women and girls. While gender parity in internet usage has been achieved in the Americas, Europe, and the Commonwealth of Independent States (CIS) region, disparities remain elsewhere. The Asia-Pacific region is making strides; however, progress in the Arab States has plateaued, and Africa lags significantly behind other regions.

AI-Generated Image Depicting 'The Role of Women in Achieving Inclusive Digital Transformation'

> The gender-based digital divide has become a major obstacle in the digital era, restricting women's ability to access, use, and shape technology

The gender-based digital divide has become a major obstacle in the digital era, restricting women's ability to access, use, and shape technology. Without equal internet access, women face compounding challenges in education, employment, and digital innovation. Figures show that women are 30-50% less likely to use the internet for income generation or public participation than men, especially in developing countries.

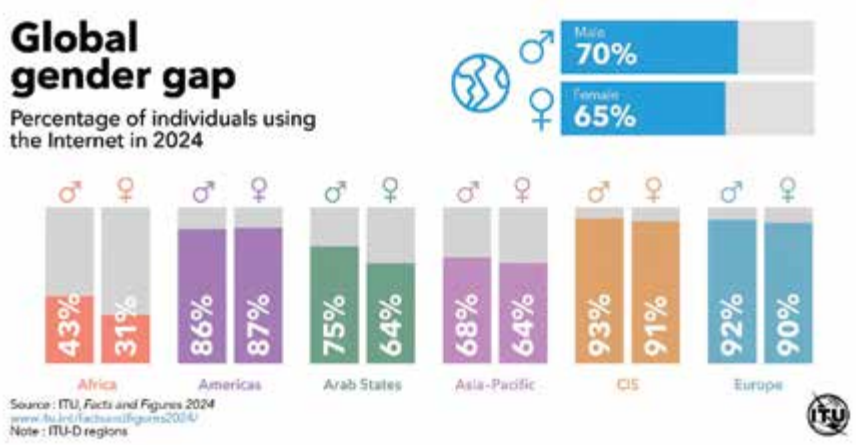
This reduced internet usage specifically impacts female participation in tech design and maturation, hindering the development of inclusive digital platforms as women bring diverse perspectives that ensure digital services are user-friendly and accessible to a wider demographic. As a result, fighting the global gender gap in internet access not only encompasses achieving equality; it also includes unlocking economic and social opportunities for all.

As Gerd Müller, Director General of the United Nations Industrial Development Organization (UNIDO), emphasized, "The gender perspective must take center stage in our thinking, planning, and implementation of digital transformation and AI."

Creating an Inclusive Workforce and Policies

Women's participation in the technology, media, and telecommunications (TMT) sectors is among the highest in Australasia, the Middle East, and North America. These regions have demonstrated that a diverse and inclusive workforce enhances organizational performance and culture.

Research from McKinsey revealed that companies with high gender diversity in leadership are 48% more likely to achieve financial success, and closing the gender gap could add USD 12 trillion to the global gross domestic product (GDP); thus, ensuring women's retention and career advancement is not only ethical but also economically beneficial.



Structural barriers also exist for women with disabilities, who face even greater challenges in digital adoption. To completely bridge the digital divide, ICT strategies must integrate accessibility and inclusive design. The Organization for Economic Co-operation and Development (OECD) previously highlighted the platform economy and gig work as vital tools for women's economic empowerment, especially in developing countries.

A relevant niche illustrating the need for greater female representation is the booming artificial intelligence (AI) sector. Currently, gender gaps persist in AI roles, with women more likely to work as data analysts, researchers, and educators, while men dominate higher-paid software engineering and leadership positions.

To address this, policymakers must prioritize gender-sensitive digital policies to create an equitable workforce. These policies should tackle online harassment, address gender gaps in digital education, and promote women's leadership in tech. As Rupa Das, CEO of the World Woman Foundation, states, "When women govern AI, they bring unique perspectives that balance innovation with compassion and equity with efficiency. This leadership can ensure AI evolves to solve humanity's greatest challenges, from eradicating poverty to advancing human rights while unlocking untapped opportunities for prosperity."

Indicating a positive trajectory, the future of AI governance and digital leadership is shifting. Studies predict that by 2030, the number of women in leading AI roles could grow by 50%, and by 2040, women could hold 40% of decision-making roles in global technology firms, up from today's 16%.

> Women's participation in the TMT sectors is among the highest in Australasia, the Middle East, and North America

However, achieving sustained female leadership in ICT requires overcoming significant hurdles. As Khulood Al Awadhi, Director Advanced Technology Services at Moro Hub, shared, "Managing conflicts, managing stakeholders' expectations, balancing loads, making critical decisions, and analyzing and taking risks whenever required were all part of the challenges I had to adapt to and overcome."

To ensure gender equity in AI and digital industries, the private sector, civil society, and international organizations must collaborate to design inclusive policies, support women's education in science, technology, engineering, and mathematics (STEM), and close the workforce gender gap. With proactive strategies, women's leadership in AI and digital transformation will not only be inevitable but essential for a sustainable future.

Empowered and Rising: Women in the Middle East

Women's empowerment in the Middle East has gained unprecedented momentum, with women taking on leadership roles and driving societal progress. From corporate boardrooms to entrepreneurship, regional initiatives are reshaping workplace diversity, inclusion, and economic opportunities.

Let's look at an example from the Kingdom of Saudi Arabia. As part of its commitment to achieve a sustainable and inclusive workplace, Zain KSA has taken bold strides in diversity, equity, and inclusion (DEI), setting a benchmark for women's participation in the workforce. The company has defined three key objectives for its empowerment strategy: increase workplace diversity and inclusion by 50%, grow female employment by 25%, and raise women's representation in leadership roles to 10%. Njoud Alshehri, EVP of Strategy and Innovation at Zain KSA, elaborated on this vision, stating, "One of Zain KSA's key goals has been to bolster its national identity by constructing a growing and evolving national telecoms sector, incorporating local content elements and Saudi talent, and emphasizing its commitment to ensuring an effective role for women."

With a long-term commitment to DEI, Zain KSA continues to introduce progressive policies and initiatives that not only promote gender equity but also overlap technological innovation with workforce empowerment.

Similarly, the UAE stands as a regional pioneer in gender equality, ranking first in the Arab world and seventh globally on the UN Gender Inequality Index. Landmark initiatives such as the National Strategy for Emirati Women, du's Gender Balance Council, and targeted STEM policies have propelled Emirati women into leadership roles—especially in the ICT sector.

His Excellency Eng. Majed Sultan Al Mesmar, Director General of the Telecommunications and Digital Government Regulatory Authority (TDRA), reaffirmed this commitment, adding, "We embraced the UN's 'Leave No One Behind' slogan decades ago. In fact, for us, it was more than just a slogan; we made it a real action plan. From the earliest days of the union, women have received support from the leadership in education and training, leading to their empowerment."

Breaking barriers in ICT leadership, du's first female Emirati CXO, Hanan Ahmed, shared advice for aspiring female professionals, "Keep an open mind and remember that diversity and inclusion are crucial for innovation and success in the ICT field. Continue to advocate for equal opportunities for all individuals, regardless of gender, race, or background."

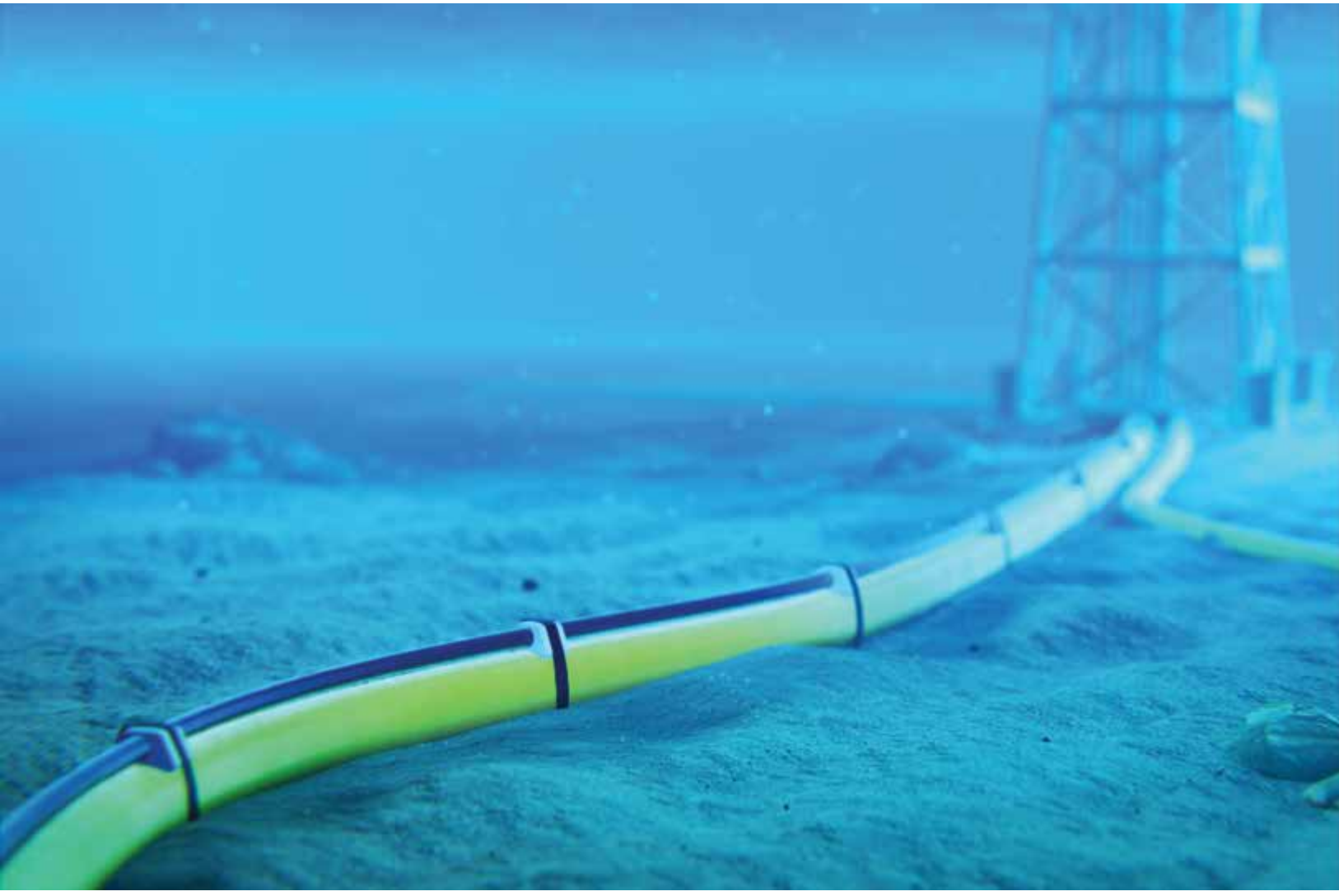
Furthermore, Ooredoo Oman's 23rd Springboard Program has empowered over 200 Omani women, equipping them with the skills and confidence required to advance their careers and launch businesses. Designed by women, for women, the program expands opportunities across the country, fostering a more inclusive workplace.

Meanwhile, Bahrain's 'Riyadat Financing' initiative has helped over 300 women-owned businesses thrive across various sectors, reinforcing the region's commitment to female entrepreneurship.

Telecom Review's Stance on Women Empowerment

In line with the above, some of the tech industry's key female-oriented discussions occur at the annual Telecom Review Leaders' Summit during the renowned 'Women in ICT' panel. For three consecutive years, different female executives have gathered on stage to share their perspectives on leadership, gender equality, and the progress being made in bridging the digital gender divide. They emphasized that every woman should be driven by her dream and her confidence. TR

From corporate boardrooms to entrepreneurship, regional initiatives are reshaping workplace diversity, inclusion, and economic opportunities



Dodging Digital Darkness: Submarine Cable Monitoring

Subsea cable damage can plunge an entire nation into digital darkness, leading to communication breakdowns, disrupted digital services, and mobility failures.

As the backbone of global internet connectivity and energy security, subsea cable networks are critical components of the digital ecosystem. Each submarine cable contains optical fibers that carry vast amounts of electricity or data to receptors at the other end of the cable.

With the growing reliance on smart technologies across industries, undersea cables now carry 99% of the world's internet traffic, transmitting copious amounts of digital data. These cables facilitate financial transactions, cloud computing, government communications, and other essential services, ensuring operational efficiency and seamless user experiences (UX). Cable operators understand the impact of unexpected outages as the inability to access data can quickly result in considerable economic ramifications as they facilitate trillions of dollars of financial transactions every day. For this reason, operators carry out regular checks to mitigate such risks through physical repairs or by providing alternative routes bolstered by integrated redundancies.

Currently, more than 500 active and planned cable systems span the ocean floors, yet they are vulnerable to various risks, including fishing activities, ship anchors, seismic activity, and ageing infrastructure. The Royal Institute of International Affairs estimates that the global subsea cable network stretches over 1.4 million kilometers, making continuous maintenance a challenge. Each year, approximately 150 to 200 faults occur, with the International Cable Protection Committee (ICPC) identifying fishing and ship anchors as responsible for 65-75% of all failures. Natural phenomena contribute to about 10%, while cable component failures account for around 5%.

Anatomy of Subsea Cables

Undersea fiber optic cables are designed to last at least 25 years with minimal maintenance, but human activity remains a significant threat. These cables, typically 0.8 to 1.2 inches thick, feature multiple layers of protective material surrounding a glass fiber core.

If the fiberglass core breaks, data transmission is interrupted, requiring rerouting through another cable. In areas reliant on a single cable, such damage can cause complete internet blackouts. Even if only the protective layers are damaged, transmission efficiency declines. In both cases, repair crews must pinpoint the damage location. Using light signals and their reflections, technicians can identify the breakage point, while shunt faults (insulation damage) require electrical signal testing to track faults.

Sharks' Contribution to Subsea Cables

Studies have shown that sharks have occasionally bitten subsea cables; however, these occurrences have rather been insignificant. Between 1901 and 1957, 28 cases of fish-related cable damage were recorded. From 1959 to 2006, only 11 cases required repairs due to fish bites, accounting for just 0.5% of all faults. The first recorded shark bite of a deep-sea fiber optic (1060-1900 m) cable's polyethylene sheath occurred between 1985 and 1987 off the Canary Islands. These incidents led to design improvements, effectively eliminating the issue. Interestingly, it is believed that sharks are super-sensitive to electromagnetic fields (EMFs) and may be attracted to the stronger fields produced by power cables instead of fiberoptic cables that only transmit a small amount of electricity to power the repeaters.

Repairing and Monitoring Subsea Cables

When an underwater cable fails, pinpointing the fault can be achieved through multiple techniques:

- **Signal Testing:** Technicians send signals through the cable to detect disruptions, using time domain reflectometry (TDR) to measure signal travel time and pinpoint breakage locations.
- **Acoustic Monitoring:** Remotely operated vehicles (ROVs) equipped with sonar detect cable movement or breaks.
- **Visual Inspection:** Divers or ROVs confirm damage locations once a general area is identified.
- **GPS and Mapping:** Geographical data narrows search areas, especially when cables are buried or shifted by currents.
- **Cable Surveys:** Regular monitoring helps maintain updated condition maps, facilitating efficient fault detection.

Today, maintenance agreements ensure access to ROVs for repairing buried sections. SCARAB (submersible craft assisting recovery and burial) vehicles enable post-repair cable reburial, minimizing future faults and service disruptions.

The Role of Subsea Cable Personnel

Subsea cable installation and maintenance requires specialized expertise. Training programs equip personnel with the knowledge to navigate marine environments, cable handling, and equipment operation. Safety remains a priority, with training focusing on risk management, emergency procedures, and industry regulations. Hands-on simulations provide practical experience in installations and troubleshooting, while continuous learning ensures professionals stay updated with evolving technologies.

When an underwater cable fails, pinpointing the fault can be achieved through multiple techniques

Rerouting and Redundancy Strategies

Strategic cable route planning and network redundancy enhance subsea cable resilience. In regions with multiple cables, data traffic is rerouted swiftly in case of disruption. However, where outages are frequent, satellite communications are gaining traction as backup solutions. Low Earth orbit (LEO) satellites are emerging as viable redundancy options for enterprises, governments, and military operations.

In the Middle East, subsea cable operators like GBI, Telecom Egypt, stc, and Salam collaborate with partners to ensure redundancy, preventing customer outages.

AI-Enabled Observation Centers and Cybersecurity

Subsea cable observation centers now leverage AI-powered technologies to monitor cable integrity and alert nearby vessels of potential hazards. With increasing data volumes being transmitted, cybersecurity threats such as cable tapping and data theft are rising. To counteract this, cable operators are collaborating with cybersecurity specialists to develop advanced protective measures and enhance network resilience. Since subsea cables are considered an easy target for sabotage activities, geopolitical tensions also play a part in cable connectivity disruption.

To combat this, Fincantieri and Telecom Italia's Sparkle are developing surveillance and protection solutions for subsea cables, while NATO's Operation Baltic Sentry is deploying elite divers, submersible drones, and naval vessels to protect underwater infrastructure. Similarly, the Quad Partnership for Cable Connectivity and Resilience is fostering international cooperation to secure strategic submarine cables.

Challenges in Regulatory Frameworks

Maintaining and securing subsea cables is hindered by jurisdictional complexities. Most faults result from accidental human activities, and while many cables are mapped, they often lie in legal gray zones. Under United Nations (UN) law, nations have full jurisdiction within 12 nautical miles of their coastlines, but many subsea cables extend into exclusive economic zones (EEZs) up to 200 nautical miles offshore. This creates uncertainty in international accountability and protection efforts.

The newly established International Advisory Body for Submarine Cable Resilience—formed by the International Telecommunications Union (ITU) and the International Cable Protection Committee (ICPC) in late 2024—aims to enhance global dialogue on cable resilience and protect this vital infrastructure. The advisory body consists of 40 industry and government leaders, including representatives from submarine cable operators, telecommunications firms, maritime authorities, and UN agencies.

Conclusion

The rapid adoption of bandwidth-intensive applications, growing smartphone penetration, and increasing reliance on cloud services are driving demand for high-speed, low-latency connectivity. While earlier investments in subsea cables were focused on cost-efficient, high-bandwidth international connectivity, today's priorities include high-quality, resilient networks.

As submarine cables serve as the lifelines of the digital age, strengthening their resilience is a shared global priority. Collaborative efforts to implement best practices and enhance security will ensure the continued reliability of this critical infrastructure in an increasingly digital world. TR

> Subsea cable observation centers now leverage AI-powered technologies to monitor cable integrity and alert nearby vessels of potential hazards

Developments in the Digital Sovereignty Domain

In today's interconnected world, we are witnessing a transformative shift from traditional mobile networks to artificial intelligence (AI)-enabled systems operating under cloud architectures. This evolution is redefining connectivity and raising critical concerns about AI's widespread adoption, including algorithmic bias, loss of human connection, privacy breaches, and transparency issues.

IBM has recognized that AI is a significant productivity enabler, while McKinsey estimates that AI could contribute up to USD 4.4 trillion in added productivity growth potential from corporate use cases by 2050. Many industries have already implemented low-risk AI applications and are expanding into mid-risk areas such as customer service, enterprise operations, supply chain management, and procurement, while researching and evaluating the potential of advanced AI-driven initiatives.

In the UAE, the Abu Dhabi Government Digital Strategy 2025-2027 aims to position the emirate as a global leader in AI-driven governance by allocating AED 13 billion from 2025 through 2027 to foster innovation and technology adoption across the emirate.

Big Data and Digital Sovereignty

AI systems rely on vast amounts of data to function optimally. The effectiveness of an AI algorithm depends heavily on the quality and integrity of the data used for training it. As AI integrates into our daily lives, the risks associated with data misuse and breaches escalate, necessitating robust data protection measures and regulatory frameworks.

The global big data market was valued at USD 327.26 billion in 2023 and is projected to grow at a compound annual growth rate (CAGR) of 14.9% from 2024 to 2030. Big data consists

of massive, continuously expanding collections of structured, semi-structured, and unstructured data. The increasing adoption of digital payments, cryptocurrency mining, and other digital services further underscores the need for robust data security mechanisms.

Furthermore, geopolitical tensions in cyberspace present additional challenges to data privacy. For instance, the complexity of digital security threats is highlighted by the recent USD 1.5-billion crypto exchange heist initiated by hackers; both the perpetrators and missing crypto remain untraceable. Such incidents warrant the urgent need for stronger cybersecurity strategies and international cooperation.

The Importance of Digital Sovereignty

Digital sovereignty, encompassing cyber sovereignty, technological sovereignty, and data sovereignty, refers to the ability of nations and organizations to control their digital infrastructure, data, and software. While digital sovereignty focuses on governing digital infrastructure, data sovereignty pertains to laws and regulations governing data collection, storage, and processing.

The growing global landscape of AI governance is characterized by divergent approaches, reflecting the geopolitical tensions and competing visions associated with digital sovereignty.

Challenges related to digital sovereignty have grown significantly, affecting regions worldwide. These challenges include cyberattacks on critical infrastructures, sabotage and physical attacks on network infrastructures, disinformation, cyber espionage, and others.

Trends Driving the Need for Stronger Data Governance

Several emerging trends in the telecommunications sector underscore the need for enhanced data governance. For example, telecom networks are evolving from traditional setups to fully cloud-native infrastructures. AI-powered radio access networks (RAN) and AI-driven core technologies are speeding up the move toward autonomous networks. Meanwhile, early 6G development is already in progress, with companies like Nokia and du conducting field trials.

Moreover, quantum computing, currently in its conceptual phase, poses a long-term challenge to data management. By the 2030s, quantum computers could render traditional cryptographic methods obsolete, endangering sensitive financial, healthcare, and security data worldwide.

Strengthening Data Resilience through Collaboration

To secure data in an increasingly complex digital environment, aligning with trusted partners, including major corporations and government agencies, is crucial. Integrated solutions that streamline data management, enable efficient backup and recovery, and leverage cloud technologies can enhance resilience and operational efficiency.

As data privacy regulations tighten, companies are prioritizing shift-left data governance—an approach that integrates governance practices earlier in the data life cycle. Key strategies include implementing comprehensive data governance frameworks, such as data classification, access controls, and regular audits, and adopting Software-as-a-Service (SaaS)-based data governance solutions that offer scalability and security.

Sovereign cloud implementations are becoming a critical tool for organizations navigating complex regulatory landscapes. These solutions ensure data residency and compliance with local laws while providing enhanced control over operations and security.

In accordance with this, several notable steps are being taken in the GCC countries. du and Oracle Alloy deployed hyperscale cloud and sovereign AI services for government and public sector entities in the UAE, focusing on Dubai and the northern Emirates. Omantel and AWS established a Cloud Center of Excellence (CCoE) in Oman to develop sovereign cloud capabilities for government and regulated industries.

Moreover, the UAE's TDRA's Federal Digital Network (FedNet) has built a robust digital infrastructure in the UAE to support government digital transformation.

Despite these approaches, Szymon Uczciwek, Vice President of Business Growth and Strategy for MEA, Comarch, shared a stark outlook on the MEA region's approach to digital sovereignty.

A Balanced Approach to Digital Sovereignty

In an increasingly interconnected global economy, effective data governance must balance regulatory compliance with innovation and investment. Simplifying processes and reducing bureaucratic hurdles will be essential to foster a thriving digital economy.

To maximize the value of digital sovereignty, organizations must implement sophisticated data management strategies similar to those used for physical assets. This includes clear ownership rights, secure trade protocols, and robust accountability measures. By reimagining data sovereignty as a strategic asset, the ICT industry can build a digital ecosystem that respects autonomy, safeguards data rights, and ensures a secure and prosperous digital future for all stakeholders.

Every nation and economic region utilizes a diverse approach to digital sovereignty; however, the global narratives tend to focus on the Sino-United States (US) competitive framework, with the EU serving as a counterpoint operating under the General Data Protection Regulation (GDPR) umbrella.

Initiating a dialogue among countries regarding the establishment of common technological norms and standards designed to foster digital sovereignty, autonomy, and independence in the digital realm represents a move in the right direction. TR

Oman's Digital Transformation: Bridging Urban and Rural Connectivity Gaps

In recent years, Oman's telecommunication sector has seen significant expansion, positioning the Sultanate as a regional hub for digital connectivity. The substantial influx of investments has laid the groundwork for Oman's robust digital ecosystem, propelling its digital and hyper-connected future.

According to the International Monetary Fund (IMF), Oman has achieved 100% 4G coverage and has surpassed the average Organization for Economic Cooperation and Development (OECD) country in terms of 5G coverage, reaching 88% of the population.

As Oman becomes a digital powerhouse, the government has launched initiatives to increase the digital economy's contribution to the gross domestic product (GDP) from 2% to 10% by 2040. These initiatives include 5G network expansion, the development of satellite communications, and the establishment of innovative cloud systems.

While urban areas have seen rapid transformations, bridging the connectivity gap in rural regions remains a critical challenge.

Connecting Oman

According to Opensignal's Mobile Network Experience Report for Oman in 2025, Oman's major telecom operators—Omantel, Ooredoo, and Vodafone—deliver reliable connectivity and continue to drive advancements in network performance.

Vodafone Oman has emerged as a leader in mobile experience consistency, scoring 74.4%, and offers the best multiplayer gaming experience over cellular connections with a score of 74.5 out of 100. It also leads in overall experience, particularly in download and upload speeds for mobile networks.

Vodafone and Ooredoo lead in network availability, reflecting their extensive coverage across Oman.

Meanwhile, Omantel stood out, achieving the best overall coverage and 5G coverage in the country with a score of 8.3 out of 10. It also delivered the fastest average 5G download speeds, recording an impressive 252.3 Mbps. For 5G video experience and availability, Omantel and Vodafone are joint leaders, showcasing their commitment to enhancing user experiences (UX) with the latest technologies.

These remarkable achievements in Oman's digital landscape prompted the Telecommunications Regulatory Authority (TRA) to begin phasing out outdated 3G networks in July 2024 to facilitate the expansion of state-of-the-art technologies like 5G.

However, the IMF suggested that further investments and regulatory upgrades are necessary for Oman to enhance its digital infrastructure to match its neighboring countries.

The Latest in Oman's 5G Expansion

Throughout 2024 and early 2025, Oman's telecommunications landscape has seen substantial developments in 5G network technology.

In 2024, Vodafone Oman expanded its 5G network coverage across the Dhofar Governorate, with new sites installed at Dhareez Beach, Wadi Darbat, and Ittin Square. Its core network applications and cloud infrastructure were upgraded by Ericsson, enabling telcos to seamlessly deploy 5G standalone (5G SA) services. In addition, Ericsson elevated virtual and containerized core network functions including evolved packet core (EPC), home subscriber server (HSS), unified data management (UDM), IP multimedia subsystem (IMS), policy and charging rules functions (PCRF), and management and orchestration (MANO) applications.

Omantel has successfully completed the 5G RedCap lab trial in collaboration with Huawei, aiming to meet the growing demands of Internet of Things (IoT) applications with faster speeds and enhanced network efficiency at reduced costs. The company optimized its 5G fixed wireless access (FWA) offering by leveraging advanced technologies such as millimeter wave (mmWave) and carrier aggregation (CA).

Ooredoo also expanded its 5G FWA coverage to 87.6% of the population in June 2024, contributing to a substantial increase in 5G broadband subscriptions. As the first telecom operator in Oman to offer 5G coverage, Ooredoo continues to innovate by successfully testing 5.5G technology, laying the foundation for future 6G developments. Recently, the company collaborated with Sohar International to deliver integrated mobile, fixed, and ICT solutions.

Oman's largest mobile virtual network operator (MVNO), FRiENDi Mobile, has partnered with Vodafone Oman to utilize its advanced 5G network, enhancing connectivity, speed, and reliability for its customers.

The Telecommunications Regulatory Authority (TRA) allocated 100 MHz of 5G spectrum to Omantel and Ooredoo, further enhancing mobile services across the Sultanate. Oman launched its 5G innovation lab at Dhofar University's College of Engineering, driving innovation and research. Established in collaboration with Ooredoo and ZTE Corporation, the initiative aims to develop innovative methods for education, knowledge transfer, and technical research.

Enhancing Oman's Connectivity and Digital Infrastructure

Oman has made significant strides in enhancing its digital infrastructure and connectivity, with major telecommunication operators and global technology companies investing heavily to boost the digital landscape.

Achieving the fastest nationwide 5G rollout in Oman's history, Vodafone Oman expanded its 5G NEXT LEVEL network, covering over 98% of the population. The telecom operator also expanded its enterprise offerings, enhancing the Sultanate's business connectivity.

In late 2024, Nokia and Ooredoo Oman announced a strategic partnership to deploy a state-of-the-art dense wavelength division multiplexing (DWDM) wholesale network. The initiative aims to meet the escalating needs of data centers, artificial intelligence (AI)-driven applications, and cloud-based platforms.

Ooredoo has strengthened its presence in Duqm, one of Oman's key economic zones, aiming to advance

telecom infrastructure, form strategic collaborations, and support the country's economic growth.

Equinix, a global digital infrastructure company, launched its SN1 data center in Salalah, Oman, in partnership with Omantel in November 2024. Set to be implemented in phases, the initiative will optimize connection routes and offer more direct and cost-effective accessibility for enterprises and service providers.

The Oman Broadband Company is also expanding its fiber optic network. The company signed a cooperation agreement with Dawiyat Integrated Telecommunications and Information Technology, establishing fiber optic networks to enhance Oman-Saudi Arabia connectivity. For the next three years, the company also aims to cover 97% of the Muscat Governorate and approximately 50% of the other regions. This initiative is part of its broader goal to connect one million housing units with fiber optic infrastructure.

In early 2025, the Gulf Cooperation Council Interconnection Authority (GCCIA) and Qatar Fund for Development (QFD) partnered to establish overhead transmission lines connecting Oman with the GCC's network. This USD 100 million project involves the construction of two 400 kV overhead transmission lines to connect the GCCIA's Al Sila station in the United Arab Emirates to the Ibri station, which the GCCIA will construct in the Sultanate of Oman. The transmission line will be equipped to withstand a total capacity of 1,700 MW and a net transfer capacity of 1,200 MW.

Recently, Ooredoo Oman and stc Group collaborated to establish the SONIC project—an international terrestrial fiber optic network corridor between Saudi Arabia and Oman. The initiative aims to support existing subsea projects and improve international subsea routes between Asia and Europe.

The Iraqi Telecommunications and Post Company (ITPC) and Ooredoo also partnered to land the Fiber in Gulf (FIG) subsea cable in Iraq, which connects six countries including Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE with 720 Tbps of capacity across 24 fiber pairs. This announcement follows Ooredoo's collaboration with Alcatel Submarine Networks (ASN) in January 2025 to build the FIG cable, which is set to be completed by 2027.

Final Thoughts

Oman's recent connectivity advancements underscore its commitment to driving a technologically advanced and hyper-connected future, aligning with its Vision 2040.

These developments are not only enhancing connectivity but also establishing a robust digital ecosystem built on the relentless pursuit for innovation and excellence. Nurturing ICT talents will further accelerate innovation and secure Oman's digital future.

As Oman continues to invest in its telecommunications and digital infrastructure, it is poised to accelerate digital transformation, boost economic growth, and emerge as a key player in the ever-evolving digital landscape. TR

> Throughout 2024 and early 2025, Oman's telecommunications landscape has seen substantial developments in 5G network technology

SMEs in Oman Thrive with Ooredoo and Sohar International's Integrated Solutions

Recognizing the vital role of small and medium-sized enterprises (SMEs) in Oman's economy, Ooredoo Oman has partnered with Sohar International to deliver integrated mobile, fixed, and ICT solutions alongside tailored financial packages.

As a key enabler of digital transformation, Ooredoo Oman will provide customized connectivity and ICT solutions for greater efficiency and scalability. Complementing this, Sohar International will offer exclusive financial benefits, including flexible device financing and cost-effective communication tools, helping businesses streamline operations and boost productivity.

Saied Al Lawati, Director of Business Marketing and ICT Solutions at Ooredoo Oman, said, "Ooredoo recognizes the evolving needs of SMEs and the challenges of staying competitive in a digital-first world. By simplifying connectivity and financial access, we enable smarter operations, seamless growth, and long-term success for businesses in Oman."

The partnership introduces exclusive SME benefits, including complimentary fixed services, competitive mobile and internet plans, and special Riyada card privileges designed to cut costs, improve communication, and enable digital-first operations.

Commenting on the initiative, Mr. Abdul Qadir Al Sumali, Chief Retail and Premier Banking Officer at Sohar International, added, "Partnering with industry leaders like Ooredoo reinforces our commitment to delivering world-class services while fostering an ecosystem that drives innovation and operational excellence. This initiative reflects a strategic, forward-thinking approach to financial services, where every element is designed for the customer's success. With this comprehensive package, we provide SME clients with essential tools to enhance efficiency and accelerate digital transformation."

From Cloud to 5G: Omantel Shines with Strong 2024 Performance

Omantel has announced robust financial results for 2024, showcasing significant growth in both its overall revenue and domestic operations.

The Group's consolidated revenue, including Zain Group's operations, reached OMR 3,030.1 million, indicating a 3% increase from the OMR 2,942.7 million recorded in 2023. Despite a 2.8% decline in net profit, decreasing from OMR 315.5 million in 2023 to OMR 306.8 million, Omantel's net profit attributable to shareholders grew by 4.4%, totaling OMR 78.1 million in 2024, compared to the OMR 74.8 million distributed in the previous year.

Domestic Performance
At the domestic level, Omantel reported a 2.7% revenue growth totaling OMR 622.6 million, driven by a 6% increase in mobile postpaid segment revenue and a 7% rise in fixed broadband revenues year-over-year (YoY). The net profit for domestic operations in 2024 reached OMR 69.4 million, up from OMR 68.1 million in 2023, marking a 1.9% growth fueled by positive impacts from settling financial claims related to pre-2020 services.

Zain Group Performance
Zain Group, a company in which Omantel holds a 21.9% stake as the second-largest shareholder, reported revenues of OMR 2,466.9 million for 2024, marking a 4.47% increase. EBITDA stood at OMR 861.4 million, while net profit reached OMR 313.9 million compared to the OMR 359.7 million recorded in the previous period.

An Overview of Omantel's Journey in 2024
Omantel CEO, Talal Said Al Mamari, told Telecom Review last year that they view the challenges posed by disruptive technologies as "tailwinds propelling us toward promising opportunities."

Notably, cloud innovations drove Omantel's progress in 2024. In February, it announced plans to build the National Cloud with Huawei, transforming sectors like smart cities, healthcare, and AI services. Partnering with AWS, Omantel launched a Cloud Center of Excellence to enhance digital sovereignty.

At COMEX 2024, it secured key partnerships with AWS and Google Cloud, enabling sovereign cloud services and advanced AI. Omantel also migrated 200+ services to its private cloud and opened its second-largest data center in Salalah.

Reaffirming its leadership, Omantel also completed a 5G RedCap trial and expanded into space technologies through a historic partnership with Etlaq

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Finding New Growth Drivers in Telecom

The Information and Communication Technology (ICT) industry stands at a crossroads, balancing immense growth opportunities and significant challenges. While rapid technological advancements promise boundless possibilities, obstacles such as trade wars and geopolitical tensions threaten to impede progress.

Recently, the global economic environment has been strained by the US's new tariff plans, which could likely affect the ICT industry as a whole. As global demand for computing power surges, leading data center players are gearing up for a massive capital deployment, investing approximately USD 1.8 trillion from 2024 through 2030, according to BCG. However, tariffs could drive up the cost of materials needed for data center infrastructure, exacerbating supply chain constraints.

ICT has been proven to enhance organizational efficiency, boost productivity, reduce costs, and drive innovation.

Agility and Innovation

To navigate the choppy waters, telecom companies must remain innovative and resilient. Over the next decade, intelligence will catalyze a significant shift in the ICT industry, opines Bob Chen, President of Huawei Optical Business Product Line. Predictions indicate that the compound annual growth rate (CAGR) of global intelligence-related investment will reach 26.9%, with AI and automation increasingly being leveraged by enterprises, households, and individuals.

Competition around AI foundation models is expected to intensify as enterprises and government agencies integrate intelligence into various operations, including disaster prediction, public security, financial risk control, marketing, and manufacturing. At the individual level, innovations such as AI assistants, cloud esports, smart homes, and cloud computing will transform daily experiences.

Strategic network planning is essential for communication service providers (CSPs) to meet future demands. The planned transition away from legacy networks is a crucial component of telco growth strategies, whether it be through greenfield deployments, competitive overbuilds, or the replacement of outdated copper and coaxial networks with fiber infrastructure.

Chen stressed that building robust infrastructure networks and leveraging the synergy between computing and networking is crucial for business success in the AI-driven age.

Networks need to be upgraded in three parts. The first is bandwidth. AI applications require higher network bandwidth for multi-modal interaction. The second is latency. The device-cloud synergy mode of AI applications requires deterministic low latency. The third is reliability. Intelligent computing training and collaboration have higher requirements on network reliability.

Moreover, cloud-native technology is becoming indispensable in unlocking the full potential of 5G and will be a prerequisite for 6G and beyond. Early adopters of this transformation stand to gain a competitive advantage, ensuring quicker functionality deployment and industry leadership.

Modern network architectures, including 5G Core and Cloud RAN technologies, have already been designed with a cloud-native approach, highlighting the inevitability of network transformation as part of modernization efforts. Industry leaders like Zain KSA are advancing Cloud RAN through partnerships with Nokia, while Mycom (newly rebranded) is enhancing network assurance via AWS. Meanwhile, du is supporting hybrid cloud transformations, and AWS is facilitating large-scale cloud transitions, such as RTA's migration.

Long-Term Investment for Sustained Growth

To sustain its growth, the telecom sector must attract long-term global investment while working closely with regulatory bodies. For instance, UAE-based CSPs should collaborate with the Telecommunications and Digital Government Regulatory Authority (TDRA) to implement forward-thinking policies, streamline regulatory procedures, and embrace digital transformation.

Li Peng, Huawei's Corporate Senior Vice President and President of ICT Sales and Service, delivered a keynote speech at the Global MBB Forum 2024. He shared his views regarding the state of intelligence within the ICT industry, and expanded on how entities can make the most of new opportunities in an era in which AI is changing every aspect of our lives and work.

AI agents will change how we work and live. They will facilitate the introduction of intelligent services everywhere and drive explosive growth in data.

Operators need a new framework to guide capital expenditure (CapEx)/ operating expenditure (OpEx) spending to ensure a strong return on investment (ROI). Instead of focusing solely on cost reductions, companies should strategically allocate investments to drive growth. A proactive approach—scouting potential partnerships, involving external stakeholders, and exploring netco-based models and mergers and acquisitions (M&As)—will attract investor interest.

> By leveraging their strengths and adapting to a rapidly evolving industry landscape, telcos can position themselves for long-term success, regardless of the strategic path they choose

For instance, center3's acquisition of CMC Networks is enhancing its global connectivity footprint, while SES's USD 3 billion acquisition of Intelsat has created a dominant multi-orbit satellite operator. ZainTECH's purchase of Adfolks has boosted its cloud and AI service offerings, and Nokia's acquisition of Infinera has advanced its optical networking capabilities. Meanwhile, Amphenol's acquisition of CommScope's Outdoor Wireless Networks business has revived the ANDREW brand, and Salam's dual strategy of selling fiber assets to TLS while acquiring a 60% stake in the company reinforces the potential of infrastructure-driven growth investments.

Similarly, academia and industry collaboration are essential to address foundational industry challenges and drive innovation.

Unconventional Verticals

Apart from traditional business growth models, telcos must explore innovative service offerings to achieve long-term success. For instance, in the automotive sector, connectivity infrastructure investments in network slicing, AI-powered radio controllers, and cloud-native architectures will optimize logistics, digital tools, advanced driver assistance systems (ADAS) technologies, and parts distribution.

This strategy extends to the broader business-to-business (B2B) space, where network application programming interfaces (APIs) can be leveraged to enhance 5G monetization and create new applications by utilizing 5G features such as speed-on-demand, low-latency connections, and edge computing. Moreover, APIs bring significant business benefits and opportunities that stand to contribute to emerging technologies such as the Internet of Things (IoT), blockchain technologies, wearable technologies, and so on.

In an exclusive interview with Telecom Review, Atul Purohit, Head of Technology, Cloud and Network Services, EMEA, delved into the intricacies of how APIs function within the framework of network monetization for operators.

Looking at the value of APIs in the medium- to long-term, high-value APIs like Quality of Service on Demand (QoD), or network slicing APIs, makes a lot of sense because the Middle East region has different use cases across various industries, such as oil and gas and ports, which are inherently ripe for high-value applications.

By investing in sustainability initiatives, the ICT industry can inherently improve its financial performance while appealing to investors, governments, and customers. With over USD 50 trillion in assets managed by environmental, social, and governance (ESG) investors, telcos prioritizing green solutions could benefit from higher valuations and external investment. Additionally, with 30-50% of corporate profits potentially impacted by environmental regulations, sustainability can be considered both a business imperative and a strategic opportunity.

To optimize energy efficiency and consequently reduce operating expenses, operators can leverage four key strategies: utilize a zero-based design approach to mobile network site creation, optimize energy through analytics, strategically innovate in energy procurement, and decommission legacy fixed networks.

An Opportunity to Embrace Digital Transformation, Internally

Telecom infrastructure is the backbone of digital transformation. Despite ongoing challenges, telcos possess valuable assets, including strong brand images, extensive customer bases, rich data sets, vast infrastructure, and skilled talent pools.

Opportunities abound for telecom operators willing to embrace internal transformation. By leveraging their strengths and adapting to a rapidly evolving industry landscape, telcos can position themselves for long-term success, regardless of the strategic path they choose. TR

Digitalization and Fraud Risks: The Role of Telcos in Ensuring Protection

Digitalization has simplified many everyday activities, from financial transactions to communication. However, beneath the surface lies a volatile system vulnerable to exploitation. As digital services expand, fraud risks grow, requiring proactive strategies to mitigate threats.

The Rising Threat of Fraud in Growing Economies

Emerging economies face heightened exposure to fraudulent tactics. In a globalized economy, where cross-border transactions are crucial, organizations across sectors must develop robust strategies to protect themselves against diverse fraud schemes. However, balancing innovation with compliance often creates vulnerabilities that fraudsters exploit.

The economic cost of cyber fraud goes beyond direct monetary losses, affecting businesses' reputations. Furthermore, from a social perspective, the victims experience psychological stress, loss of privacy, and diminished confidence in digital services.

According to Prakash Siva, Senior Vice President, Head of Technology & Architecture at Radisys, combatting rising fraud lies in delivering carrier-grade solutions that combine scalability, reliability, and cost efficiency. He noted that this approach supports applications from basic media transcoding to cutting-edge AI-driven use cases such as fraud detection.

The Role of Telcos in Fraud Protection

During the fintech panel at the 18th edition of the Telecom Review Leaders' Summit, panelist Edgard Tawk, CEO and Co-founder of Eurisko, noted that "crypto will be the next payment means," signaling a shift toward digital currencies. Abdulaziz Qambar, Group Founder and Group CEO of Fimpact Group, noted the growing influence of younger generations, stating, "Gen Z and Alpha are becoming more mobile-savvy; they want to manage their entire lifecycle through a mobile app." He described the next generation as the "real driver of fintech."

Serving as a critical component of digital finance, serving millions worldwide, mobile money platforms are prime targets for fraud. Common threats include SMS spoofing, USSD manipulation, and insider fraud.

Telecommunications companies (telcos) must enhance fraud risk assessment programs as part of their enterprise services, particularly for mobile money platforms. Their role should go beyond network security.

Telcos should provide support in exposing systems that are vulnerable to fraud and point out the loopholes across a wide threat landscape, whilst providing clear, actionable fixes to strengthen protection.

While telecom service providers must employ modern technology to combat criminal activities on their networks, early detection of fraudulent activity is the key to mitigating long-term damage, building customer trust, and ensuring a positive customer experience (CX).

Additionally, telcos should focus on raising anti-fraud awareness, educating users and businesses on emerging threats and implementing security best practices.

For example, Ericsson and INFORM, a leading provider of anti-money laundering (AML) and fraud management solutions (FMS) collaborated to support Ericsson's global customer base, including communication service providers (CSPs) and enterprises such as banks and fintech companies, in mitigating financial risks, detecting and preventing fraud, and securing their ecosystems.

Similarly, du and Nokia provide secure private 5G network solutions for the manufacturing, chemical, pharmaceutical, and utility industries, among others. "Our partnership with du will further enable industries to operate with greater efficiency and security, paving the way for a smarter future," noted Mohamed Samir, Vice President, Mobile Networks Middle East, at Nokia.

In addition, du is exploring generative AI (GenAI) solutions that drive operational effectiveness and enhance safety measures across various sectors. These AI solutions include predictive maintenance, AI-driven workplace safety protocols, video-based anomaly detection, and platforms that keep workers connected.

Similarly, the Huawei Digital Risk Control Solution protects various aspects of digital finance through technologies such as data analysis, machine learning (ML), and knowledge graphs, helping financial institutions quickly build up adaptable, quantifiable, and intelligent anti-fraud systems.

The UAE's Telecommunications and Digital Government Regulatory Authority (TDRA) runs extensive security awareness programs to enhance cybersecurity resilience. These include simulated attacks using fraudsters' own tools to identify vulnerabilities without disrupting services. The Phishing Assessment service helps assess exposure to phishing threats, while incident management systems (IMS) provide real-time alerts on potential risks. Additionally, the TDRA implements endpoint protection measures to prevent attackers from exploiting servers and devices while actively detecting intrusions.

> Effective data-driven techniques include internal structured data analysis to detect anomalies and suspicious patterns as well as AI-powered monitoring to enhance threat detection, response, and recovery

International collaborations also play a key role. Organizations such as the ITU (International Telecommunication Union), in partnership with the Internet Society, provide knowledge-sharing initiatives and training programs to combat online fraud, phishing, and cyber deception.

The Power of Data Analysis in Fraud Prevention

Fraud detection relies heavily on data analysis, particularly in areas such as disbursement and purchasing. Effective data-driven techniques include internal structured data analysis to detect anomalies and suspicious patterns as well as AI-powered monitoring to enhance threat detection, response, and recovery.

A 2024 cybersecurity study found that 91% of surveyed UAE organizations are incorporating AI into their security measures. By integrating AI and generative AI (GenAI) into foundational telecom systems—billing, customer management, and network operations—telcos can transform vast data pools into actionable insights.

Challenges in Implementing New Anti-Fraud Technologies

Fraud is a pervasive corporate problem, affecting organizations of all sizes around the world. Federal organizations should have a framework for ensuring that fraud is prevented, as far as possible, and that any fraud that does occur is detected quickly and dealt with appropriately.

While anti-fraud technologies continue to evolve, their adoption comes with challenges. Organizations must ensure seamless integration, compliance with federal regulations, and adaptability to emerging threats.

Despite these challenges, during a topical Telecom Review webinar, Obaid Rahman, Head of International Wholesale, du, underscored that AI holds the potential to enhance anti-fraud solutions and cybersecurity in the technology sector.

"AI superimposed on a software-defined network (SDN) is going to be a game changer for us. I am quite optimistic about AI applications within our wholesale sector in how we utilize it going forward."

The Future of Anti-Fraud Monitoring

The future of fraud prevention will rely on a proactive, data-driven, and globally connected approach. Institutions must continuously adapt by leveraging AI, automation, and regulatory intelligence. Some advanced strategies include:

- Leveraging machine-learning fraud detection, predictive analytics, and artificial intelligence to expose unusual patterns.
- Behavioral biometrics is an emerging technique that analyzes a user's typical behavior, from mouse movements to keystroke dynamics, and uses this data to detect anomalies that indicate fraud.
- Deep learning, a subset of AI, enables the recognition of complex patterns in large data sets, contributing to the prediction and prevention of sophisticated fraud schemes.
- Blockchain, a decentralized digital ledger of economic transactions, can ensure transaction transparency and traceability, making it difficult for fraudsters to alter or forge data.
- AI-powered chatbots and virtual assistants (VA) can detect potentially fraudulent behavior.

In an exclusive interview with Telecom Review during MWC Barcelona 2025, Erik Ekudden, Senior Vice President, Chief Technology Officer, and Head of Group Function Technology, Ericsson, elaborated on security in the wake of digitalization, stating, "I think governments are taking different routes here, but the common denominator is that networks, as critical infrastructure, require guardrails for what you do for in-country operations and global activities. Enterprises also have their own security and privacy requirements."

"As an industry, we have a responsibility to take these requirements seriously, and we are well-positioned to do so, whether in local networks serving enterprises, government sectors, or nationally critical infrastructure like public safety. These systems not only follow interoperable open standards but also incorporate security architectures that ensure security and privacy-by-design."

In Conclusion

As digital transactions grow, so do fraud risks. Telcos must take a proactive stance by enhancing fraud detection, implementing AI-driven security solutions, and fostering awareness programs.

Combining fraud detection systems with risk management and cybersecurity tools can create a comprehensive defense framework. By collaborating with governments and global entities, they can create a more secure digital environment, ensuring both innovation and protection go hand in hand. TR

Telcos must take a proactive stance by enhancing fraud detection, implementing AI-driven security solutions, and fostering awareness programs

Enhancing Network Operations Efficiency with AI

Over the years, artificial intelligence (AI) has rapidly transformed the digital landscape, offering unprecedented opportunities to enhance efficiency, scalability, and security.

According to a study by global networking systems and software provider, Ciena, AI is poised to enhance network operational efficiency by 40% or more, reflecting AI's transformative potential to reshape network management. This will significantly enable telecom operators to meet the growing demands of an increasingly connected world.

As we navigate network intricacies, AI adoption promises to revolutionize network operations. By leveraging intelligent automation and predictive capabilities, enterprises can attain greater efficiency while scaling.

The Future of Network Management

Integrating AI into network operations presents both an opportunity and a challenge. The complexity of modern networks has increased due to the growing cloud adoption, the proliferation of Internet of Things (IoT) devices, and the demand for higher bandwidth.

AI has emerged as a key player in ensuring efficiency, scalability, and security while addressing issues by automating network functions including traffic monitoring, resource allocation, and predictive maintenance. Through predictive analytics, AI can analyze vast amounts of real-time data, identifying patterns that signal potential failures.

During LEAP 2025, Telecom Review spoke with Roque Lozano, Senior Vice President of Network Infrastructure MEA at Nokia, to explore the evolution of network management. He explained that across the Middle East and Africa, countries are making significant investments in digital research, with AI-driven digital decision-making becoming increasingly vital in network management.

This shift is only possible with a highly reliable and adaptable network—one that can dynamically redistribute workloads based on service-level agreements (SLAs), demand fluctuations, traffic conditions, and network status.

Typically, traditional network monitoring relies on diagnosing the problem after the impact has occurred. With AI, network systems become self-aware, enabling the prediction of potential failures such as service disruptions. This feature will significantly speed up the troubleshooting process and enhance security.

By 2025, AI-driven automation is projected to reduce operational expenditures (OpEx) by up to 40% and increase return on investment (ROI) by 10-15%, according to global management consulting firm, Oliver Wyman. Moreover, Gartner expects that AI will evolve from a tool to a key player in network management, with a prediction that 60% of companies will adopt AI-enabled predictive automation across all domains. This data indicates the growing importance of AI in global business operations.

Navigating the Challenges in Network Operations

Managing network operations has

become increasingly challenging as networks have become more complex. Legacy systems often lack compatibility with advanced AI technologies, requiring substantial infrastructure upgrades. The large volumes of data processed by AI models can strain existing systems. This will also demand robust data governance frameworks to ensure accuracy and security.

Ned Taleb, Co-founder and CEO, Reailize, shared that the 5G ecosystem inherently presents compounding challenges as it is vast, particularly as the industry transitions from VoLTE to VoNR. Hence, Reailize is pursuing AI-enabled network operations and solutions within the 5G ecosystem.

Our focus lies in automated network diagnostics, which is not only applicable in labs but, more importantly, in live operations. We have developed an innovative approach that enables telcos to achieve quick wins with little integration effort by leveraging sophisticated AI algorithms and continuous learning models.

Moreover, cybersecurity remains a critical concern. AI's integration with network operations has paved the way for new attacks to surface, making security a necessity in the network landscape.

Network performance can be significantly impacted when network operations experience congestion, packet loss, and downtime issues. Delays in data transmissions can disrupt real-time applications while packet loss and downtime can further exacerbate network problems.

The lack of skilled professionals in the field continues to pose a hurdle in maintaining the efficiency and reliability of network operations. Organizations are actively looking for professionals with specific technological skill sets to match the rapidly evolving digital landscape.

Enhancing Efficiency in Network Operations

The efficiency of network operations has become a critical focus for enterprises and organizations worldwide. This has prompted technology companies to explore the power of agentic AI to improve network operations.

NVIDIA and its partners are developing new large telco models (LTMs) and AI agents custom-built for the telco industry using NVIDIA NIM and NeMo microservices within the NVIDIA AI Enterprise software platform. NVIDIA's AI agents are poised to automate complex decision-making workflows, enhance network performance and operational efficiency, and increase employee productivity. SoftBank and Tech Mahindra have followed, building new LTMs and AI agents.

Cisco has launched various AI-powered solutions to enhance network operations, including the Cisco Meraki platform, Cisco Catalyst Center, and Cisco ThousandEyes. These networking solutions simplify operations, improve support, decrease costs, and mitigate the information and technology (IT) skills gap. In February 2025, Cisco's AI-powered, cloud-managed networking platform, Meraki for Government, achieved Federal Risk and Authorization Management Program (FedRAMP) authorization. This innovative solution, tailored for the United States public sector, helps agencies maintain and enhance network reliability and security, optimize network performance, and increase efficiencies for IT staff.

Meanwhile, Amazon Web Services (AWS) utilizes generative AI (GenAI) to streamline network and service lifecycle management. In collaboration with Amdocs, AWS has developed a solution that transforms network operations. Amdocs Intelligent OSS cloud-native solutions harness the capabilities of AWS's cloud to simplify operations. This joint solution can detect anomalies and identify patterns for immediate remediation.

In an exclusive interview with Telecom Review, Mikko Lavanti, SVP, Mobile Networks, Nokia MEA, explained that Nokia has introduced AI into many of its solutions, also embedding AI into its market-leading MantaRay platform, which facilitates network optimization and automation.

Last year, at Hajj, we were very proud to announce the successful deployment of our MantaRay Cognitive SON—our AI-powered, self-organizing networks solution—into stc Group's commercial network. This leading platform for network optimization and automation displayed impressive results during the event and significantly improved network quality autonomously, reducing manual intervention and cost while maintaining best-in-class performances.

As organizations continue to explore innovative technologies for network optimization, the focus remains on establishing smarter and more resilient networks. Embracing the power of AI-driven networks can catapult businesses to new heights.

AI's Potential is Limitless

AI's transformative power is reshaping network operations globally, simplifying complex processes, enhancing efficiency, and ensuring reliability. From automating repetitive tasks to enabling real-time decision-making, AI has become an indispensable icon in the modern digital landscape.

According to Saleem Alblooshi, CTO, du, "The next wave of traffic growth will be powered by AI."

We're forecasting a six-fold increase in traffic, with 33% of it being AI-driven. Our role is two-fold: expand the network to accommodate this surge and adopt AI to make the network itself smarter.

As we navigate an increasingly interconnected world, the integration of AI into network operations is not just an option but a necessity. The proliferation of upcoming technologies will create complex networks, making traditional methods insufficient.

Companies must embrace AI-enhanced network operations to unlock the full potential of their networks while delivering exceptional user experiences. TR

Nokia Completes World's First 5G SA mmWave Spectrum-Sharing Trial

Nokia, together with TAWAL, stc, and Zain, supported by the Communication, Space and Technology Commission (CST), successfully completed the world's first 5G standalone (5G SA) mmWave spectrum-sharing trial during LEAP 2025 in Riyadh, using 800 MHz bandwidth in the 26 GHz band.

The trial utilized Nokia's advanced AirScale mmWave products combined with multi-operator core network (MOCN) active sharing technology, enabling multiple operators to share the same active radio network infrastructure without compromising network performance, reliability, or security.

This innovative approach enables communication service providers (CSPs) and enterprises to efficiently share advanced network infrastructure, offering superior performance at a lower cost. It further enables TAWAL to provide shareable active Infrastructure-as-a-Service (IaaS), effectively expanding their service offerings and revenue potential.

Saudi Arabia is experiencing rapidly increasing demand for ultra-high-speed mobile connectivity, driven by major upcoming events, including Expo 2030. This growth requires robust, cost-efficient, and high-capacity mobile solutions that can be rapidly deployed at large-scale venues like shopping malls, airports, stadiums, and exhibition centers.

TAWAL is strategically positioned to fulfill this demand by leveraging the upcoming mmWave spectrum release. Nokia's AirScale mmWave and active radio access network (RAN) sharing technology uniquely address this challenge, enabling rapid deployment, enhanced spectrum utilization, and significant cost savings.

Mohammed bin Abdulaziz Alhakbani, CEO of TAWAL, said, "We are pleased to achieve this successful experience in partnership with stc, Zain KSA, and Nokia and by the enablement of CST. This achievement sets a new benchmark in indoor and outdoor connectivity and reinforces our commitment to leveraging the latest technologies to deliver innovative solutions that meet the evolving needs of our customers."

Mikko Lavanti, Head of Middle East and Africa at Nokia, said, "This trial demonstrates the transformative potential of 5G mmWave and active sharing technology. By collaborating closely with innovative infrastructure partners like TAWAL, we are enabling a new model for shared connectivity infrastructure that enhances performance, efficiency, and end-user experience. This approach will set a benchmark for future smart venues and giga projects across Saudi Arabia and beyond."

TAWAL Teams Up with ZTE to Spearhead Digital Evolution in Saudi Arabia

ZTE Corporation, a global leading provider of integrated information and communication technology (ICT) solutions, has signed a strategic agreement with TAWAL, the first towerco in the Kingdom of Saudi Arabia, specializing in designing, building, and managing state-of-the-art telecom towers, to drive innovation and accelerate digital transformation across various sectors.

The partnership aims to promote the adoption of modern technologies and integrate state-of-the-art solutions to support TAWAL's digital transformation strategy.

ZTE and TAWAL have exchanged constructive views on future cooperation in Saudi Arabia and international markets, reaching agreements on several key areas, including tower solutions, energy solutions, and indoor coverage. Both parties are committed to enhancing site security, knowledge transfer, and the development of innovative solutions.

Mohammed Alhakbani, CEO of TAWAL, commented, "This partnership with ZTE marks a significant step forward in our mission to facilitate digital transformation. By leveraging advanced technologies, we aim to deliver innovative solutions to empower businesses and communities across the region."

Xiao Ming, President of ZTE Overseas, stated, "We are honored to collaborate with TAWAL in this transformative journey. Together, we will leverage our expertise to accelerate digital innovation and create a future-ready ecosystem that supports the evolving needs of the market."

Privacy-First Data Analytics: Rethinking How We Harness Information

In 2006, data was coined "the new oil" of the economy by British mathematician, Clive Humby. Over 18 years, privacy concerns have generally created barriers to its full utilization, leading to the globalized perception that data analytics and privacy are inherently at odds. However, in 2025, this view is arguably limiting as businesses can adopt various strategies that balance privacy protection with effective data analysis.

The emergence of privacy-first data analytics embraces this balance, offering an approach that safeguards personal information while still providing valuable insights. By leveraging techniques designed to protect confidentiality, organizations can analyze data responsibly without compromising individual privacy.

Here are some key aspects and principles associated with privacy-first data analytics:

1. **Data Minimization:** Limiting the collection and retention of personal data to only what is necessary for analysis purposes.
2. **Anonymization and Pseudonymization:** Techniques like anonymization (removing identifiable information) and pseudonymization (replacing identifiable information with pseudonyms) are used to protect privacy while facilitating meaningful analysis.
3. **Differential Privacy:** A mathematical framework that adds noise to datasets to prevent the identification of individuals while still ensuring accurate analysis at an aggregate level.
4. **Privacy by Design:** Integrating privacy considerations into the design of data analytics processes and systems from the outset. It is strongly recommended to implement this to prioritize privacy in digital systems.
5. **Secure Computation:** Using cryptographic techniques such as homomorphic encryption to perform computations on encrypted data without decrypting it, thereby preserving privacy.
6. **Transparency and Accountability:** Providing clear information to individuals detailing how their data is used and taking accountability for data handling practices.
7. **Regulatory Compliance:** Adhering to legal and regulatory requirements related to data privacy, such as the General Data Protection Regulation (GDPR) in Europe or the California Consumer Privacy Act (CCPA) in California.
8. **Ethical Considerations:** Ensuring that data analytics practices are conducted ethically, respecting individual rights and avoiding harmful outcomes.

ICT: Balancing Data-Driven Innovation

As organizations strive to harness the power of data, the need for privacy-first analytics is becoming more crucial. With digital transformation accelerating, businesses must strike a balance between unlocking valuable insights and safeguarding data privacy and security.

1. Telecom and Network Security

It's common knowledge that telecom operators collect massive datasets via mobile networks, call records, and internet usage. Through privacy-first analytics, they can analyze network performance, detect fraud, and optimize services without exposing personal data. Differential privacy helps telecom providers analyze user behavior patterns without revealing individual identities.

Researchers have already investigated the application of federated learning—a decentralized machine learning (ML) approach—to predict traffic in 5G base stations. Through this method, multiple base stations collaboratively trained models without sharing raw data, thereby preserving user privacy. The study showcased federated learning's potential in enhancing network performance while upholding data confidentiality.

2. AI and Big Data in ICT

AI-driven analytics in the ICT sector relies on training models using vast datasets. Privacy-enhancing technologies (PETs) such as federated learning allow AI models to be trained on decentralized data without transferring raw user data. For example, Google's federated learning on mobile devices improves predictive text and voice recognition without sending private data to central servers.

In 2023, Saudi-based tech startup, Lucidya, unveiled Luci, an AI-powered virtual analyst designed to provide insights and recommendations based on customer interactions. Lucidya emphasizes data privacy in its analytics solutions, ensuring that businesses can enhance customer experiences (CX) without compromising individual privacy.

3. Smart Cities and IoT

ICT is a backbone of smart city infrastructure, where sensors and Internet of Things (IoT) devices collect data to optimize traffic, energy use, and public services. Privacy-first analytics ensures that citizens' personal data remains secure while offering valuable insights.

By leveraging techniques designed to protect confidentiality, organizations can analyze data responsibly without compromising individual privacy

Researchers in the UAE developed a mechanism combining blockchain and federated learning to preserve the privacy of healthcare IoT data. This approach collaboratively trains machine-learning models across multiple devices without centralizing sensitive patient data, enhancing both privacy and predictive accuracy in healthcare analytics.

4. Cloud Computing and Data Storage
Cloud providers handle vast amounts of sensitive user data. Privacy-first approaches, such as zero-trust architectures and end-to-end encryption (E2EE), ensure that only authorized users can access data, reducing exposure to cyber threats. Secure multi-party computation (MPC) enables different cloud service providers (CSPs) to analyze encrypted datasets collaboratively without revealing raw data.

5. Regulatory Compliance in ICT
With stringent data protection laws like the GDPR and CCPA, ICT companies must ensure compliance while leveraging analytics. Privacy-first strategies help them adhere to these regulations without compromising innovation. Telecom companies must anonymize customer data when sharing insights with third-party vendors to comply with privacy regulations.

Moreover, in February 2025, Qatar's government entered a five-year partnership with Scale AI to integrate artificial intelligence (AI) into public services. The collaboration aims to enhance efficiency through predictive analytics and data analysis while ensuring data privacy and security.

6. Digital Identity and Authentication
ICT-driven identity management systems are increasingly using privacy-first approaches, such as self-sovereign identity (SSI), where users control their own data and share only the necessary details. Decentralized identity frameworks in blockchain-based authentication verifies a user's credentials without exposing personal information.

In 2023, Eurostat, the statistical office of the European Union (EU), explored the utilization of mobile network operator (MNO) data to generate official statistics on human mobility. To ensure individual privacy, the project employed a trusted execution environment provided by Cybernetica's Sharemind technology. Through this approach, data was analyzed without exposing personal information, demonstrating the scalability and potential of privacy enhancing technologies (PETs) in statistical computations.

7. Cybersecurity and Threat Detection
Privacy-first analytics helps detect cybersecurity threats by analyzing encrypted traffic patterns instead of raw data. This approach enhances security without violating user privacy. AI-driven threat detection in internet service providers (ISPs) can analyze encrypted network metadata to identify potential cyberattacks.

Additionally, in December 2024, the U.S. Federal Trade Commission settled with data brokers for unlawfully collecting and selling sensitive location data without user consent. The data tracked individuals' visits to sensitive locations, raising significant privacy concerns. As part of the settlement, the companies agreed to cease using such data and implement opt-out mechanisms, marking a pivotal move in regulating data brokerage practices.

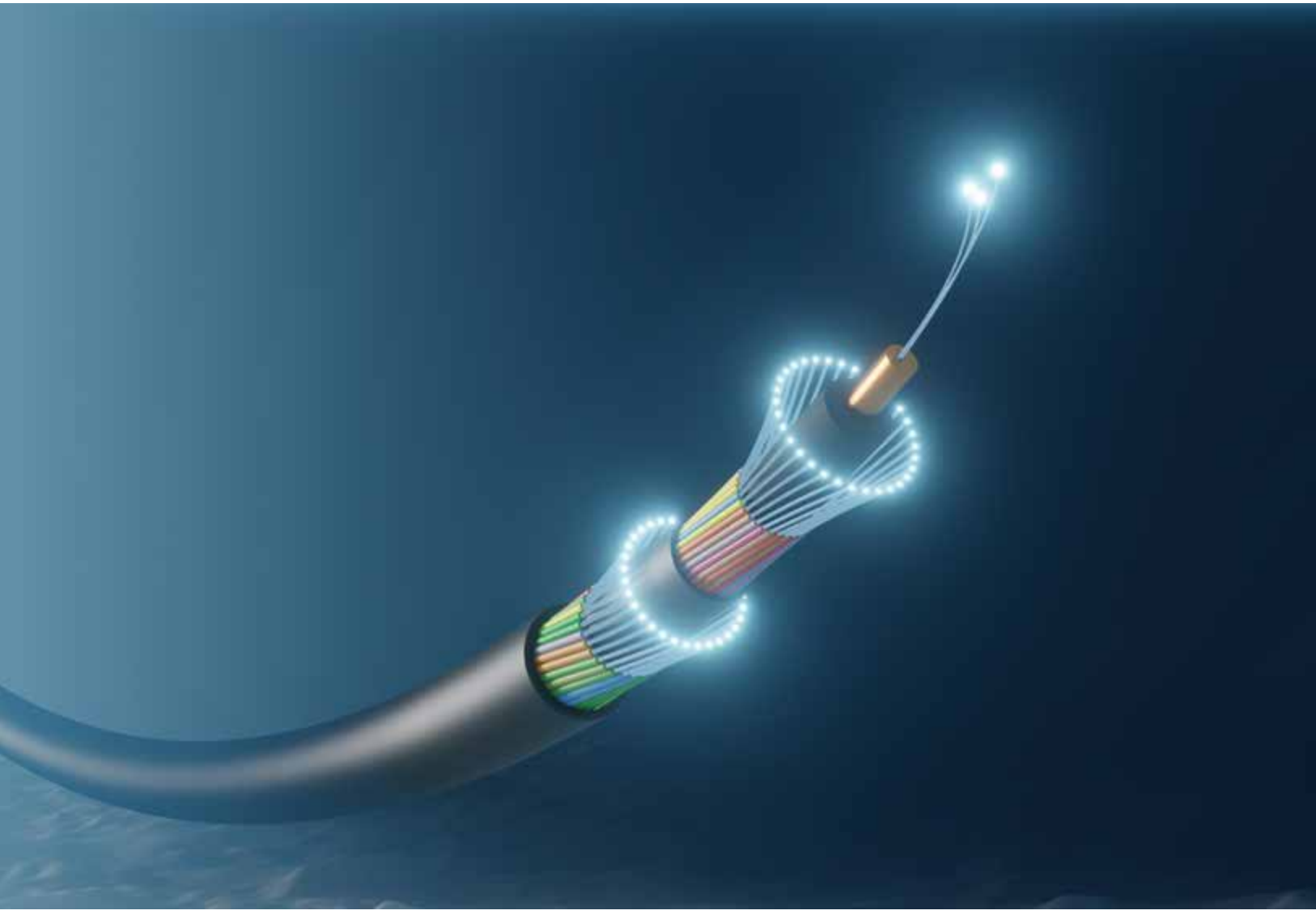
The Evolution of LLMs in a Privacy-First Era

Balancing data-driven insights with privacy protection is a growing challenge in today's digital landscape. With the accelerated boom of artificial intelligence, large language models (LLMs) offer a powerful solution as they can analyze, interpret, and generate human-like text while adhering to privacy-first principles. By embedding privacy at their core, LLMs can transform enterprise data analytics, delivering valuable insights without compromising security or regulatory compliance.

Privacy-enhancing techniques such as pseudonymization, anonymization, and tokenization can be strengthened through LLMs, helping businesses extract meaningful information while keeping personally identifiable data secure. These models can also help organizations navigate complex regulatory landscapes by identifying compliance risks, flagging potential violations, and suggesting corrective actions.

Beyond compliance, LLMs can unlock critical customer insights from surveys, reviews, and social media while preserving user anonymity. By integrating advanced privacy frameworks like differential privacy, federated learning, and secure computation, LLMs are shaping a future where businesses can harness the power of data responsibly, maximizing innovation while upholding strict privacy standards. TR

Privacy-enhancing techniques such as pseudonymization, anonymization, and tokenization can be strengthened through LLMs



Navigating the Depths: Overcoming Multinational Challenges in Subsea Cable Projects

Constructing a submarine cable network spanning thousands of kilometers across challenging ocean depths is a monumental undertaking in the telecommunications industry. These modern marvels of fiber-optic technology facilitate terabit-speed data transmission, meeting the soaring demand for high-speed internet connectivity worldwide.

Subsea cable projects are complex endeavors that require meticulous planning and multinational collaboration from inception to completion. Early-stage considerations include project structure, financing, and business viability, all of which are crucial for success.

Historically, international consortiums have been pivotal, originally connecting state-owned telecom networks for global voice and data services. More recently, private entities and consortiums, including tech giants such as Meta, Google, Microsoft, and AWS, have joined, not only as capacity purchasers but also as co-owners and builders of these critical infrastructure projects.

Despite the technological advancements, subsea cable projects often face significant challenges. Project timelines, typically one-to-three years, can extend due to non-technical complications, delaying the ready-for-service (RFS) date. The costs, reaching hundreds of millions, necessitate flexibility in project management to accommodate changes over the project's lifespan. Furthermore, the geopolitical landscape adds another layer of complexity.

Addressing these challenges requires clear contractual frameworks to manage variations swiftly and accurately, ensuring minimal disruption to project delivery. From financial structuring to geopolitical considerations, effective multinational collaboration remains essential for navigating the complexities of delivering these vital networks.

Cultural Differences and Misalignment of Goals

One of the greatest challenges in implementing multinational subsea cable projects is navigating cultural differences and misaligned priorities among stakeholders from different countries. These projects often involve a mix of public and private entities, each with distinct business strategies, regulatory frameworks, and geopolitical interests.

A key issue is the ongoing competition between global powers over submarine cable ownership and security. The United States and China have increasingly engaged in a struggle over subsea infrastructure, with cybersecurity and espionage concerns driving restrictions on Chinese involvement in cable projects. This tension has forced European policymakers to reassess their own strategies, leading to growing caution about working with certain vendors. However, Europe also faces internal conflicts, particularly in the wake of the dominance of the U.S. cloud. The rise of these hyperscalers has sparked debates over market control and European telecom firms' ability to compete.

Historical and geopolitical tensions further complicate cooperation. Trans-Arctic cable projects, which could have provided alternative routes to ease congestion in the global network, have repeatedly failed due to geopolitical instability, regulatory challenges, and a lack of aligned interests. Projects such as the Russian Optical Trans-Arctic Submarine Cable System (ROTACS) and Arctic Connect collapsed as partners withdrew, often for political reasons. Russia's own Polar Express project was also sidelined by geopolitical isolation following its 2022 invasion of Ukraine.

Even when stakeholders share a common technical goal—in this case, expanding global connectivity—conflicting national interests, regulatory barriers, and economic competition often delay or derail projects.

Regulatory, Legal, and Environmental Challenges

With subsea cable projects spanning multiple jurisdictions, companies must navigate complex compliance requirements, permitting processes, and environmental regulations, all of which can impact timelines and costs.

By nature, subsea cable projects require coordination between multiple stakeholders, including private operators, government agencies, and scientific organizations. The implementation of Science Monitoring And Reliable Telecommunications (SMART) cables, for example, necessitates unprecedented collaboration between scientific institutions and cable system suppliers to enhance ocean monitoring. However, securing governmental approvals can be difficult, particularly in emerging markets where legal frameworks are less developed, regulatory processes are slow, and transparency is limited. Additionally, some nations impose localization rules, requiring foreign companies to use local professionals, which adds another layer of complexity to project execution.

Major technology companies have invested heavily in subsea infrastructure, advocating for open access and industry-wide collaboration. However, ensuring open and neutral access to these systems often requires extensive legal reviews of procurement frameworks and government financing policies. A strong legal strategy is essential to minimize the risks of regulatory roadblocks and ensure compliance with international standards.

“From financial structuring to geopolitical considerations, effective multinational collaboration remains essential for navigating the complexities of delivering these vital networks”

- **Challenges in Permitting**

The permitting process is one of the most significant obstacles in subsea cable deployment. From securing rights-of-way (ROW) for cable landing stations to obtaining environmental clearances, delays can lead to substantial financial losses. In some cases, the permitting process for beach manholes and cable landing stations (CLS) is straightforward at the national level but complicated at the municipal level, where local governments impose costly and time-consuming regulations.

Delays in obtaining permits not only affect project timelines but also drive up costs, particularly when specialized vessels are involved. With only around 60 cable-laying ships available worldwide, according to the International Cable Protection Committee (ICPC), scheduling conflicts can have serious financial consequences. Operators must either pay costly standby fees or risk losing ship availability to other projects.

The case of MAREA, one of the fastest subsea cables in the world with a transmission capacity of 200 Tbps, highlights the importance of efficient permit management. Streamlining the regulatory process resulted in timeous project completion, demonstrating how proactive legal planning can foster project success.

- **Environmental Considerations**

In many regions, environmental compliance is a key factor to consider when securing subsea cable project approvals. Saudi Arabia, for example, has strict environmental policies enforced by the Ministry of Environment, Water and Agriculture (MEWA) and the National Center for Environmental Compliance (NCEC). Regulations require detailed environmental impact assessments for marine projects, including submarine cables, to ensure minimal disruption to marine ecosystems.

Given the harsh and dynamic conditions of the ocean floor, legal teams must work closely with engineers to assess seabed conditions, mechanical stresses, and ecological risks. A thorough understanding of local environmental laws ensures that projects align with sustainability goals while avoiding costly legal disputes.

In an industry where time is money, regulatory and legal preparedness can mean the difference between a smooth rollout and a multi-year delay.

Risk Management

Before launching a submarine cable project, conducting a thorough risk assessment is crucial. Potential risks include route planning challenges, cable design flaws, installation difficulties, and long-term maintenance requirements. By identifying these risks early, project teams can implement redundancy and resilience measures, engage experienced partners, and develop contingency plans to address disruptions.

With this in mind, managing risks in multinational subsea cable projects requires a proactive approach to financial, operational, and regulatory uncertainties. Given the scale of investment and complexity involved, operators must adopt robust risk mitigation strategies to ensure project viability and long-term success.

To minimize financial exposure, many cable projects now employ sophisticated structures that optimize benefits while reducing risks. Partnerships with government entities can provide essential rights and licenses, adding credibility to the project, while landing partners and onward capacity providers contribute strategic value. A key risk management strategy is securing significant capacity sales before the ready-for-service (RFS) date. Pre-sale down payments, often facilitated by landing station providers or network operators, help stabilize cash flow and mitigate uncertainties in long-term indefeasible rights of use (IRUs).

A supplier-led solution (SLS) has emerged as an effective approach to reducing both financial and operational risks. This model integrates standardized processes and subsea boosting technology, resulting in a 41% reduction in capital expenditures (CapEx) and an accelerated project schedule to a case study. Additionally, streamlined bidding processes and shorter equipment lead times enhance predictability and minimize execution risks. By leveraging a SLS, operators can lower contingency costs and improve overall project economics.

Conclusion

Submarine cable projects stand at the heart of global connectivity, enabling the seamless exchange of data across continents. However, delivering these complex infrastructure projects requires more than just cutting-edge technology; it demands strategic foresight, risk management, and multinational collaboration.

Overall, the success of a submarine cable project is not just measured by its technical achievements but by its resilience in the face of uncertainty. By combining technological advancements with strategic risk management and international cooperation, the industry can continue to build the backbone of the digital world, ensuring connectivity for generations to come. TR

> The success of a submarine cable project is not just measured by its technical achievements but by its resilience in the face of uncertainty

Vietnam Approves SpaceX's Starlink for Trial Internet Service

Vietnam has granted SpaceX approval to trial its Starlink satellite internet service in the country. The trial period will run until the end of 2030 with no restrictions on foreign ownership; however, the project must comply with national defense and security regulations.

According to the government, during the trial, subscriber numbers will be capped at 600,000. The Ministry of National Defense, the Ministry of Public Security, and the Ministry of Science and Technology have been tasked with overseeing the implementation of the project.

Starlink's permitted services in Vietnam will include fixed satellite internet access and private leased channel services for mobile receiving and transmitting stations. Additionally, mobile satellite services offering internet access at sea and on airplanes will also be available.

The satellite internet provider is currently operational in over 120 markets globally. Starlink previously conducted a test at an expo in Hoa Lac, Hanoi, in October 2023, where the recorded internet speed reached approximately 200 Mbps.

DZS Shuts Down U.S. Operations: End of an Era for Broadband Pioneer

DZS, a longtime provider of broadband access and connectivity solutions, has officially entered Chapter 7 bankruptcy proceedings, leading to the immediate shutdown of its U.S. operations and termination of all employees.

A Chapter 7 Trustee will be appointed to oversee the liquidation process, including the evaluation of the company's foreign subsidiaries and affiliates.

Although DZS's subsidiaries in Germany, the United Kingdom, and Australia are not part of the U.S. liquidation process, they are expected to experience operational disruptions, particularly in IT and software-related functions. The company has assured stakeholders that it is seeking pathways to minimize these impacts, but near-term business challenges remain.

For over 25 years, DZS developed high-speed, secure broadband solutions for global service providers. However, in recent years, the company has struggled to balance its technology investments with financial stability. For nearly two years, the company had been working to optimize costs and secure new capital to sustain operations. However, efforts to obtain additional funding or explore alternative strategic options ultimately failed.

"The company has been working with extreme urgency to obtain a new working capital facility that would maintain the business and has otherwise been evaluating all possible strategic alternatives. Unfortunately, we have not been successful in those efforts," the company stated.

A Symptom of Industry-Wide Financial Pressures

DZS's downfall highlights the broader financial risks facing technology providers in the telecommunications sector. The industry is experiencing mounting pressure from capital-intensive infrastructure investments, rising operational costs, and shifting market dynamics. With increasing competition and tightening budgets, companies reliant on sustained funding for innovation are increasingly vulnerable.

While DZS hopes that its broadband access, connectivity, and cloud software solutions will attract buyers through the asset liquidation process, its collapse serves as a stark reminder of the financial volatility that continues to shape the telecom infrastructure landscape.

Norway's 2G Network Shutdown: Telia and Telenor Partner for Smooth Transition

Norway is set to begin phasing out its 2G network this autumn, with mobile operators Telia and Telenor joining forces to ease the transition to modern technology.

The companies have launched a dedicated website, www.byttnettnå.no, offering resources and guidance for individuals and businesses navigating the switch.

After more than 30 years of service, 2G will soon be decommissioned. Mobile operators have long signaled their intent to gradually shut down the network starting in 2025. Devices relying on 2G connectivity will cease to function, impacting users across various sectors, including municipalities, organizations, and service providers.

To raise awareness and ensure a smooth transition, Telia and Telenor are spearheading a nationwide campaign. By encouraging early adoption of newer technologies like 4G, 5G, and fiber, the operators aim to prevent disruptions to critical services and communication channels.

Telia plans to commence its 2G network shutdown in August 2025. Telenor, prioritizing continuity for essential services such as security alarms in healthcare, will follow with its shutdown on December 31, 2027. Both companies are aligning their efforts with broader trends across Europe to ensure a seamless transition.

Ofcom to Enforce Stricter Rules to Combat Illegal Content

Ofcom will start enforcing stricter regulations to compel social media platforms, search engines, and messaging apps to swiftly remove illegal content.

The measures, introduced under the Online Safety Act (OSA), aim to reduce harmful material and prevent the spread of false information that could incite violence.

Ofcom will assess whether tech companies are complying with the new illegal content obligations. The OSA mandates platforms to conduct risk assessments to evaluate the likelihood of illegal content appearing on their services. For messaging services, this includes evaluating the potential for criminal activities facilitated through their platforms.

The regulations classify 17 types of priority illegal content, including terrorism, child sexual abuse, suicide promotion, stalking, and drug-related crimes.

Platforms will be required to enhance content moderation, streamline reporting systems, and conduct safety tests. A designated senior executive will be held accountable for ensuring compliance.

Additionally, companies must ensure their moderation teams are adequately trained and resourced, setting performance benchmarks for the prompt removal of illegal material. Platforms will also be responsible for adjusting algorithms to limit the spread of harmful content.

Egypt to Launch 5G by 2025, Boosting Connectivity and Investment

The highly anticipated launch of 5G technology is set to significantly strengthen Egypt's ICT sector, drive greater competitiveness, and attract increased investment into its digital economy. According to several reports, Egypt is on track to roll out 5G by 2025, with the promise of providing faster internet speeds, lower latency, and a more reliable network experience.

This transformative initiative will be led by Egypt's four major telecom operators—Telecom Egypt, Vodafone Egypt, Orange, and Etisalat—each playing a critical role in the nationwide deployment. The introduction of 5G is expected to not only improve connectivity across the country but also accelerate Egypt's digital transformation, positioning it as a regional leader in technological advancement and innovation. The rollout of 5G will undoubtedly contribute to the growth of the digital economy, unlocking new opportunities for businesses, entrepreneurs, and consumers alike.

5G Expansion to Drive Singapore's Telecom Revenue Growth

The increasing use of 5G services in Singapore is expected to boost revenue and innovation in the telecom industry, offsetting the decline in mobile voice service revenue. By the end of 2029, the total mobile service revenue in the country is projected to reach USD 2 billion, growing at a steady compound annual growth rate (CAGR) of 0.8% from 2024 to 2029, according to GlobalData.

GlobalData's Singapore Mobile Broadband Forecast (Q4-2024) indicates that mobile voice service revenue will decrease at a CAGR of 5.4% over the forecast period due to the increasing use of over-the-top (OTT) communication platforms by consumers, leading to a drop in voice service average revenue per user (ARPU). On the other hand, mobile data service revenue is expected to grow at a healthy CAGR of 5.2% between 2024 and 2029, driven by the rising consumption of mobile data services and the expected increase in higher-ARPU 5G subscriptions as 5G services become more widely available in the country.

Kantipudi Pradeepthi, a Telecom Analyst at GlobalData, predicts that 4G will remain the dominant mobile technology in terms of subscriptions until 2024. However, 5G subscriptions are expected to surpass 4G subscriptions in 2025 and are projected to make up 90% of total mobile subscriptions by the end of 2029. This growth in 5G subscriptions will be fueled by the increasing demand for high-speed data services, the ongoing expansion of 5G networks by mobile network operators (MNOs), and the subsequent increase in 5G service availability nationwide.

Singtel is expected to maintain its lead in the mobile services market in terms of subscriptions through 2029, due to its strong presence in both prepaid and postpaid segments and its focus on developing and expanding 5G networks across the country. In February 2025, Singtel upgraded its 5G service to 5G+ by deploying the 700 MHz spectrum, resulting in stronger signals (up to 40%) in high-rise indoor and underground locations, wider coverage in remote areas, and improved connectivity for consumers and businesses.

Pradeepthi concluded, "Singapore's telecom market is undergoing a pivotal transformation, with 5G adoption serving as the key driver of future growth. The shift towards data-centric services, coupled with strong infrastructure investments by major players like Singtel, will not only sustain market stability but also pave the way for innovation in IoT (Internet of Things), M2M (machine-to-machine) services, and advanced connectivity solutions, positioning Singapore as a regional telecom leader."

Venezuela's SuperCable Loses License Following Regulatory Review

Venezuela's National Telecommunications Commission (Conatel) has officially revoked the administrative licenses of SuperCable ALK Internacional SA, effectively ending the company's authorization to operate in the country.

The decision follows an extensive administrative and legal review, during which Conatel identified significant operational irregularities.

Despite the revocation, the regulatory body has granted SuperCable a 60-day transition period to continue limited operations. This measure aims to ensure that affected users can smoothly migrate their services to other authorized providers without disruption.

According to Conatel, SuperCable ALK Internacional SA ceased its telecommunications services without prior notice to the regulatory body or its customers, violating compliance obligations.

Authorities confirmed that the company was given ample opportunity to present its defense under Venezuela's legal framework, including the Constitution of the Bolivarian Republic of Venezuela, the Organic Law of Administrative Procedures, and the Organic Law of Telecommunications.

However, the investigation revealed a persistent pattern of non-compliance with contractual and regulatory requirements, ultimately leading to the sanction.

Regulatory Challenges in the Venezuelan Telecom Industry

Venezuela's telecommunications industry operates under a heavily regulated framework, with Conatel overseeing compliance among service providers. Telecom operators face strict obligations, including service continuity, consumer protection, and regulatory transparency. Any failure to adhere to these requirements can result in severe penalties, including fines, service suspensions, and license revocations.

'Made in Canada' Framework Proposed for Canada's AI Leadership

Deloitte Canada's Future of Canada Center has released a new report outlining a strategic framework for the country to maintain its global artificial intelligence (AI) leadership.

Titled 'Building Canada's Brightest AI Future,' the report emphasized the need for a 'Made in Canada' approach to AI development, prioritizing ambition, trust, equity, and sustainability.

The study found that only 26% of Canadian organizations have implemented AI, compared to 34% globally. This lag in AI adoption can result in Canada missing out on a potential 5-7% boost in gross domestic product (GDP) over the next decade.

Several obstacles to Canada's AI adoption were identified, including slow business investment in technology, risk aversion, barriers to IP commercialization, and a trust gap among Canadians.

To overcome these challenges, the report suggested a strategic roadmap with three interconnected imperatives: defining ambition focusing on value creation; building trust by cultivating responsible AI, supporting AI literacy, and promoting human-AI synergy; and committing to AI for good by prioritizing equitable and sustainable AI.

Jas Jaaj, Global AI Ecosystems and Alliances Leader and Managing Partner of AI for Deloitte Canada, highlighted, "Canada has led the way in AI with world-class talent, groundbreaking research, early public investment, and strategy. However, as the technology moves from experimentation to implementation, we now face a choice: create a homegrown AI action plan today or inherit someone else's tomorrow."

Kenya's DigiTruck Initiative Equips 290 Youth in Homa Bay with Digital Skills

Over six weeks, Huawei's TECH4ALL digital inclusion initiative trained 290 youth—143 women and 147 men—providing them with essential digital skills in computer literacy, digital marketing, entrepreneurship, financial literacy, and cybersecurity. This training empowers them to navigate the digital world safely and confidently.

"Digital skills are no longer optional; they are mandatory. Whether starting an online business, working remotely, or leveraging technology, digital literacy unlocks opportunities," said Dr. Raymond Omollo, C.B.S., Principal Secretary for the State Department for Internal Security and National Administration of Kenya.

The DigiTruck, a fully solar-powered mobile classroom mounted on the back of a truck, delivers digital training to remote communities. Equipped with workstations, internet connectivity, and digital tools, it has provided free training for 6,030 youth across 36 counties since its launch in 2019. In 2024 alone, 906 of the 1,648 trainees were women.

"In addition to our university training partnership with over 60 universities and TVETs, the DigiTruck allows us to reach youth outside of formal education and in rural areas. I'm proud to say that we have ensured an equal gender split amongst trainees, as digital skills are truly necessary for everyone in today's economy," said Adam Lane, Director of Government Affairs and Policy.

— 2025 —

GISEC Global

Established as Middle East and Africa's largest cybersecurity event, GISEC Global presents globally-renowned speakers that address the current threat landscape and emerging cybersecurity trends for 2025.

Place: Dubai World Trade Centre, UAE

06 - 08 MAY

CABSAT

Celebrating its 30th anniversary this year, CABSAT will showcase new exhibitors and diverse media tech at Chinese, French, and German pavilions, drawing more industry professionals and media markets.

Place: Dubai World Trade Center, UAE

13 - 15 MAY

World Telecommunication Day: Shaping Industries

Telecom Review will host a webinar to explore the evolving dynamics of the telecommunications industry, aligning with the World Telecommunication and Information Society Day (WTISD) 2025 theme: Gender Equality in Digital Transformation.

Place: Virtual

15 MAY

FutureNet MENA

FutureNet MENA 2025 brings the whole ecosystem together to drive the agenda around network automation and AI, a key foundational pillar for the next wave of growth.

Place: Conrad Hotel, UAE

27 - 28 MAY

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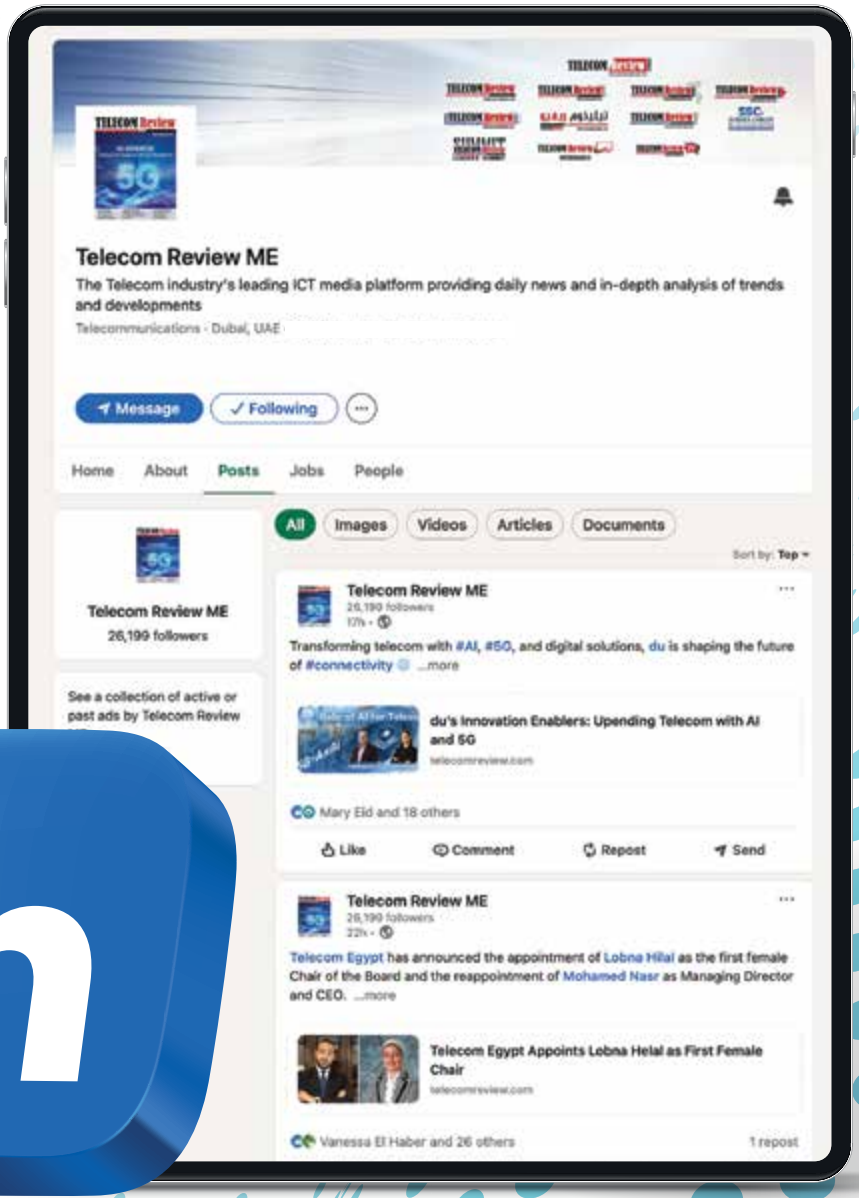

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