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# SAMENA TRENDS

FOR SAMENA TELECOMMUNICATIONS COUNCIL'S MEMBERS

**BUILDING DIGITAL ECONOMIES**

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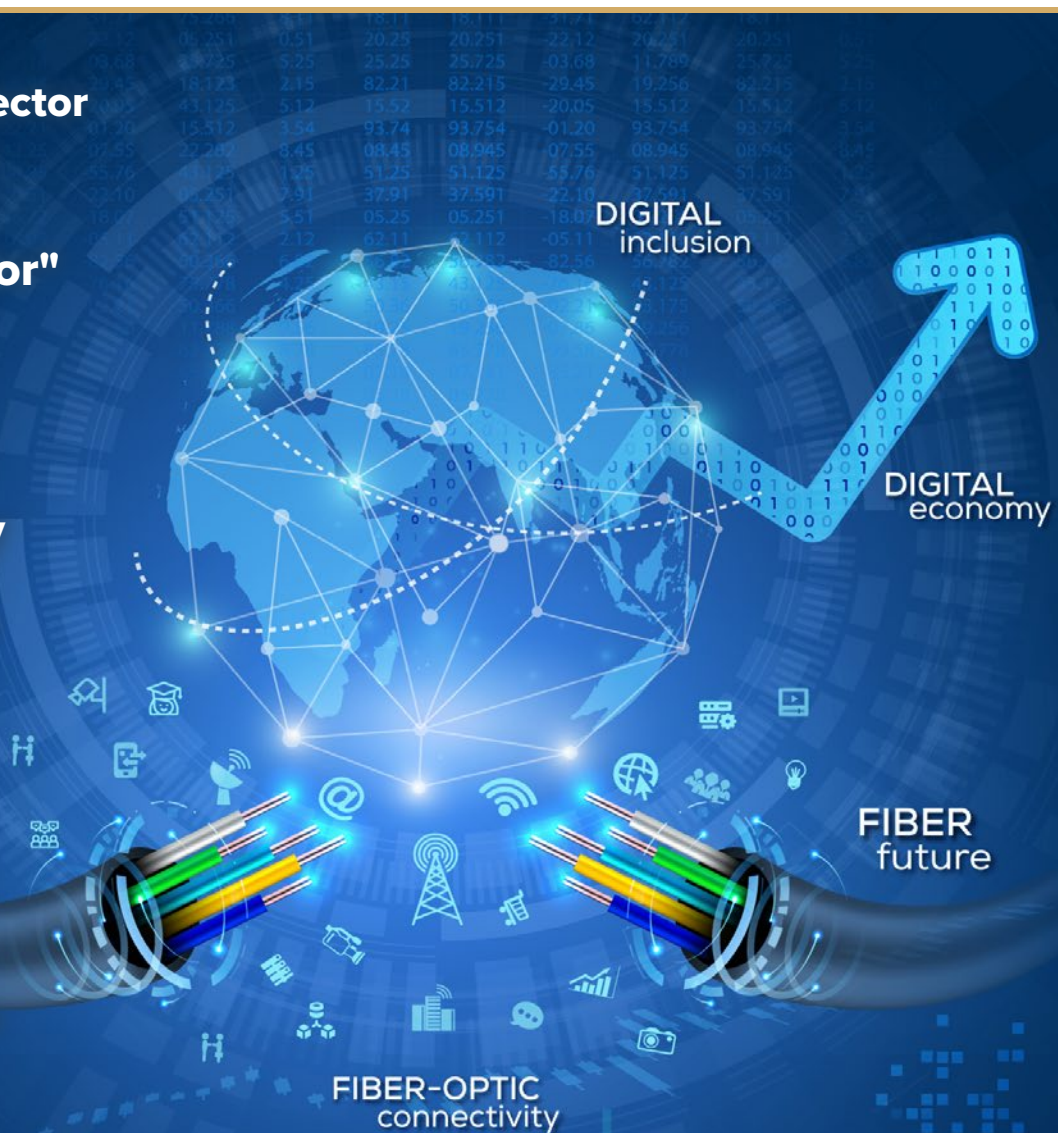
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THIS MONTH

**ADVANCED ICT INFRASTRUCTURE AS THE FOUNDATION OF THE DIGITAL ECONOMY**



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# SAMENA TRENDS

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# Advanced ICT Infrastructure as the Foundation of the Digital Economy

At a macro level, the digital world rests on the physical infrastructure layer, the Internet Protocol, and the activity layer, where all meaningful digital applications and the use of connectivity takes place. Tremendous evolutionary work is in progress in each of these layers, with the infrastructure layer becoming increasingly Fiber and Cloud-based; IPv6 gradually transitioning into the space so far occupied by IPv4; and new digital ecosystems, including IoT, emerging while new socio-economic use-cases of the Internet multiply, raising new requirements for the expansion of the existing ICT infrastructure. Requirements become even more complex as global calls and the imperative of bringing more people online, which is common to both the Private and the Public sectors, gain momentum.

The need for increased network capacity and future-proofing the communications networks with greater resilience is a critical issue in the SA-ME-NA region, where lack of Fiber is a major variable. While Fiber deployment accelerating technologies now exist, there is a need to revisit policy and regulatory dynamics of the markets, and to steer them in a direction that should help adapt to the digital future; the future where data flows will be intense and where ensuring the sustainability of the nascent Digital Economy will be a major challenge.

SAMENA Council believes that public-private-people cooperation is essential for addressing the digital inclusion imperative, which has been highlighted strongly after the recent pandemic crisis, and for bringing various industries closer to the Telecom Industry in order to create new cross-industry synergies for catalyzing a true digital renaissance in both socio-economic

activity and in industrial productivity. Such productivity will be central to building the region's Digital Economy, and for which availability of required ICT infrastructure is foundational. Already, there is consensus and recognition by governments and the private sector alike that connectivity—at end-user, machine to machine, and industrial levels—lies at the core of these aspirations

At the core of provisioning the required ICT infrastructure, particularly of Fiber networks, and thus fostering meaningful connectivity lies the central role of Telecom Operators, and this role through out the current year, since the pandemic, has been well-recognized. However, Operators themselves are facing tremendous revenue-generation challenges, continued regulatory restrictions, taxation regimes and industry fees, all of which have a direct impact on how far, how much, and for how long the Operators can continue with their voluntary offerings to help reduce financial hardships for the end-users while living up to expectations. This merits the consideration of policy-makers and regulators, who themselves face multiple challenges, to reduce financial pressures on Operators and to help improve affordable access to broadband services for the end-users, and to help expand the Fiber-based infrastructure by addressing some major underlying issues, which include but are not limited to Right of Way (ROW) issues.

One of the most noteworthy advantages of Fiber-optics optics is their ability to meet the growing and changing needs of businesses, industries, and end consumers. Copper has been able to cater to the needs of the consumers for a long time, but requirements for higher speeds, better bandwidth and improved security over long distances, which



**Bocar A. BA**  
Chief Executive Officer & Board  
Member  
SAMENA Telecommunications  
Council

form the crux of newest socio-economic activities happening in the third layer named above, have exceeded the capabilities of copper. To add, as governments help accelerate 5G transformation in their respective markets, the requirement for Fiber support and building cross-industry 5G collaboration efforts also becomes much more pronounced.

In such scenarios, it may just be the right time to experiment on all fronts with the involvement of all concerned stakeholders and capitalize on the true potential that lies before us in the shape of new technologies; in the form of new imperatives, which need expedited policy and regulatory consideration; and in the manifestation of the promise for betterment for all humans through the use of ICTs. 🌱

# Broadband Commission Calls On World Leaders to Prioritize Universal Connectivity as Fundamental To Sustainable Development & Global Recovery



## The State of Broadband in 2020 Accelerating Action for the Next 10 Years of ICT Development

### Policy Recommendations by the UN Broadband Commission

Universal broadband access is the vital catalyst needed to drive global economic recovery and accelerate lackluster progress towards the UN Sustainable Development Goals, according to a new report released by the UN Broadband Commission for Sustainable Development. The COVID-19 pandemic has significantly underscored humanity's growing reliance on digital networks for business continuity, employment, education, commerce, banking, healthcare, and a whole host of other essential services. Yet today, almost half the global population has still never accessed the internet, and hundreds of millions more struggle with slow, costly and unreliable connections, often through remote locations like internet cafés. The Broadband Commission for Sustainable Development's 2020 State of Broadband report, released at the Commission's 10th anniversary meeting earlier today, includes a rallying call to world leaders and heads of industry to place universal broadband connectivity at the very forefront of global recovery and sustainable development efforts. The State of Broadband 2020: Tackling Digital Inequalities, A Decade for Action, highlights stark disparities in access to high-speed connectivity that have prevented billions of adults and

children from benefiting from remote working, learning and communication. The report also takes stock of progress made in expanding access to and adoption of broadband infrastructure and services, and achieving the Commission's

seven 2025 advocacy targets. Paul Kagame, Co-Chair of the Broadband Commission and President of Rwanda said: "The first decade of the Broadband Commission has made a real impact by highlighting the transformational power



**"We, the Members of the Broadband Commission for Sustainable Development, reaffirm our commitment to help achieve universal connectivity as a fundamental element of an inclusive and sustainable world."**



SAMENA Council, represented in the Broadband Commission by CEO **Bocar BA**, reaffirms its commitment to play its role in achieving universal connectivity and building regional digital economies.

of universal access to high-speed internet connectivity and smartphones. Ideas that seemed futuristic ten years ago, are now mainstream. The next decade will be about using digital tools to speed up the recovery from the Covid pandemic and make up some of the lost ground on the SDGs." Carlos Slim Helú, President of the Carlos Slim Foundation and Co-Chair of the Broadband Commission, said: "Digital technologies are offering services that are creating big changes. Regulators and governments should be aware of the vital importance for society and development that telecom networks play, and that high taxes, spectrum charges and regulation are barriers to digital inclusion. Today our challenge is to look for universal connectivity and to make it available for countries and people. Broadband Connectivity is the bridge to move to economic development and welfare." "Leaving no one behind means leaving no one offline, now more than ever before," said Houlin Zhao, Secretary-General of the International Telecommunication Union (ITU), the United Nations' specialized agency for information and communication technology (ICT), and Co-Vice Chair of the Commission. "Increasing

and coordinating ICT infrastructure investments will be instrumental, not only in connecting the 3.6 billion people still offline, but also in driving the development of new technologies central to the digital economy." "Digital technology could be the tool we need for human-centered emancipation. But to play this role, it needs our expertise and cooperation because we need to pool all of our resources if we are to rise to the challenge of connectivity and competencies," said UNESCO Director-General Audrey Azoulay. "In my view, this is the significance of the two Working Groups co-chaired by UNESCO. These documents published today focus on two crucial questions: school connectivity and the promotion of reliable, quality information." According to latest ITU data, overall global Internet user penetration stands at 53.6%. That figure drops to 47% in developing countries, and to just 19.1% in the world's Least Developed Countries (LDCs), falling well below the Broadband Commission's advocacy Target 3 of broadband Internet user penetration of 75% worldwide, 65% in developing countries and 35% in LDCs by 2025. A Commission Manifesto issued in conjunction with today's report launch calls on the global community to recognize

digital connectivity as the foundational element of the United Nations 2030 Agenda for Sustainable Development. The Manifesto affirms the commitment of the Broadband Commission to mobilize efforts to achieve the 'Global Goal of Universal Connectivity' in support of the UN Secretary-General's Roadmap for Digital Cooperation and other connectivity initiatives.

Finally, it calls on all stakeholders to collaborate to:

- Establish a baseline for universal digital connectivity.
- Identify and support public-private financing of universal broadband, pioneering innovative hybrid and/or complementary, replicable and sustainable financing and investment models for all types of networks, and catalyzing impactful partnerships.
- Advocate for enabling regulatory environments in the field of ICTs, ICT capacity-building, and online safety and security, especially for children, as integral to efforts to achieve the Global Broadband Targets 2025 and the SDGs.

## POLICY RECOMMENDATIONS BY THE UN BROADBAND COMMISSION



The world in 2020 is in a state of unprecedented flux because of the COVID-19 pandemic. The broadband ecosystem has proven its scalability and resilience to keep health, education and financial systems, and whole economies, operating. Once again broadband has demonstrated its essential role in fueling the achievement of the SDGs. But COVID-19 also uncovered how the lack of connectivity especially among marginalized communities is

widening the gap between rich and poor, and further growing the digital divide. Building back better and faster with broadband will require an emphasis on digital infrastructure and technologies in the pandemic response, recovery, and resiliency-building efforts to prepare against such future shocks, but more importantly to spur achievement of the SDGs.

Today, 174 countries worldwide have a broadband plan of some sort, with several countries currently in the process of adopting one. As the UN Secretary-General has called on all sectors of society to mobilize for a decade of action towards meeting the Sustainable Development Goals, expanding broadband infrastructure and ensuring universal access to the connectivity ecosystem is critical for the global community to make progress

towards the SDGs. Some countries have successfully implemented a number of policy reforms echoed by the Broadband Commission. However, opportunity remains for countries, including in the SA-ME-NA region to further their efforts to improve the broadband ecosystem in their countries by continuing to adopt more of the recommendations put forth by the Commission, with a focus on implementation.

The following Policy Recommendations are the range of unique messaging adapted from the contribution from Commissioner Bocar BA in his proposed advocacy plan for the Broadband Commission.

1. Implement new approaches and frameworks for spectrum allocation and licensing
2. Use of universal service funds to develop broadband
3. Update ICT regulations to promote more investment and market approaches for sustainability
4. Merge regulation and convergent services
5. Lower taxations and duties
6. Make broadband affordable by adopting appropriate policy and regulation
7. Foster locally relevant content creation and local hosting
8. Promote free flow of data
9. Implement e-government initiatives
10. Monitor and collect reliable ICT data
11. Build human digital capacity and skills to help users, SMEs and public sector agencies make the most of digital opportunities
12. Consider and, if appropriate, apply open access approaches to infrastructure
13. Undertake public consultations on policy and regulation
14. Incentivize and accelerate broadband investment
15. Foster digital innovation by preserving intellectual property (IP) rights
16. Improve IoT and Smart City policy frameworks
17. Incentivize PPP
18. Promote advanced market commitments for rural broadband access
19. Identify champions or leaders in broadband to mobilize political and technology support
20. Improve right-of-way regulations
21. Encourage e-business and entrepreneurship
22. Support efforts to provide broadband connectivity to refugees and displaced individuals
23. Include in broadband plans efforts on digital inclusion, measures to protect children online, a focus on limiting environmental impacts and addressing climate, and public access initiatives
24. Expand initiatives to map network coverage and infrastructure needs, to develop priority lists for investment
25. Integrate gender in national broadband plans and strategies and undertake action plans to advance gender equality in access to broadband
26. Boost affordability and usability of broadband-enabled products and services, with a focus on addressing barriers faced by those at risk of being left behind

While 174 countries now have a national broadband plan, more work must be done to monitor and evaluate the current state of implementation of these national plans. In some cases, even after publishing and endorsing a national plan, government transitions and competing priorities lead to situations where national plans are no longer effectively being implemented and/or targets need to be revised in order to have impact on broadband adoption.

Ensuring that national broadband plans are designed to increase network availability, affordability, safety and broadband adoption requires plans that are multifaceted, incorporating many, if not all, of the recommendations that the Commission has been advocating. To implement the above Policy Recommendations, countries will need to adopt various approaches to funding these plans ranging from dedicated funds, to

universal service funds, direct government subsidies and grants, government equity and debts to public-private partnerships. It will also be essential to look into the next century financing and funding models for infrastructure development, and also to look into Artificial Intelligence as a catalyst for broadband development, particularly in the provision of healthcare solutions. 📡



**View Report:**

<https://www.samenacouncil.org/broadband-decade-of-action>



# Child Online Protection Guidelines for Industry

Join the  
**Regional COP**

**Guidelines Launch**

23<sup>rd</sup> November, 2020

Digital technologies have created unprecedented opportunities for children and young people to communicate, connect, share, learn, access information and express their opinions on matters that affect their lives and their communities. But wider and more easily available access to the Internet and mobile technology also poses significant challenges to children's safety – both online and offline.

Across the SA-ME-NA region, different countries have undertaken different approaches to protecting young users online. ITU's new COP Guidelines highlight good practices that industry can consider in the process of drafting, developing and managing corporate child online protection policies.

For more information on the timing of the roundtable, please contact:

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## COP GUIDELINES 2020

## 2020 COP Guidelines for Industry

### Join the Regional COP Guidelines Launch



**Doreen Bogdan-Martin**  
BDT Director  
ITU

*SAMENA Council has a unique capacity to contribute to the regional implementation and coordination element of the COP Guidelines for Industry by bringing together private sector stakeholders to share best practices...*

Digital technologies have created unprecedented opportunities for children and young people to communicate, connect, share, learn, access information and express their opinions on matters that affect their lives and their communities. But wider and more easily available access to the Internet and mobile technology also poses significant challenges to children's safety – both online and offline.

The current COVID crisis has underscored the vital importance of safe and empowering connectivity, with huge numbers of children now coming online for the first time – many at a much younger age than their parents may have originally planned. At a time when an online connection is sometimes the only way to access education and information, the greatest opportunities to support future generations lie in the development of safe and empowering digital technologies.

Across the Arab region, different countries have undertaken different approaches to protecting young users online: some have made great strides forward in the field of policy development and multi-stakeholder cooperation, while others have taken smaller but nonetheless important initial steps. Ongoing regional collaboration will be crucial, with active engagement of all stakeholders the key to ensuring all children benefit from a safe and trustworthy online environment.

For the ICT sector, the 2020 edition of ITU's Child Online Protection Guidelines for Industry<sup>1</sup>, developed in support of our Child Online Protection<sup>2</sup> (COP) Initiative, provide an authoritative, flexible and user-friendly framework on which private sector companies can build a business vision that embraces the protection of young users.

Serving as a foundation for safer and

more secure use of Internet-based services and associated technologies by today's children, ITU's new COP Guidelines highlight good practices that industry can consider in the process of drafting, developing and managing corporate child online protection policies.

Industry has a vital role to play, but for measures to be effective, the commitment and engagement of individual companies across the region will be essential. SAMENA Council has a unique capacity to contribute to the regional implementation and coordination element of the COP Guidelines for Industry by bringing together private sector stakeholders to share best practices, to develop an agreed regional industry framework, and to suggest mechanisms to promote further cross border cooperation.

To support the active implementation of the COP Guidelines across the Arab region, I am delighted to join with SAMENA Council in inviting you to take part in a joint consultation on child online protection issues and the challenges faced by the ICT industry.

Roundtables will be followed by a 30-minute webinar on 12 November at 11:00 (EET) to address some of the key challenges and opportunities around implementing the 2020 COP Guidelines for Industry raised during the consultation process, with consultations feeding into preparations for the Online Regional Dialogue on the 2020 ITU COP Guidelines and Opportunities for Implementation in the Arab Region<sup>3</sup>, planned for 23 November, 2020.

I'd love you to join our discussions, and encourage you to register here<sup>4</sup>, so that, together, we can work effectively and cooperatively to ensure that the online world is always a safe and empowering space for our children, and for future generations. 🌱

#### Links:

<sup>1</sup> <https://bit.ly/3kpjviP>

<sup>2</sup> <https://bit.ly/36qIVaF>

<sup>3</sup> <https://bit.ly/38EfKDN>

<sup>4</sup> <https://bit.ly/2lrsJOi>

## SAMENA COUNCIL ACTIVITY

### SAMENA Council to Hold Public-Private Policy Roundtables

"SAMENA Accelerator" Series of Stakeholder Meetings to Contribute Recommendations on Accelerating Fiber Deployment and Sustainable Digital Economy in the Region



SAMENA Telecommunications Council has announced that, with the collaboration of Huawei Technologies Middle East, a series of Public and Private sector policy-level roundtables will be held with industry stakeholders during the month of November, focused on addressing issues and requirements for increased fiber deployment in the region and to assist policymakers in accelerating a sustainable digital economy.

The **first** one-day, by-invitation-only SAMENA Accelerator roundtable on building **"Fiber-optic Connectivity Corridors for Digital Economy"**, to be held on **November 19, 2020**, will bring together ICT policy and regulatory leadership from within the region and beyond, to discuss the SA-ME-NA region's Fiber deployment challenges, including a myriad of investment and deployment issues; to build the case for accelerating Fiber deployment as a future-proof conduit of digitization and economic growth; and to recommend policy initiatives in areas where expedited policy decisions and regulatory enablement can positively make a difference in the proliferation of Fiber-optic networks in the region. The Fiber-focused roundtable will build on recommendations already issued to UN Member States by

the ITU, the private sector, and by the UN Broadband Commission, highlighting the positive economic impact and fulfillment of bandwidth demands posed by emerging digital communications technologies in countries with low Fiber penetration.

Similarly, the **second** SAMENA Accelerator roundtable, focused on **"Accelerating a Sustainable Digital Economy"**, to be held later in November, will drive inspiration from and build on the key messages and decisions expressed in the Declaration of the G20 Digital Economy Ministers Meeting of July 2020; including the fact that digital technologies must be harnessed to realize opportunities of the 21st century for all and that it is highly important that the region's digital economy and policy-making sustain progress on the implementation and fulfillment of the 2030 Agenda for Sustainable Development. Recognizing the criticality of universal, secure, and affordable connectivity, for which expansion of ICT infrastructure is a pre-requisite and the fundamental enabler of development of the digital economy, the prevailing policy-level consensus among the region's policymakers underpins the need for developing frameworks that can help accelerate and measure the digital economy. To this effect, the

SAMENA Council and Huawei collaborated roundtable on Digital Economy will help identify key initiatives that can be taken immediately to accelerate progress on digital development in a digitally inclusive manner, thus providing regional policymakers and regulatory authorities the confidence that the Private sector is fully ready to play its part in fulfilling the global goal of Universal Digital Access and in furthering the Connect 2030 Sustainable Development Agenda of the United Nations.

In the wake of accelerated 5G developments and given the anticipated role 5G may play in advancing other industries and new growth streams, thereby catalyzing new economic development opportunities across established and nascent market segments, both SAMENA Council, which serves as a unifying voice for Telecom Operators as well as a sector-development partner to governments, and Huawei, which is a leading Technology Provider as well as a Member of the Council, view Fiber deployment as a guarantor of future digital communication advancements and reliability, and which will drive future digital economic growth, foster digital ecosystems, and support new opportunities for nations and their citizens in their personal and societal strides.

**Bocar BA, CEO and Board Member of SAMENA Council**, expressing his views on continuing to bring Public and Private sector decision-makers on the SAMENA Council's platform to participate in the subject-specific policy-level roundtables, has stated that *"These SAMENA Digital Economy Policy Accelerator roundtables are the next step in SAMENA Council's advocacy efforts to conjoin knowledge-exchange with practical methods to accelerate the region's digital economy, and Fiber infrastructure is proving to be*

fundamental to this aspiration. Digital transformation, enabled by mobility, cloud and broadband technologies, including Fiber-optic, is taking place in almost every industry, reinforcing the need for us to re-think ICT infrastructure development and ICT policies, which should be aligned well with national economic visions as much as they should be with sustainability of investment within the Industry. The region requires accelerated implementation of certain initiatives that can boost up the region's socio-economic transformation through digitization. These roundtables are a product of visions and priorities that SAMENA Council's Membership shares with the region's Policymakers and Regulatory Authorities. We anticipate prolific, outcome-oriented roadmap for action between the Private and the Public sectors during the month of November. SAMENA Council will issue outcome

statements, following these roundtables, to assist in the region's policy-making efforts."

**Huawei Middle East's President, Charles Yang**, has commented, "Huawei envisions an intelligent, fully connected digital world, where nations and citizens prosper. We support strategic approaches and innovation-driven frameworks that can help develop the world's digital economies. Policy and regulatory transformation required to achieve progress on global digital fronts, aligned with internationally agreed digital development goals suited to each country's nation-building visions, must first focus on expediting the development of reliable and resilient communications infrastructure, which serve as the cornerstone of our connected and digital economy. The Middle East region inevitably requires fiber-based

networks, which will not only boost its socio-economic development and build the knowledge based digital economy, but will also help make it sustainable."

The SAMENA Accelerator series of action-oriented stakeholder meetings are similar in their approach to the SAMENA Leaders' Roundtable (SALT). While the SALT follows the Chatham House rules of communication and information-sharing and is intended only for the leadership of Regulatory Authorities and Private Sector CEOs, the SAMENA Accelerator roundtables are open to all tiers of policy decision-making and the wider industry audience. Participation as speakers in the roundtables, however, is exclusive to invited speakers only. Senior industry executives may approach SAMENA Council to request participation details. 

## Achieving Universal Access and Creating a Sustainable Digital Economy Require First Seeing the Private Sector through a New Lens

SAMENA Accelerator Policy Roundtables on November 19th & 25th to Assist in Implementing Recommendations Communicated Earlier by SAMENA Council CEO to Policymakers and Regulators on Behalf of the Private Sector in Efforts to Accelerate Infrastructure Advancement and the Digital Economy

SAMENA Telecommunications Council, represented by its CEO, Bocar A. BA, co-led with the ITU Secretary-General Houlin Zhao the ITU's Private Sector Roundtable with CEOs from the Telecom Industry in mid-October as a catalyzing step to bridge cooperation between the Private Sector and the ITU, and to bring greater representation of the needs and challenges of the Telecom Operators at the ITU level. The outcome of the discussion and recommendations collectively put forward by the Private Sector were subsequently presented by SAMENA Council CEO to the Policymakers and Regulators in a follow-up ITU Ministerial Meeting, held in late October.

Given that a collective global digital-development goal is to timely achieve Universal Digital Access, and thus connect the still-unconnected 3.7 billion people on

the planet, there is a need to ensure that no one is left behind in feeling the benefits of digital communication technologies. Achieving this goal is central to fulfilling the promises made by the Connect 2030 Agenda, and is vital to effectively mitigating the current and future crises and tackling increasing social and economic inequalities that have become more pronounced as a result of the Covid crisis. Doing so, however, requires combining the Industry's collective experiences, expertise, wisdom, aspirations, mutual welfare and striving together in collaboration, necessarily, and in partnerships, as needed.

SAMENA Council's contributions in the ITU Private Sector Roundtable and the ITU Ministerial Roundtable have been a contiguous part of the Council's advocacy program and have been conducted in the similar context as was the Council's

representation of the Private Sector, rendered during the Plenary Session at the closing of the GSR20 back in September. CEO SAMENA Council had highlighted to the Telecom Regulatory Authorities from all around the world key focus areas for ensuring the growth of the Industry, and to affirm the Private Sector's readiness for collaborative engagement with Policymakers and Regulators. Such key areas were identified in the outcome statement to help achieve Universal Digital Access and Services, including fulfilling the need for availability of sufficient and flexible spectrum; reviewing and repurposing of USF funds and acceleration of USF disbursement to address gaps in connectivity, and both maintaining and expanding networks to ensure better preparedness and network resilience; urgently reviewing industry fees and taxation; promoting infrastructure-sharing;

taking harmonization and standardization measures to enable secure and safe cross-border data movement; and ensuring good governance and agility prevail in regulatory measures to address issues emerging from the use of digital technologies. In essence, SAMENA Council had stressed upon creating an enabling environment, including through regulatory frameworks that specifically enable connectivity and increased public-sector participation in non-economical areas. To adapt to the "new normal", better preparedness and network readiness as well as an increased focus on connectivity and infrastructure investment were highlighted as key.

However, building on the recommendations in September, the October recommendations, which SAMENA Council believes are realistic and implementable, carried a lucid message from the Private Sector to the Governments that the latter need to be more deeply and actively engaged, including on refocusing efforts and policies targeting broadband deployment, and that the Governments must view the Private Sector as the enabling engine of ICT-driven nation-building and sustainable development and not as a mere revenue contributor to the national treasury.

The October recommendations conveyed during the ITU Ministerial Roundtable also re-emphasized on holistically reviewing current taxation models and regimes, including broadening and institutionalizing the tax contribution base, which should include digital players of all profiles; those with physical infrastructure of their own and those with no physical infrastructure while they provide the same services as those with physical infrastructure.

SAMENA Council re-stressed the need to provide fair treatment to Telecom Operators and to all Digital Space players. Moreover, the Council promoted the need for building robust broadband infrastructure through hybrid solutions, which would require increased contributions and investment from all industry players engaged in the proliferation and use of ICT infrastructure, applications and services. In this context, it would be necessary to devise new approaches in funding and financing digital infrastructure development, including

ensuring involvement of, Financial, Healthcare, and Education sectors, among others, to both traditional and cloud-based ICT infrastructure.

Policymakers and Regulators have been requested to pursue strategies that can realize level-playing fields. All policy decisions and regulations should ensure stability, predictability in the market and be optimized to reduce barriers. Such approaches may automatically keep over-regulation at bay and would encourage market growth. Specific attention to areas such as leveraging other utility networks such as electricity networks to expand broadband reach; adoption of a true technology-neutral culture both in terms of policy-making and regulation; and government-level incentivization of partnership development among the Telecom and other industries, was drawn in the ITU Ministerial Meeting.

The ICT industry has made considerable progress in expanding global connectivity in the last decade. However, an unprecedented level of effort is required to expand the opportunity of digital solutions to all. This necessitates accelerating

advancement of ICT infrastructure, including Fiber-optic based networks, which will serve as the conduit for the Digital Economy. Considerable opportunities are created by broadband networks to advance sustainable development across all sectors of economy and society, to drive innovation, communication and economic growth. However, in order to unleash the full potential of ICTs, challenges such as bridging the digital divide, addressing the financing gap, providing affordable access, fostering an enabling environment, which should support ICT infrastructure expansion and sustainable development of the Digital Economy, need to be overcome on an expedited basis.

To assist in acting upon the earlier recommendations put forward by the Private Sector to Policymakers and Regulators, SAMENA Council is embarking upon its SAMENA Accelerator policy roundtables, with the first meeting centered on Fiber deployment to be held on November 19th, followed by a second roundtable on November 25th, focusing specifically on accelerating a sustainable Digital Economy. 📍



**SAMENA**  
TELECOMMUNICATIONS AND DIGITAL SPACE  
BUILDING DIGITAL ECONOMIES  
ACCELERATOR

**HUAWEI**

**Building Fiber-optic Connectivity Corridors for Digital Economy**  
"Lighting Up a Fiber Future"

**November 19, 2020**

Strategic Partnership

**stc** | **zain**

The graphic features a central image of two fiber optic cables with glowing blue and green fibers, surrounded by various digital and connectivity icons like a Wi-Fi symbol, a smartphone, a globe, and a network diagram.

# Building Fiber-optic Connectivity Corridors for Digital Economy

November 19, 2020



## "Lighting Up a Fiber Future"

### About the Policy Roundtable

The Global Connect 2030 Agenda; several ITU and UN Broadband Commission initiatives and calls for collaboration to help close the digital divide; SAMENA Council's own "SAMENA Industry Development Goals", and an industry-wide realization to work collaboratively to achieve "Meaningful Connectivity" and "Global Digital Connectivity" as soon as possible, corroborate the necessity for advancing ICT Infrastructure, and especially fiber-optic networks.

Considering Fiber infrastructure is and will remain the conduit of meaningful connectivity for the next decade and beyond, for and reliability and resilience required from future networks, and is future-proof, it is important to accelerate fiber-centric policy works and regulatory approaches in the region.

This SAMENA Council - Huawei collaboration is a part of the SAMENA Digital Economy Policy Accelerator meetings between the Public and Private sector decision-makers with the aim of:

### Key Objectives

- Drawing upon global recommendations, such as from the UN Broadband Commission, on expanding fiber-optic deployment across the region
- Communicating the necessity and inevitability of fiber deployment for a sustainable digital economy
- Advocating for fiber deployment policies by pinpointing and offering solutions to issues that impede fiber deployment
- Reaching consensus on fiber-conducive best practices and policy initiatives in the region

Strategic Partnership



## "SAMENA Accelerator" on Fiber Deployment on November 19th Aims to Ignite a New Wave of ICT Infrastructure Expansion in the Region



SAMENA Telecommunications Council, in collaboration with Huawei Technologies Middle East, a long-active Member of the Council, is holding its 1st SAMENA Accelerator series of policy roundtables with the Public and Private sector industry stakeholders on November 19th, centered on Fiber Deployment. The 2nd SAMENA Accelerator will be held on November 25th, focused on accelerating the SA-ME-NA region's Digital Economy

*IN OCTOBER, at the Ultra-Broadband Forum (UBBF) 2020, SAMENA Council, represented by Bocar BA, had built on the recommendations already issued to UN Member States by the ITU, the private sector, and by the UN Broadband Commission alike...*

Bocar BA, CEO and Board Member of SAMENA Council, has stated that "We are thrilled to receive confirmations of keynote speeches and participation from key industry stakeholders across the leading developing economies of the SA-ME-NA region, and thus look forward to a very good, outcome-oriented discussion on November 19th and November 25th."

BA further stated that "Digital transformation, enabled by mobility, cloud and broadband technologies, including Fiber-optic, is taking place in almost every industry and is reinforcing the need for us to re-think ICT infrastructure development. Many countries in the region now have well-defined national ICT visions and plans are being implemented to infuse ICTs across the board into each dimension of the national economy. These visions are already proving that countries that take ICT policy measures soon than later, secure for themselves and their citizens a better future."

IN OCTOBER, at the Ultra-Broadband Forum (UBBF) 2020, SAMENA Council, represented by Bocar BA, had built on the recommendations already issued to UN Member States by the ITU, the private sector, and by the UN Broadband Commission alike, highlighting the Fiber networks' positive economic impact

and fulfillment of bandwidth demands posed by emerging digital communications technologies in countries with low Fiber penetration. SAMENA Council had drawn attention to the need for developing Fiber-based networks in the region, acknowledging that Optical Fiber has played a vital role in making possible the remarkable growth in global communications over the last 25 years. For the coming decades, Fiber will again be instrumental in delivering innovation in many sectors that now increasingly rely on ICTs and collaborate with telecom operators, supporting new technologies. Fiber will make ultra-fast broadband and 5G, IoT and advanced smart technologies possible, and will be necessary for achieving the Digital Inclusion and Global Digital Connectivity imperatives.

Earlier in SEPTEMBER this year, during the ITU Global Cyberdrill, held as a part of the regional dialogue for the Arab region on lessons learned from the COVID-19 pandemic, SAMENA Council had drawn attention to the significant potential in the latest digital technologies to transform communication and create new value for private-sector and public-sector entities alike. Enabled by broadband, which requires future-proofing with increased proliferation of Fiber-based networks, the digital services ecosystem is also in need of cybersecurity measures as well as increased IP address space. To this effect, the Council had emphasized on the need to transition from IPv4 to IPv6 and IPv6+.

Accelerated digital transformation requires an overall vision where technology, including Fiber-optic connectivity, along with human resources, improves efficiency and effectiveness of business. In the 5G, this can only be achieved with a new internet protocol. As IPv4 exhaustion becomes more and more imminent, network operators across the globe are taking a closer look at transitioning to IPv6. Being the successor of IPV4, IPV6 will not only offer far more address space and thus further catalyze the Internet Economy, but will greatly resolve network bottlenecks caused by the soaring number of Internet-connected devices while allowing for further stimulation of digital innovation across industries and how those industries elevate the end-user experience in the digital era.

*Earlier in SEPTEMBER this year, during the ITU Global Cyberdrill, held as a part of the regional dialogue for the Arab region on lessons learned from the COVID-19 pandemic, SAMENA Council had drawn attention... future-proofing with increased proliferation of Fiber-based networks...and emphasized on the need to transition from IPv4 to IPv6 and IPv6+.*

The SAMENA Accelerator on Fiber Deployment on November 19th thus carries a multifaceted aim of presenting a strong case for accelerating Fiber-based networks in the SA-ME-NA region and to fine-tune focus on cybersecurity, network efficiency and resilience, and

to help accelerate the Digital Economy. As a part of this aim, the Fiber policy roundtable will communicate Fiber-optic GPON/FTTH infrastructure expansion and encourage cross-stakeholder and cross-industry participation in capacity-building opportunities. SAMENA Council

believes, with proper policy and regulatory mechanisms in place, healthy competition in building ICT infrastructure can help drive investment and innovation, and it must exist at all levels, from regulatory enablement, to investment, to wholesale, to retail. 📍

**Participation in the SAMENA Accelerator on Fiber deployment can be requested at the following link:**

<https://www.samenacouncil.org/accelerator-fiber-2020/>

## Accelerating the Region's Digital Economy to be the Focus of the 2nd "SAMENA Accelerator" on November 25th

In collaboration with Huawei Technologies Middle East, SAMENA Council's SAMENA Accelerator on Digital Economy will be held on November 25th, one week after the much-anticipated 1st Accelerator on Fiber deployment takes place on November 19th, with Policy-makers and Regulators taking active part in showcasing their respective administrations' preparedness for advancing digitization.

Given its advocacy messages that have consistently focused on enabling and incentivizing regional broadband development to help in "building digital economies", SAMENA Council deems it imperative to convene industry stakeholders once again to define implementable steps for driving digital-led economic growth within the region, and to bring both predictability and sustainability to the expanding digital ecosystem.



The November 25th SAMENA Accelerator on "Accelerating a Sustainable Digital Economy" will drive inspiration from and build on the key messages and decisions expressed in the Declaration of the G20 Digital Economy Ministers Meeting of July 2020, and has the primary objective of focusing specifically on expediting the expansion of the necessary ICT infrastructure, which requires updating existing legal, technical systems, and making policies to suit the digital space; incentivizing investment and fostering innovative ecosystem growth; emphasizing on the need to align

national ICT visions with national economic visions as much as possible; defining steps to achieve strategic coordination of multiple stakeholders; making the Digital Economy measurable; integrating the region; and creating economies of scale for infrastructure investments.

As a result, key initiatives are expected to be defined on November 25th, which can be adopted to accelerate progress on digital development in a digitally-inclusive manner, thus providing regional Policymakers and Regulatory Authorities the confidence that the Private sector is fully ready to play its part in fulfilling the global goal of Universal Digital Access and in furthering the Connect 2030 Sustainable Development Agenda of the United Nations.

Bocar BA, CEO and Board Member of SAMENA Council, has stated that "We are thrilled to seek the involvement of the region's Policymakers, Regulators, and the Private Sector in the Digital Economy SAMENA Accelerator. I personally look forward to witnessing a very good, outcome-oriented discussion on November 25th, in what will be preceded by an equally productive discussion on November 19th concerning the proliferation of Fiber infrastructure, which is a necessary conduit for the Digital Economy."

Like the SAMENA Accelerator on Fiber Deployment on November 19th, the SAMENA Accelerator on November 25th carries a multifaceted aim of presenting a strong case for accelerating the SA-ME-NA region's Digital Economy in a sustainable manner, and which necessitates taking expedited and astute policy and regulatory enablement steps.

SAMENA Council believes, with proper policy and regulatory mechanisms in place, healthy competition in building ICT infrastructure can help drive investment and innovation; both of which are essential, among other factors, to ensuring a sustainable Digital Economy. 📍

**Participation in the SAMENA Accelerator on Digital Economy can be requested at the following link:**

<https://www.samenacouncil.org/accelerator-digital-economy-2020/>

# Accelerating a Sustainable Digital Economy

November 25, 2020

## “Evidence-based policies for greater digital inclusion”

### About the Policy Roundtable

The G20 Digital Economy Ministers Meeting of July 2020; Global Connect 2030 Agenda; several ITU and UN Broadband Commission initiatives and calls for collaboration to help close the digital divide; SAMENA Council's own "SAMENA Industry Development Goals", and an industry-wide realization to work collaboratively to achieve "Meaningful Connectivity" and "Global Digital Connectivity" as soon as possible, all corroborate the urgent need for implementing ICT policies that accelerate ICT Infrastructure development and foster digital inclusion, which may help realize the unprecedented potential of the Digital Economy in improving the socio-economics of the region, sustainably.

Multi-stakeholder collaborative efforts are required to help align needs and ways forward on the complex aspirations and challenges associated with the Digital Economy, and to position regulatory and policy mindsets in incentivizing Connectivity, overcoming Digital Gaps, and fostering Meaningful Innovation. There is already policy-level consensus within the region that the Digital Economy needs to be set on an accelerated path; it should be made sustainable; and it should be measurable. However, there is need to identify and act up certain initiatives to help accelerate the SA-ME-NA region's digital economy in a sustainable way, with specialized focus on:

### Key Objectives

1. Building the necessary ICT infrastructure, which requires updating existing legal, technical systems, and making policies, such as "Cloud First", to suit the digital space
2. Incentivizing collaboration and investment and fostering innovative ecosystem growth, including for digital content, IoT, etc.
3. Aligning national ICT visions with the national economic visions as much as possible
4. Defining steps to achieve strategic coordination of multiple stakeholders: Governments, Private Sector/Operators, Funding/Financing Entities, and Citizens (ICT talent)
5. Making digital economy measurable (inspiration can be taken from G20 common framework)
6. Integrating the region – countries should lower digital barriers/encourage cross-border data flows/address 5G spectrum interference, etc.
7. Create economies of scale for infrastructure investments, such as cross-border connectivity through terrestrial fiber cables

Strategic Partnership







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## MEMBERS NEWS



### stc Announces the First Deployment of 5G Stand-Alone In MENA Region

As the first in the region to achieve this remarkable milestone, stc announced the first deployment of 5G SA and "5G Voice over New Radio" service in live network. This technologically innovative accomplishment will enable stc to deploy enhanced data and voice services over an agile, cloud native, next generation end-to-end 5G network. The 5G SA core network is an outright paradigm shift in the way the world looks at networks. It provides the ability to not only provide very high data throughput but also ultra-low latency, along with highest possible service availability. Additionally, stc's 5G SA core network platform is a truly cloud-native and containerized / micro-service based architecture. The objective is to allow for a smooth and continuous service innovation,

rapid use case developments and application prototyping. It will also ensure an open and scalable service ecosystem. At the same time, the true 5G enabled Voice Service (VoNR) is the latest evolution of voice call solution that offers 5G users true High Definition "HD" Voice and Video calls on a 5G (SA) network, without the need for the classical fall-back to a 4G LTE network. With these 5G developments, stc will be able to build a powerful and secure digital ecosystem, where enterprises and consumers can benefit from more innovative services tailored to their exact needs. Always available and highest quality voice and video calls are the foundation of the contemporary telecom ethos. Eng. Haithem Alfaraj, SVP, Technology and Operations, stc, said:

"New 5G services will continue to be top priorities for our customers. We are very proud of our continued technological push to reinforce stc's leading position in the region. We believe this is just the beginning of stc's digital service innovation. stc is determined to bring to market the most advanced technologies and solutions, to deliver total digital transformation. Every technology and service innovation we accomplish comes with the high objective of offering the best quality services to our valued customers. The launch of 5G SA network and 5G VoNR service is a real life translation of our DARE strategy, stc's digital transformation aspirations and in line with the objectives of the Kingdom's National Vision 2030."

### Stc and Rakuten Mobile Sign a MoU

stc and Rakuten Mobile, Inc. announced the signing of a Memorandum of Understanding (MoU) with the aim of collaborating in the field of innovation and strategic mobile technology. The two companies will explore future opportunities to collaborate in various technology domains, including, fully autonomous digital platform serving telecommunication cloud network, OpenRAN deployment options for greenfield and brownfield use-cases, operating models and business value realization. With the signing of this MoU, stc and Rakuten Mobile aim to accelerate the delivery of mobile network services through the use of open technology that will facilitate and revolutionize wireless infrastructure. The new OpenRAN mobile access technology promises to improve the quality of many real-time services. Eng. Nasser S. Al Nasser, Group CEO, stc, said: "this MoU aims to expand our global partnerships and help diversify our strategic growth. We are confident this MoU will bring tangible results in terms of developing a new advance technology strategy and accelerating the early deployment of novel and sophisticated services. This is a vital role for us, as we continue with our Digital Transformation in the Kingdom of Saudi Arabia, serving the 2030 vision." "We are very excited about collaborating with stc and sharing our know-how of building new-generation telecommunication infrastructure," said Mickey Mikitani, Chairman and CEO of Rakuten, Inc and CEO of Rakuten Mobile, Inc. "We believe that our open architecture and advanced OpenRAN technologies will help define a new generation of



operators who are ideally positioned to place advanced customer experience and differentiated profitable services at the center of their offering." Rakuten Mobile, Inc., a subsidiary of Rakuten, Inc a leading global internet services company headquartered in Tokyo, launched its commercial mobile operations in April this year, becoming the fourth mobile operator in Japan. Rakuten's network is the world's first cloud-native, software-centric and fully virtualized mobile network. This innovative approach to building mobile networks brings both cost and operational efficiencies, as well as speed in deploying new services and generating additional revenue streams for the operator. The new emerging technologies are also promising to deliver cost effective solutions in a quick and efficient manner. The signing of this MoU is in alignment with stc's strategic drive for a strong digital future, while augmenting the Digital Transformation strategy in the Kingdom of Saudi Arabia. The two companies will be making further public announcements about progress and the accomplishment of their joint and collaborative efforts.



## Batelco First with National 5G Coverage in Bahrain

Batelco announced that it has successfully activated 5G coverage across Bahrain. The 5G coverage is available in all 4 governorates and this month cover 95% of the nation's population, making Batelco the first operator to have national 5G coverage in Bahrain and positions Batelco among the leading operators in the GCC. In March 2019, Batelco signed a partnership agreement with Ericsson to build a national 5G mobile network over a period of 2 years. Ericsson has been the technology partner of choice for a number of leading telecom operators around the world, such as AT&T, O2, T-Mobile, Verizon, Vodafone UK and Vodafone Germany. In June 2019, Batelco announced being the first operator in Bahrain and among the first in the region to deliver commercial 5G network services for its customers. Batelco CEO Mikkel Vinter explained "Covering Bahrain with 5G is a key strategic goal for Batelco, both at the corporate and national level. It's a technology that will change the telecom industry as we know it today and will open up endless possibilities in the digital space." "At Batelco, we align our strategic decisions with Bahrain's vision for the telecom sector and the digital economy, and we are committed to be at the forefront of the digital transformation in Bahrain. We are investing in 5G today to serve our customers and the citizens of Bahrain with the latest technologies, and to lay the foundation for what 5G will bring for the next generation." "Today, 5G users will enjoy high internet speeds up to ten times faster their current experience, low latency, and the ability to process heavy data with speed and efficiency. Customers will feel this in video streaming, gaming, virtual reality and other internet-based technologies." "However, the full potential of 5G is yet to be experienced. Soon we will see millions of devices gathering and sharing information in real



time enabling technologies such as self-driven vehicles, robotics in healthcare, self-operated machines in heavy industries, and many more that will enrich the life of societies and transform our industries and economies." Mr. Vinter added. "The entire Batelco team are very proud of the national 5G coverage that is in line with Bahrain's economic vision for 2030 and we are very grateful to the Board of Directors for their strong support to Batelco being the leader of 5G technology in Bahrain." Mr. Vinter added. It is becoming clear that the year 2020 is a turning point for 5G technology. Almost all smart phone manufacturers have launched their 5G-compatible devices and are now available in the market, such as Samsung, Xiaomi, Oppo, and LG. The readiness for 5G technology by different carriers along with the phones is allowing customers to experience the transformation that 5G will bring. Now that the 5G foundation is in place, the full ecosystem for this technology is starting to take shape.

## Batelco Net Profit Rises 41% in Q3

Bahraini telecoms group Batelco has announced its financial results for the three-month period ending 30 September 2020, reporting a 41% rise in net profit to BHD14.4 million (USD38.0 million) from BHD10.2 million in the corresponding period of 2019, which the company said was mainly attributable to an 18% year-on-year decrease in operating expenses. Net profit for the first nine months of 2020, meanwhile, increased by 14% y-o-y to BHD50.3 million. Revenues during the period declined 1% compared to Q3 2019, from BHD96.9 million to BHD95.9 million, while a 4% drop to BHD285.7 million was recorded for the first nine months of 2020. EBITDA rose by 21% to BHD31.6 million in the third quarter and by 13% in the nine-month period to BHD120.1 million, while

operating profit for the quarter increased by 38% to BHD20.1 million from BHD14.6 million in the year ago period. Batelco's total subscriber base stood at 3.8 million at the end of September 2020, down from 4.1 million twelve months earlier, with international operations contributing 53% of revenues and 50% of EBITDA, compared with 56% and 58% respectively in Q3 2019. Batelco CEO Mikkel Vinter commented: 'The financial results in the third quarter remained positive and consistent with our performance for the first six months of the year. This reflects the dedicated efforts of the entire team in Batelco and their commitments to achieve their targets in a very dynamic environment. Our priority has been delivering our promise to the Board and achieving the strategic objectives we



have set for ourselves, while focusing on our customers and their increased demand for digital services and solutions.'



## Arabsat Launches Tele Maroc -Exclusively- On BADR-5/Maghreb

Arabsat viewers in Maghreb can enjoy watching Tele Maroc - exclusively- on Arabsat BADR-5. Tele Maroc is a leading Moroccan satellite TV channel cast from the Spanish capital, Madrid, showing fine

entertainment, talk shows, documentaries, and sports. Rachid Niny, founder of Tele Maroc, said: "We are delighted at Tele Maroc to be available on Arabsat BADR-5 over Maghreb. We rely on the remarkable

improved and growing Arabsat video neighborhood across North Africa and its powerful footprint over Maghreb to ensure significant reach to our massive audience." "In the course of developing our partnerships and cooperation ties across North Africa; particularly in Maghreb; we are thrilled to announce today another remarkable milestone in improving Arabsat video neighborhood over Maghreb." says Khalid Balkheyour, President and CEO, Arabsat. "We have now accomplished the distribution of Tele Maroc -exclusively- on Arabsat BADR-5, of which will join other leading channels from Maghreb active on the Arabsat BADR-5. This brings Arabsat audiences across Maghreb the best picture quality with an exclusive portfolio of top-ranked satellite TV channels."



## Etisalat Named 'Best Regional Wholesale Carrier'

Etisalat announced it was recognized as 'Best Regional Wholesale Carrier' at the 2020 Telecoms World Middle East Awards virtual ceremony. It was shortlisted among top telecom companies for its success in the wholesale business. This marks a record 12th year that Etisalat has won this award. Commenting on the award, Ali Amiri, Group Chief Carrier and Wholesale Officer, Etisalat, said: "We are honored to receive the 'Best Regional Wholesale Carrier' award for the 12th year, which highlights Etisalat's core international network

capabilities, reach and commitment to quality as well as the capabilities and success of our SmartHub, our new services, and the strategic partnerships we have formed over the years. This recognition is a testament to Etisalat's resiliency and continuous and value-focused innovations – a key driver to our success in the wholesale business." Over the years, Etisalat has been expanding its global reach through strategic partnerships & investments. Etisalat continued to innovate in 2020 through introducing new

services and creative collaborations. It expanded its SmartHub wholesale data center through inaugurating a new facility in Fujairah in February 2020, while another SmartHub data center in Dubai is also ready. This expansion makes Etisalat's SmartHub one of the biggest and the most diversified carrier hotel in MENA. Etisalat increased its LTE (4G) roaming footprint to around 515 networks, putting the telco in the leading position globally. It launched 5G roaming services with more than 30 operators in various countries. Etisalat's Smart Cloud Talk service was launched this year to address the growing demand for virtual interaction and communication capabilities in the enterprise segment based on the cloud. The virtual awards ceremony, held on 13th October 2020, was part of a two-day Telecoms World Middle East virtual event in Dubai. The winners were chosen by an independent a panel of expert judges assembled by Terrapinn, the organizers of the annual Telecoms World Middle East conference and awards.



CELEBRATING EXCELLENCE IN THE WORLD OF TELECOMS

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# Etisalat UAE Recognized As the Fastest Mobile Network Operator Globally By Ookla Speedtest



Ookla, the global leader in fixed broadband and mobile network testing applications, data and analysis recognized Etisalat for being the fastest mobile network operator worldwide in 2020 providing its subscribers the most superior experience with the fastest mobile speeds from anywhere in the world. This major achievement is a testimony of UAE's leadership's vision to transform the country to a digital first and knowledge based economy. The ranking is based on analysis by Ookla of millions of tests actively initiated by customers across every network to check internet speeds using various applications on web and mobile platforms. The Speedtest Awards™ for top network providers are determined using a 'Speed Score' that incorporates a measure of each provider's network speeds (download and upload) to rank network speed performance. With a download speed of 115.89 mbps and an overall ranking in the 'Speed Score' at 98.78 mbps, Etisalat is the only operator globally to rank higher than 90 as per Ookla Speedtest data. Etisalat is also the winner of the Speedtest Awards for both fastest mobile network worldwide in Q1-Q2 and Q2-Q3 in 2020 and fastest fixed broadband network in Q3-Q4 2019. Hatem Dowidar, Acting CEO, Etisalat Group and board member of GSMA said: "This is a milestone achievement and a testament to our relentless efforts towards our strategy and vision to 'Drive the digital

future to empower societies'. Our corporate strategy has enabled us to consistently push boundaries, by responding swiftly to the global digital advancements and proactively deliver cutting-edge services and solutions to our customers. We will continue to focus on creating the world's best and leading networks across our markets to deliver long-term value to all our stakeholders. "Thanks to the vision of our wise leadership in the UAE in positioning the country among the most digitally advanced globally and inspiring us to realize our efforts by delivering world-class networks, infrastructure and innovative services. We are also grateful to the leaders for their continuous support and want to express our gratitude to all our loyal customers for their confidence in driving us to accomplish our goals of driving digital innovations for a better future." Doug Suttles, CEO and co-founder of Ookla said: "Today, I am honored to recognize Etisalat UAE with the fastest mobile network in the world. This is a truly momentous accolade, and one that Etisalat absolutely deserves. Etisalat is at the top of the world in terms of network speed and is officially the world's fastest mobile network. In addition to being awarded as the fastest mobile operator, Etisalat is also recognized with the fastest fixed broadband network in the GCC and Arab region. This is a truly historic and proud moment for the country and Etisalat. "With everything going digital

and online the fast network will help transform the lives of Etisalat subscribers. This is another incredible achievement showcasing the company's commitment to advancing the UAE and empowering its leadership with a strategic edge in taking one large step closer to realizing the UAE Vision 2021 plan and national digital transformation strategy." The achievement is significant in current times when the pandemic caused global crisis highlighting the importance of a robust and up-to-date network. Etisalat's individual efforts in building one of the most advanced networks greatly impacted the country's overall performance – and as a result the UAE was ranked the fastest country in the world in January, March and July 2020 for average mobile download speed, as reported on the Speedtest Global Index™. As per Ookla, global networks witnessed an exponential surge in network demand through the pandemic. During this period, it was essential to maintain network performance and quality to support business continuity and ensure consumers had access to essential services as well as continue to remotely work and study from home. From the beginning Etisalat was always the first in the region to take a lead and launch previous generations of the network mainly 3G, 4G and 5G. As a previous winner of the Speedtest Award™ for fastest mobile network and fastest broadband network in the region for 2019 Etisalat amplified its efforts on improving the mobile network, supporting business continuity in a work-from-home environment, facilitating distance learning and providing entertainment to families at home.

## Etisalat Digital Teams Up With Smartworld For 'Shahada' Blockchain Platform

Etisalat Digital announced its partnership with Smartworld to exclusively bring Shahada, a tamper-proof digital certificate platform, to all educational institutions in the region. This revolutionary solution will save time, effort and resources by enabling these institutions to securely issue credentials on blockchain, avoiding forgery of paper-based certificates and creating an educational passport where credentials are easily shared with third parties, who can verify their authenticity seamlessly. Etisalat Digital is working closely with Smartworld to empower 'Shahada' with its market reach, advanced infrastructure in the country and operational capabilities and take it to all schools and universities. The platform was launched in February this year by Smartworld, the UAE's leading

system integrator, and Grape Technology, a UAE blockchain startup. Shahada is in alignment with both the UAE Blockchain Strategy 2021 and the 50-Year Charter launched by Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai. Abdulla Ebrahim Al Ahmed, Senior Vice President, Government Sales, Etisalat, said: "We are pleased to partner with Smartworld to bring Shahada, a secure platform that is a groundbreaking innovation for the educational sector. Etisalat Digital with its capabilities and expertise, utilizes disruptive technologies to empower all sectors in UAE and the Middle East. Shahada reinforces our capabilities in blockchain after launching a nationwide platform in collaboration

with eight major banks to digitize trade in the finance sector." Abdulqader Ali, Chief Executive Officer, Smartworld, said: "Significant synergies will be gained from our partnership with Etisalat Digital and we are excited about the opportunities moving forward. Our ecosystem solution will not only help students, government and educational institutions, but also employers who will experience ease of verification and a reduction of fraud." The Shahada platform brings together educational institutions, government entities and other stakeholders on a secure permissioned blockchain platform. It enables ministries to play a regulatory role on the blockchain records, digitally attest and certify credentials issued inside and outside the UAE.

## Digital Enablement Is Key to Transformation in the New Normal, Says Etisalat Chief Technology Officer

Transformation is key in the new normal with a focus on innovation by building new capabilities and tools that are digitally enabled and are sustainable, said Hatem Bamatraf, Chief Technology Officer, Etisalat International, during the Telecoms World Middle East & Carriers World Middle East 2020. "Etisalat has always thrived and continuously invested in building an advanced network and introducing new services to meet the growing requirements of customers especially in today's new normal. We are the cusp of this metamorphosis where we are able to deliver uninterrupted services to our customers, provide solutions in an age of social distancing and remote working to enable faster decision making for businesses, minimize human interactions and increase the pace of automation. Thanks to the UAE vision in positioning the country as one of the most competitive nations globally despite the headwinds posed by today's extraordinary times we continue to realize our digital goals to meet the distinctive needs of all customers," said Bamatraf. Bamatraf was a key panelist in the opening CEO keynote



panel on 'Embracing tech transformation in today's new normal society'. The two-day conference taking place virtually from 13th to 14th October is among the biggest and most influential telecom events in the region, focusing on the strategies, technologies and big ideas that will be essential for telecoms companies in 2020. Etisalat chief executives participated in panel discussions and live interactive sessions moderated by global and regional experts in the region. Ali Amiri, Group Chief Carrier and Wholesale

Officer, Etisalat, took part in an insightful panel discussion on 'Opportunities await the Middle East: capitalizing on the geographical advantage of the region and exploring the opportunities that lie ahead. A multitude of topics were discussed such as exploring the barriers to connectivity; adapting digital mentality and utilizing and benefiting from OTTs; improving connectivity and overcoming obstacles in the region; accessing emerging markets in the Middle East for global and regional carriers; and outlining the necessity to

keep on top of technological innovation to compete in the region. Shafika Houcine, Group Director – Digital Channels, Etisalat, participated in a panel on 'Capitalising on AI: surviving the transition'. On the event's second day, Sidheeqe Machingal, Senior Director of Carrier & Wholesale Planning, Etisalat, will take part in a fireside chat

on 'Global connectivity: the data race of subsea carriers and big internet giants', focusing on how subsea cables are impacting the data center and ecosystems. Topics of discussion include the expected opportunity of security services for carriers; industry collaboration and the next steps; preparing for denial-of-service

(DDoS) attacks, making carriers vulnerable for attack; and analyzing physical security for critical assets. Meanwhile, Jose L Lopez Villen, Director of Open Innovation and IoT Partnership Programs, will present 'Corporate and Startups: Models to Collaborate in the Open Innovation System'.



## Mobily's Net Profit More Than Triples to SAR 537 Million In 9M 2020

Etihad Etisalat Co. (Mobily) reported a net profit after Zakat and tax of SAR 537 million for the first nine months of 2020, compared to a net profit of SAR 156 million a year earlier, driven by a 5.82% year-on-year (YoY) rise in revenue to SAR 10.5 billion. Mobily's nine-month results were also driven by growth in business unit

revenues, improved consumer revenues, as well as the growth in FTTH active base and wholesale revenues. Gross profit, EBITDA and operating profit also saw an increase, while financial charges dropped to SAR 434 million from SAR 635 million in the first nine months of 2019.



## Mobily Trials 5G Spectrum Sharing Technology in Saudi Arabia

Saudi Arabian telco, Mobily, has teamed up with Ericsson to trial 5G on 800/1800 MHz band using Ericsson Spectrum Sharing. The trial showed 5G capabilities in a real-world environment over a live network, including tests on speed and latency. Ericsson Spectrum Sharing allows both 4G and 5G to be deployed in the same band and on the same radio through a software upgrade – instantly allocating spectrum between the two mobile technologies based on user demand on a one millisecond (ms) basis. The award-winning solution will allow Mobily to efficiently manage 4G and 5G traffic in its network thereby enhancing coverage,

performance, and mobility. "With Ericsson Spectrum Sharing, Mobily can improve 5G mid-band coverage while maintaining the 4G customer experience. Given that this is one of the strategic steps for Mobily toward 5G standalone deployment using the same spectrum and radio assets we utilize for 4G," said Eng. Alaa Malki, chief technology officer at Mobily. "The successful 5G trial is an important step in our strategy to continuously expand and modernize Mobily's network. Ericsson Spectrum Sharing is a unique innovation that instantly shares spectrum between 4G and 5G carriers based on traffic demand. This Ericsson innovation will enable Mobily

to use its spectrum assets efficiently and will drive 5G-wide coverage rollout quickly, smoothly and cost efficiently," said Ekow Nelson, vice president at Ericsson Middle East and Africa. The Ericsson Spectrum Sharing solution will give Mobily a head-start in expanding its 5G services, signaling new opportunities, including in the areas of agriculture, smart cities and healthcare. It can rapidly enable the continuous coverage required, bringing the full advantage of network slicing and lower latency to power new business opportunities across a multitude of industries in cities, on factory floors, and roads across the Kingdom.

## Mobily Expects COVID-19 Measures To Impact Telecom Sector By 2020-End

Etihad Etisalat Co. (Mobily) said in a bourse statement that the impact of COVID-19 precautionary measures so far on the telecom sector was limited, however, it is expected to be affected by end of this year. In a Q3 2020 financial results earnings conference call on Oct.

27, the company said the revenues of the business sector witnessed a growth during the first nine months of 2020, in addition to the development of the subscriber mix, and a rise in wholesale sales. The telecom provider added that it has expanded the coverage of 5G communications

network to reach 48 cities in the Kingdom. According to the data available on Argaam, Mobily reported a net profit before Zakat and tax of SAR 537 million in 9M 2020, compared to SAR 156 million in the same period last year.

## Mobily Wins the "Best Digital Annual Report" Award In 2020

The Middle East Investor Relations Association (MIRA) crowned Etihad Etisalat Mobily with the award for the best annual digital report in the Middle East for the year 2020 during the virtual



ceremony held by the association on this occasion. Mobily won the award in recognition of its commitment to implementing best reporting practices. The Director of Investor Relations Department at Mobily ranked among the five best investor relations practitioners in the Kingdom, while Mobily was also nominated in the top ten for the award for the best annual printed report in the Middle East. Mobily affirmed that it is harnessing its energies to provide the best services to its shareholders and customers, explaining that winning the award for the best annual digital report in the Middle East reflects its commitment to adopting and implementing the highest standards of disclosure and quality in terms of content and design. It is noteworthy that the annual event held by "Mira" is the largest for investor relations in the region, and witnesses great competition between companies. This year, this year provided a virtual platform for communication between workers in the field to encourage discussions and mutual dialogues on the most important market challenges and best investor relations practices, in addition to educating participants and interested parties about the importance of investor relations, rules of transparency and institutional governance.

## Mobily/ITC Consortium Kicks-Off 2030 Vision-Oriented SNFN Modernization Project with Huawei

The Consortium of the main Saudi Telecom carriers, Etihad Etisalat (Mobily) and Integrated Telecom Company (ITC) signed the agreement of the Saudi National Fiber Network (SNFN) modernization project with their partner Huawei. By building the first 5G and B2B-driven, ultra-broadband optical backbone network in the Middle East, the SNFN project will contribute to the end-to-end network transformation and agile automation strategy as part of the 2030 Vision of the Kingdom of Saudi Arabia. Already launched in the Kingdom of Saudi Arabia, 5G has started bringing an avalanche of new business opportunities. The SNFN Consortium, established in 2007 by Mobily, Bayanat Al-Oula and ITC to become a main carrier in the Kingdom, has started modernizing its entire transport network in order to become the most competitive in the Saudi Market and to add more value to end-users. The new network shall offer comprehensive features to address the enormous challenges facing the emerging 5G era and the ever-increasing business traffic demand with

stringent Service Level Agreements (SLAs). The state-of-the-art solution provided by Huawei offers the first end-to-end 120-channels in the region. Each channel carries ultra-high and evaluative capacity from 200/400Gbps and above. Furthermore, the Consortium's next-generation network will provide customers a full resilient, end-to-end network with flexible and automatic service provisioning. "Flexible traffic adjustment and abundant protection SLAs offered by SNFN are very attractive to B2B scenarios and use-cases, which really evolves Mobily/ITC Ultra-Broadband optical backbone network" commented Alaa Malki, CTO of Mobily. "Massive embedded AI monitoring and proactive network health mechanisms will help reduce the long time-to-market and delivery time to a few seconds and improve the service availability and enhanced Customer Experience," said Ahmed Al-Anqari, CTO of ITC. "Huawei has maintained its technological innovation in the optical network field," commented Richard Jin, President of Huawei Transmission &



Access Product Line, adding "the Ultra C band 120-channels' first commercial use in the Middle East indicates that the WDM backbone network has entered into the ultra-high-speed of 200G/400G era. In the future, we will keep on supporting Mobily/ITC in coping with service challenges in the 5G era by improving transport network performance to provide the best service experience and achieve greater business success." This agreement will strengthen the long-term strategic partnership between Consortium members and Huawei towards fulfilling the 2030 Vision by creating more success stories in the region and enriching the digitalization of society.





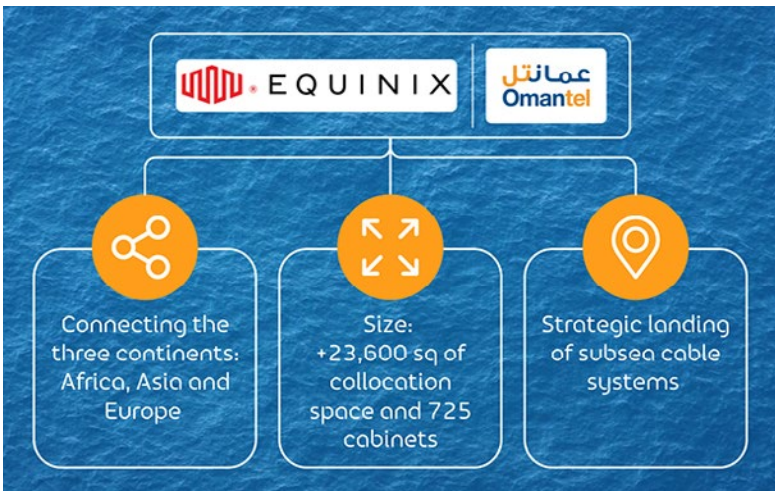
## Omantel Launches 1st E-Auction in Procurement and Contracts Sector

As part of its operational digital transformation, Omantel, the pioneering integrated telecom services provider in the Sultanate, has launched the first e-Auction in the procurement and contracts sector to sell spare parts, used communication systems equipment, devices, and electric generators. As a leading company empowering digital transformation in the Sultanate, Omantel has challenged the circumstances dictated by the COVID-19 pandemic and has channelized a great deal of its business and procedures electronically. This initiative was made possible by adding new features and modules to the existing platforms. An e-Auction was launched through the company's e-tendering system (<https://tenders.omantel.om>), which was open to all local and international companies. Six

specialized local companies, including SMEs, were shortlisted based on their compliance with the pre-qualification requirements. Commenting on the launch of Omantel's first e-Auction, Ghalib Ali Hamood Al-Mamari, Senior Manager, Purchase Transaction Office at Omantel procurement and contract sector, said, "At Omantel, we seek to streamline and facilitate our procedures with all the parties dealing with us. The launching of the first e-Auction comes as part of our endeavor to stay up to date with the technological progress achieved in the field of e-services and to save time, effort, and money for companies wishing to compete for the purchase of the materials offered for tendering." "The success of this e-auction reflects the company's pursuit to achieve digital transformation. It also

emphasizes the company's intention to launch more e-auctions in the forthcoming period. The procedures carried out in this regard are characterized by transparency and equal opportunity," Al Mamari added. It is worth mentioning that Omantel offered an e-auction training program to the companies which fulfilled the relevant conditions. This training resulted in the active and competitive participation of all the shortlisted companies. Omantel is the pioneering telecommunications company in the Sultanate and the primary provider of integrated internet services for individuals, companies, and government agencies. The company strives to promote growth and prosperity in all sectors of the Sultanate, along with providing a new concept of businesses and bringing in the global content and means of entertainment.

## Omantel Inaugurates Oman's First International Data Center



Taking yet another major technological stride that will further revolutionize the future of telecommunications in Oman and the Middle East region, Omantel has announced the opening of MC1, an international data center built in collaboration with Equinix – the world's digital infrastructure company. The facility is the first world-class, carrier-neutral hub in Oman where carriers, content providers, and cloud providers can colocate their critical IT infrastructure. This state-of-the-art hub, an International Business Exchange (IBX) data center that has been opened in Barka is strategically located between Asia, Africa, and Europe. MC1 will serve as a regional interconnection hub providing ultra-low latency connection points between key global business markets. The new facility benefits from direct connectivity to strategic cable landing stations (CLS) and

subsea cable systems that terminate directly inside the facility, providing customers with increased performance and security, along with significant cost savings. Talal Al Mamari, CEO of Omantel, said, "Today, data center infrastructure sits at the heart of global ICT and enables all of us to enjoy the cloud-based apps and services we use every day. MC1 represents a significant step forward for Oman and the Middle Eastern ICT markets. We are delighted that the facility is now operational, and together with Equinix, we hope to enable a new era of telecommunications both regionally and globally. Coupled with the majority of the GCC's international submarine cables landing in Oman, all accessible from the Equinix data center, we believe this partnership will further enhance Oman's competitiveness in the global digital economy." MC1 will provide customers with direct access to the Equinix Internet Exchange, creating a regional peering hub for networks, content providers and large enterprises to exchange internet traffic over the world's largest peering solution. MC1 is Equinix's first data center in Oman and its fourth in the Mena region. Omantel entered into a joint venture with Equinix in 2018 to deliver data center and interconnection services to customers in the Middle East through the development of the new network-dense data center. The resulting site, MC1, is operated by Equinix and includes 23,600+ square feet of collocation space and 725 cabinets. The site also can grow to 2,150+ cabinets with future IBX builds. With subsea cable systems terminating

directly in MC1, the site benefits from continued investments by Omantel in multiple strategic subsea cable systems throughout the world, reaching over 50 countries globally. Omantel currently has investments in more than 20 subsea cable systems and leverages six diverse landing stations in Oman and one in Marseille, France. Eugene Bergen Henegouwen, President, EMEA, Equinix, said, "We are seeing accelerated demand for digital transformation in MENA. Across different sectors, organizations are reassessing their cloud adoption strategies and cloud readiness. In the digital age, companies need to reach all the right places and partners to seize the opportunity, and they need to do it out at the edge. Our partnership with Omantel greatly supports our ability to meet this need, particularly as our customers can now leverage Omantel's significant subsea cable infrastructure. This type of colocation and interconnection services platform creates a magnetic effect that draws in more users that can leverage a global subsea cable fabric connecting cities, countries and continents. Along with this, our investment in the Middle East

market—including the new data center in Oman—reflects our commitment to our customers as they continue their digital transformation journeys." According to the latest edition of the Global Interconnection Index (GXI), enterprise consumption of interconnection bandwidth is predicted to grow at a 67% CAGR by 2022 in Europe, Middle East and Africa (EMEA), outpacing other forms of business data exchange, as businesses respond to rapidly growing volumes of data. Sohail Qadir, Vice President of Omantel Wholesale Unit said "Omantel provides cable landings and connectivity to more than 120 cities across the world. We also have investments in 20 subsea cable systems and leverage six diverse landing stations in Oman and another in France. Additionally, Omantel is an investor in AAE-1 consortium, one of the largest, newest high-capacity connections between Asia, Africa and Europe. And through this partnership with Equinix, we believe we are well-positioned now to provide the current and future needs of carriers, content providers, and cloud providers" Based on demand and requirements, customers across Gulf

states and the wider MENA region can also leverage other Equinix data centers in the region for dual access to content providers, allowing carriers, content providers and cloud providers to leverage interconnection and further build resilience into their IT and network infrastructures. Kamel Al-Tawil, Managing Director for the Middle East and North Africa, Equinix, stated, "As IP traffic growth continues to accelerate, it is more important than ever that the IP peering community has a scalable, reliable and globally consistent Internet Exchange solution in all markets where they want to peer traffic. Oman is strategically positioned between Asia, Africa and Europe, and with our partnership with Omantel, we intend to create a hub that will allow drivers of internet traffic to efficiently peer, and expand operations across the world." According to Equinix's 2019-20 Global Tech Trends Survey, over 40 per cent of IT decision-makers in EMEA are prioritizing connecting with new digital ecosystems as part of their organization's overarching technology strategy.



## stc Levels Up Unlimited 5G Roaming Service To Span All GCC

Kuwait Telecommunications Company – stc, a world-class digital leader providing innovative services and platforms to customers, enabling the digital transformation in Kuwait, announced that it will be the first operator in the Middle East to offer unlimited 5G roaming for all its postpaid, prepaid and enterprise customers across all GCC Countries. The innovative and ground-breaking service can be added to any of stc's packages for both existing and new customers starting at only KD7. stc released a statement indicating that the first-to-market offering will permit stc customers to enjoy the telecom operator's ultra-fast 5G speeds throughout all GCC countries without any price increases to offered roaming packages. The Company is also planning on offering a wide range of roaming services to countries within Europe and the United States of America, which will

be announced in the coming period. Through its pioneering role in the local and regional telecom sector, stc is offering this breakthrough service with unlimited internet usage, allowing users to stay connected at all times, even when traveling to GCC countries. As the first telecom operator to rollout this unique service in Kuwait and the Middle East, unlimited 5G roaming is available to customers traveling to the Kingdom of Saudi Arabia, the United Arab Emirates, Bahrain, Oman and Qatar. This initiative builds on the Company's previous promotion, which offered 5G roaming services to KSA and the UAE with packages starting at KD7 a month. Commenting on the first-of-its-kind service, CEO of stc, engineer Maziad Alharbi, said, "We are proud to offer this innovative service that goes beyond border boundaries and represents the strong bond shared between the GCC countries. The

unlimited 5G roaming service allows our valued customers to experience the same quality of internet service and high-speed connectivity while traveling anywhere in the GCC. Possessing the network with the largest coverage in Kuwait, our goal is to enrich our customers' experiences by offering them telecommunication and internet roaming services wherever they are." Alharbi added, "Our strategic approach targeting sustainable development in the digital and telecom realm drives us to explore customer-centric solutions that grasp the power of true 5G technology to enable digital transformation. At stc, we stand by our commitment to utilize our resources and network to diversify our offerings, delivering an unrivaled experience and range of options that meet the needs of our diverse customer base."



## Zain Crowned 'Best Brand' At 2020 Telecom World Middle East Awards For 7th Consecutive Year

Zain, a leading mobile telecom innovator in eight markets across the Middle East and Africa, has been awarded the 'Best Brand' accolade for 2020 at the prestigious Telecoms World Middle East Awards for a record seventh consecutive year. This accolade was bestowed on Zain by a panel of expert judges assembled by Terrapinn, the organizers of the annual Telecoms World Middle East Conference and Awards held virtually last week in Dubai. The awards recognize outstanding performance in key telecom-related areas across the region and shine a spotlight on leading players that have contributed to making the sector one of the most dynamic globally. Since the introduction of its inspiring brand in 2007, Zain has been the recipient of numerous brand-related awards over the years. This year's success was driven by numerous factors linked to the company's COVID-19 related digital innovation, corporate sustainability programs, and eye-catching marketing and social media campaigns that have captured the imagination of the entire region. The Zain brand is valued at US\$2.55 billion (up 9.9% over the previous year) by the Brand Finance Middle East Top 50 Brands 2020 annual report, which also recently noted that Zain's brand rating is AA. This remarkable valuation and recognition some 13 years after the brand's introduction is testament to the investment Zain has made in this area and more importantly the quality mobile and data services that the brand represents. Since March 2020, Zain has been on a mission-critical period as all Zain operations have been focused on providing meaningful connectivity during the lockdown to minimize the impact of the pandemic on socio-economic development. At the same time, Zain has double downed on digital transformation to better serve businesses, governments, and societies, granting increased digital access to essential medical, commercial, and financial services. Zain has also focused on enhancing its entire network to offer the best technology and digital services across its countries of operation, developments that are



positively impacting customer experience and brand recognition. Over the past 12 months, Zain has invested approximately US\$1 billion in expanding, upgrading, and rolling out 4G and 5G networks across its footprint, successfully rolling out 5G services in Kuwait, Saudi Arabia, and Bahrain. Zain recognizes that now more than ever, the entrepreneur ecosystem needs to grow as the region requires the economic diversification that arises from the ensuing innovations. Accordingly, the company is focused on numerous digital innovation and startup initiatives across operations and recently opened the Zain Innovation Center (ZINC) in Kuwait, a co-working hub inspired by the success of a similar facility in Jordan. The innovation centers offer numerous virtual services during COVID-19 social distancing, with the facilities geared to encourage young minds to think and act creatively in an open and supportive environment. The goal of these centers is to create a conducive atmosphere for entrepreneurs to generate new ideas and develop them into viable opportunities. The strength of the Zain brand is further reflected by its growing and loyal social media audience where Zain's social media fans across its footprint count over 22 million, with Zain's Facebook counting 11.9 million followers; Twitter 7.2 million; Instagram 2.2 million; and LinkedIn 600,000. Zain's YouTube channels rack up approximately 100 million views annually. Every Ramadan, Zain seeks to present a new message

that touches upon the most relevant issues in life in its television commercials. The 2020 Zain Ramadan commercial immediately amassed significant interest across social media platforms, with the 2.35-minute-long content exceeding 34 million views to date. The Zain Ramadan 2020 Eid commercial, "Open the Doors" has garnered over 36 million YouTube views, going viral along the way. Both commercials aired to millions of viewers on regional satellite and local TV networks across the MENA region. Zain has rolled out various initiatives, creating opportunities for its people and the communities it serves. These include the 'Zain Youth' (ZY) empowerment initiative that focuses on creative and unique solutions in recruiting new talent to the organization and ensuring all employees work toward delivering the company's strategy. Zain's 'Gender Diversity and Inclusion' initiatives are improving the company's culture in this regard, driving the Women Empowerment program, for example. Zain's far-sighted Disability Inclusion initiative 'WE ABLE' looks to integrate people with disabilities within the company and create opportunities for them, Zain has set a goal to be Disability Inclusive by 2022. These activities have all contributed to the further reinforcement of the Zain brand's promise and business ethos. The company aspires to unlock opportunities for customers and for the communities it serves, remaining wholeheartedly committed to the region's economic and social prosperity.



## AT&T Named 'Best Wireless Network' For 3rd Year in a Row

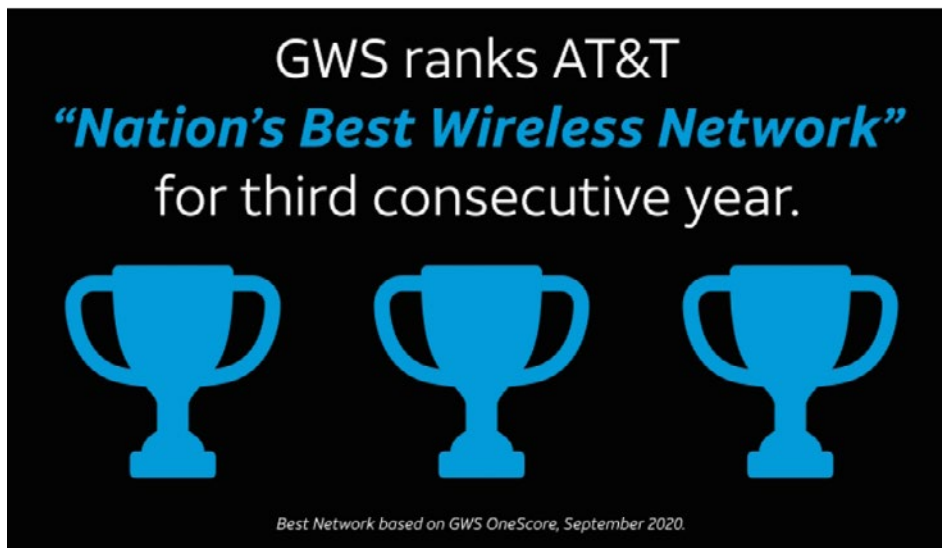
AT&T wireless customers are connecting to friends and family on the 'Best Wireless Network' in the nation in 2020, according to results released from Global Wireless Solutions (GWS). For the third consecutive year, AT&T is recognized as having the highest GWS OneScore ranking for overall national wireless performance. It's all in

the details - OneScore results show that our customers are getting:

- Fastest download speed for large tasks such as receiving photos and videos
- Quickest loading time and least amount of rebuffering when it comes to video performance
- Best voice accessibility and quality

- Fastest throughputs when the network was stress-tested

Our customers are not only getting the best wireless network in the nation, but also the fastest wireless speeds. AT&T has held on to the 'Fastest Wireless Network in the Nation' title for 6 quarters in a row, according to results from Speedtest® by Ookla®. These wins acknowledge that all the hard work and investment we continue to put into our network year after year is benefiting our customers. And we don't stop there, we continue to add more value to our best unlimited wireless plans with things like HBO Max entertainment options and advanced mobile security features. GWS OneScore is based on the country's largest drive test and consumer research survey data. Covering 94% of Americans, GWS drive test results were collected by driving one million miles across 501 markets in major metropolitan areas, smaller urban cities, and rural towns. GWS conducted testing in all 50 states as well as Puerto Rico and the U.S. Virgin Islands from February to July 2020.



## AT&T Offers Private Cellular Networks on CBRS Spectrum

AT&T and Ericsson are giving enterprises another tool in their networking utility belt. With AT&T Private Cellular Networks, customers can now use Ericsson infrastructure for a localized cellular core and access network, enabled by CBRS shared spectrum. AT&T's on-premises edge portfolio, which includes AT&T Multi-Access Edge Computing (MEC), is expanding to offer additional private cellular solutions. Private networks like MEC and this new localized CBRS solution reduce latency and increase security and control by processing local data on a business site's premises, instead of routing it over public networks. AT&T Private Cellular Networks can now be supported with Ericsson's Industry Connect to enable a private CBRS network. These networks are purpose-built for specific use cases in industrial environments like factories and warehouses, as well as

remote locations like mines. Ericsson's Industry Connect platform also provides a future-ready solution, enabling enterprises a clear path to 5G. This new dedicated cellular connectivity option expands AT&T's portfolio of highly secure, reliable on-premises coverage with predictable latency that can support high device density. With the emergence of CBRS and software-centric capabilities, deciding the right private cellular networking strategy can be complicated. AT&T is here to help businesses make the right decisions and bring to life the right network solutions for their needs. "It's always been about options for our customers, especially as they are innovating faster than ever," said Robert Boyanovsky, VP Enterprise Mobility, AT&T Business. "We've been expanding our networking capabilities, and this is a new way for businesses to explore what they can do with private cellular networks

– including on-premises edge computing and connecting more IoT devices." AT&T and Ericsson have a long history of working together on innovation projects, ranging from communication to entertainment services, and will continue to bring the connectivity solutions businesses need. "Working with AT&T to integrate Ericsson Industry Connect into AT&T Private Cellular Networks allows both companies to further strengthen our collaboration. We're leveraging our innovation platform to accelerate the digital transformation of industries and provide cost-efficient private network solutions," said Jeanette Irekvist, VP of Business Solutions & Emerging Business in Global Customer Unit AT&T for Ericsson. "As the industry and ecosystem evolve, we see a need for a wide range of solutions that can address diverse operational, business and commercial requirements."

## AT&T Reports 3Q20 Revenues of USD42.3Bn

US telecoms giant AT&T Inc has reported consolidated operating revenues of USD42.34 billion for the three months ended 30 September 2020, down from USD44.59 billion on an annualized basis. EBITDA for the period under review dipped to USD13.16 billion, from USD14.85 billion year-on-year, while third quarter operating income decreased from USD7.90 billion to USD6.13



billion. Meanwhile, net income attributable to AT&T dropped from USD3.70 billion to USD2.82 billion in Q3. In operational terms, AT&T reported a total of 176.744 million wireless subscribers in its domestic market as of 30 September 2020, which includes 6.708 million reseller accounts and 75.967 million connected devices. In terms of fixed broadband connections, AT&T claimed 14.102 million 'entertainment' users, of which 4.678 million are fiber-to-the-home (FTTH) accesses. Elsewhere, AT&T's 'International' segment reported 18.414 million mobile users in Mexico as of end-September, alongside 10.893 million Latin American pay-TV customers. AT&T CEO John Stankey commented: 'We delivered a solid quarter with good subscriber momentum in our market focus areas of connectivity and software-based entertainment. Wireless post-paid growth was the strongest that it has been in years with one million net additions, including 645,000 phones. We added more than 350,000 fiber broadband customers and are on track to grow our fiber base by more than 25% this year.'

## AT&T Senior Executive Vice President and CFO John Stephens Updates Shareholders

John Stephens, senior executive vice president and chief financial officer of AT&T Inc., spoke recently at the Bank of America Securities 2020 Media, Communications & Entertainment Conference where he provided an update to shareholders. Confident in the ability to generate strong cash flows, Stephens said that the company continues to have limited visibility into the extent and duration of the impact of COVID and resulting government actions on the economy. In addition, while WarnerMedia continues to be impacted in areas such as the timing of theatrical releases as well its production schedule, the resumption of sports is expected to shift the timing of advertising revenues and costs into the third quarter from the second quarter. Despite these fluid dynamics, Stephens reiterated that AT&T remains confident in its ability to generate strong cash flows given the resiliency of wireless and broadband services and continued demand for business connectivity. Network quality underscores wireless value proposition. Stephens said the wireless market remains very competitive but that AT&T continues to see benefits from its investment in significantly improving network capacity over the past few years. AT&T has nationwide 5G service and was recently named "Best Wireless Network" for the third consecutive year based on overall national wireless performance. This high level of service quality and network resiliency during the challenging economic backdrop is helping the company differentiate its wireless offerings. Additionally, AT&T continues to benefit in both customer acquisition and retention from its ability to bundle HBO Max with its high-quality wireless services. HBO Max traction continues. AT&T is pleased with the initial success of HBO Max, including its activation growth and solid levels of viewer engagement. The company continues to see weekly viewing hours for HBO Max that are significantly higher than for HBO Now. AT&T plans to launch an advertising-based version of HBO Max



and continues to look for opportunities to leverage the platform to identify both new content distribution opportunities as well as new audiences for the company's expansive library to further drive customer acquisition and engagement. Capital allocation. Stephens reiterated that AT&T continues to invest to support growth in its areas of market focus – broadband connectivity (fiber, 5G) and software-based entertainment (HBO Max, AT&T TV). Also, the company is investing in its transformation and efficiency efforts. Stephens said AT&T continues to expect a dividend payout ratio at year-end 2020 in the 60s% range and that the company is targeting the low end of that range.<sup>2</sup> The company plans to use excess cash after dividends to further reduce net debt. Since the close of the Time Warner transaction, AT&T has reduced net debt by about \$30 billion and, since the first quarter of 2020, the company has taken advantage of historically low interest rates to push out near-term debt obligations by about \$30 billion.<sup>3</sup> The company continues to explore monetizing non-core assets in its portfolio to drive incremental shareholder value.

## AT&T Ranks #1 in Telecom on the JUST 100 Rankings

AT&T is #8 overall and #1 in telecom on the JUST 100 ranking of America's best corporate citizens. It's AT&T's fourth straight year on the top 100 list by JUST Capital and Forbes. AT&T's success is tied to the strength of our people and communities. The ranking reflects results from a comprehensive survey of the public we serve. It recognizes the hard work and investments that AT&T, its employees, and its partners are committed to continue, particularly in the areas of communities, customers, and environment, where we ranked #1 in our industry. AT&T's efforts to enrich our customers' personal lives and make their communities and businesses more successful include:

- AT&T Believes, our localized effort to create positive change in our communities. The work harnesses our employees' engagement, supports it with company resources and joins with local collaborators to drive impact. AT&T Believes markets have focused on needs such as building job skills, homelessness, access to education and careers, among other community needs.
- AT&T Aspire provides access to education and training people need to get and keep good jobs. Since 2008, we've committed \$600 million in programs to help millions of students in all 50 states and around the world.
- Our recently announced commitment to achieve carbon neutrality by 2035 across our entire business and other efforts to create a better, more environmentally sustainable future using our scale and technology.
- Our response to the COVID-19 pandemic, which is rooted in our core value of being there when people need us. We're supporting first responders and medical personnel, teachers, parents and communities. Our initiatives include a \$10-million Distance Learning and Family Connections Fund and a \$10-million commitment to Black and underserved communities.

The annual rankings from JUST Capital and Forbes evaluate the 1,000 largest public U.S. companies across 19 issues, identified through the most comprehensive surveys ever conducted on public attitudes toward responsible corporate behavior, engaging 4,469 American respondents in 2020 and over 110,000 total participants over the past seven years.

**AT&T Ranks #1 in Telecom  
on the JUST 100 rankings**



**PROUD TO BE ONE  
OF AMERICA'S MOST  
JUST COMPANIES**



## BT Concludes the Sale of Selected Domestic Operations in Latin America to CIH

BT announced that it has concluded the sale of its domestic operations and infrastructure in Latin America to CIH Telecommunications Americas LLC ('CIH'), an affiliate of CIH Technology Holdings, announced on March 19, 2020. The divested business will operate under the name of Sencinet. The transaction is part of BT's ongoing transformation of its Global unit and will deliver continuity and growth opportunities for customers and employees in the region. BT will maintain a strong presence in the region, delivering next-generation networking, cloud,

and security services to multinational customers across 21 countries. BT and CIH have established a dynamic new channel relationship that allows domestic customers based in Latin America to access BT products, services and solutions globally, and provides global customers with access domestic services in Latin America in a seamless, secure, and reliable way. Assets and operations within the scope of the transaction delivered revenue of £110m to BT in fiscal year 2018/19. They include two owned fiber networks with total length of 650km, 2000km of leased

fiber lines, four data centers, and five teleports. "We are delighted to conclude this successful transaction, which represents the next step in our strategy to become a more agile and focused business. This initiative will help us to keep the business moving forward and continue to connect communities, businesses, and governments. Latin America is a strategic market for BT and we are pleased to begin a new chapter in the region with Sencinet as a strategic partner," said Bas Burger, CEO of Global BT.

# BT Launches Multi-Million-Pound Campaign to Challenge Broadband Status Quo

BT – the UK’s largest provider of fixed-line, broadband and mobile services – launches its new ad campaign which challenges the UK to think a little harder about their choice of broadband provider. The provocative campaign asks consumers why they’re willing to buy the best smart devices, tech and streaming services if their broadband provider continues to let them down. The creative will bring to life the certainty BT offers including; reliable wi-fi guaranteed in every room, Home Tech Experts customers can book in 2-hour time slots, a connection to EE’s 4G network if their broadband ever goes down, and the tools and support they need to keep their family safe online. The campaign builds upon BT’s Beyond Limits brand platform, helping to remove the barriers of today to

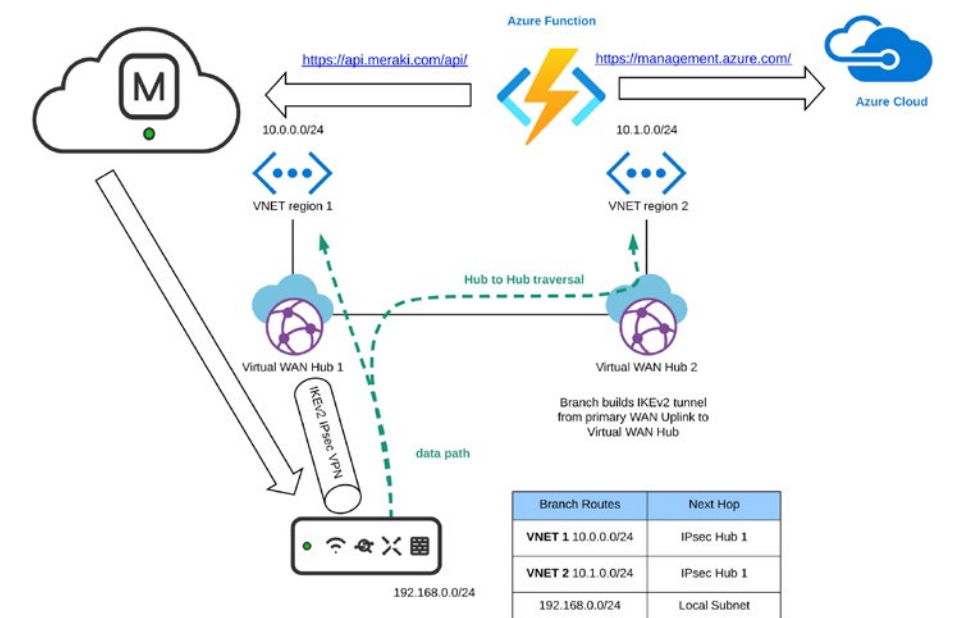
realise the potential of tomorrow. The TV advert breaks on tonight during Emmerdale on ITV. A familiar scenario plays out during the tongue-in-cheek ad, depicting the trials of working from home such as poor signal causing feedback and pixilation when on all-important, and now ever-common, video calls. We see character Paula being ‘signal-shamed’ one call at a time, as the voiceover questions her choice of broadband provider before revealing BT’s Complete Wi-Fi guarantee of reliable wi-fi in every room, or £100 back. The second TV ad will air later this month. The TV ad campaign will be supported across radio, outdoor, print, social and digital media reaching 99% of UK adults. The campaign was developed by BT’s advertising agency, Saatchi & Saatchi, with media buying led by

Essence and Posterscope. Pete Jeavons, Director of Marketing Communications, BT said: “Great broadband has always been important to happiness at home but recent events have highlighted this more than ever before. It became absolutely critical – for work, education, connecting with family and friends, even shopping for groceries. When it doesn’t work properly, it constricts our world and we really feel it. This campaign is designed to bring that to life through universal concerns such as strength of connection, online safety and tech support. We’re sure this will resonate with people up and down the UK and instil in them that they shouldn’t be settling for substandard connections.”



## Cisco Meraki to Support Connectivity to Microsoft Azure Virtual WAN

Cisco Meraki announced a collaboration with Microsoft to help simplify and support organizations moving workloads to the cloud. The integration allows organizations using Cisco SD-WAN powered by Cisco Meraki to connect seamlessly and securely to Microsoft’s Azure Virtual WAN service. As organizations continue to shift their workloads into multiple cloud environments, providing secure and optimized access to business-critical resources is crucial. At the same time, the complexity of establishing and maintaining communication channels between these ever-growing cloud hosted resources also increases, as does delivering optimal access from branch locations distributed across the world. With this collaboration, Cisco SD-WAN powered by Cisco Meraki enables customers to seamlessly automate secure connectivity from Cisco Meraki MX appliances at branch locations directly to the Azure Virtual WAN service. This will allow customers to establish optimal branch-to-Azure connectivity, regardless of geographical location. “As



customer use of multi-cloud environments continues to increase, providing secure and optimized access to business-critical resources is more important than ever,” said Lawrence Huang, VP of Product Management, Cisco Meraki.

“Today’s announcement underscores our commitment to deliver solutions that allow secure and optimal access to workloads in multiple clouds with recognized leaders like Microsoft. Through this collaboration, customers can securely connect to the

Microsoft Azure Virtual WAN service, with the signature simplicity they have come to expect from Cisco Meraki.” Reshmi Yandapalli, Principal Product Manager, Microsoft Corp. said, “Organizations are increasingly looking to adopt Microsoft’s Azure Virtual WAN service as a way to connect their branch SD-WAN appliances to our global network for optimal access to Azure resources. With Cisco SD-WAN powered by Cisco Meraki, we can make connectivity a seamless experience for our customers.” Benefits of the collaboration

include:

- **Simplicity, ease-of-use** – A co-developed toolkit seamlessly automates the process of securely connecting Cisco Meraki MX appliances at branch locations directly to the Azure Virtual WAN service, at scale, delivering days of time savings.
- **Security** – With secure connectivity embedded into the automation workflow, IT teams no longer need to consider how tasks are executed, which allows them to optimize security while

remaining agile.

- **Change management** – To make changes to branch locations, such as a change in ISP provider, or adding additional resources in Azure, zero configuration will be required on the Cisco Meraki MX appliances, saving time and resources at the branch.

Existing customers using Cisco SD-WAN powered by Cisco Meraki can take advantage of the automation to Azure Virtual WAN immediately with no additional cost.

## Cisco Helps Businesses Simplify Data Visibility and Increase Safety and Efficiency with New IoT Sensor Solutions

Cisco announced two new cloud-managed sensor solutions that help businesses simplify asset and facility monitoring across their organizations, from indoor IT closets to outdoor Operation Technology (OT) spaces at scale. Many businesses today operate in commercial buildings with limited capacity and are supporting a growing mobile workforce. It is critical for business operators to have actionable data from their office space and assets to better manage network equipment performance and maintenance. Remote monitoring using IoT sensors offers a list of benefits to help improve efficiencies including employee safety by preventing unnecessary site visits and equipment checks, reducing network outages and downtime and reducing costs for premature equipment failure. Cisco is introducing two innovative IoT sensor solutions designed to simplify installs,

offering enhanced security and scale:

- **Meraki MT sensors** monitor indoor environments and IT infrastructure. Three models of cloud-managed devices - MT10, MT12 and MT20 - provide real-time data on indoor temperature, humidity, water leaks and property/room access.
- **Industrial Asset Vision sensors** monitor OT assets and facilities in outdoor and industrial indoor spaces. Bundled in a new cloud-based management dashboard that fosters actionable visibility from the sensors to the network, the IP65 and IP67 rated sensors are pre-integrated with Cisco LoRaWAN IoT Gateway and provide insight for equipment and facilities temperature, humidity, vibration monitoring and lighting levels.

“Remote visibility and operation has become increasingly important not just for

efficiencies but to also effectively manage the post-COVID industrial environment,” said Kevin Prouty, Group Vice President for IDC Energy and Manufacturing Insights. “Remote monitoring solutions that are fast and simple to deploy across the enterprise from IT to OT provide clear business value. Cisco’s new Industrial Asset Vision and Cisco Meraki MT solutions potentially simplify deployments and move towards unifying the data needed for resilient decision-making. Industrial companies need their data to be managed across silos and to be secure from endpoint to insights.” Customers across a range of industries including utilities, oil and gas, education, healthcare, manufacturing and retail have already deployed these solutions to improve their day-to-day operations and mitigate business disruptions and costly downtime. “Expanding the simplicity of Cisco Meraki into our asset management and physical security has immediately improved our ability to keep our systems functioning and support school operations,” said CR Hiestand, Network & Systems Administrator, Reading School District. “Before deploying Meraki MT, we weren’t able to keep track of data trends that would allow us to take preventative action when an incident like a faulty air conditioning unit occurs. Now, we’re alerted as soon as temperature rises above a specific threshold and can immediately address the HVAC equipment failure to ensure there’s no network interruption for any of our 20,000 students and staff.” “For many businesses and their IT teams, real-time visibility into critical infrastructures is





crucial in keeping their business running smoothly," said George Bentinck, Director of Product Management, Cisco Meraki. "Meraki MT provides real-time awareness and monitoring into IT environments via a single cloud dashboard, providing customers with the signature simplicity

they have come to expect from Meraki." "Connecting sensors to the network and gaining access to multiple dashboards and its correlated data has become an increasingly challenging requirement at scale within today's OT environments," said Vikas Butaney, General Manager of

IoT, Cisco. "With this announcement, Cisco is taking another step forward to provide customers and partners with scalable, simple solutions that provide end-to-end visibility and automation."

## Cisco Buys Devop and Kubernetes Security Vendor Portshift

Cisco is boosting its security solutions with a deal to buy Israeli startup PortShift. While Cisco didn't announce the financial terms of the deal, which is slated to close in the first half of Cisco's fiscal 2021, Globes reported that Cisco is paying around \$100 million for PortShift. According to Crunchbase, PortShift was founded two years ago by CEO Ran Ilany and CTO Zohar Kaufman. Ilany was the former Head of the Security Infrastructure Division at Check Point Technologies while Kaufman previously co-founded CTERA Networks, according to their LinkedIn bios. PortShift has raised \$5.3 million in seed funding from Team8, which is an incubator and backer for security startups in Israeli. As one of the corporate backers of Team8, along with Wal-Mart and Microsoft, Cisco was able to get an early look at PortShift's Kubernetes-native security platform. Using Kubernetes, which is the de facto standard for containers, PortShift enables DevOps, security and operations teams to continuously secure the entire containerized applications lifecycle, from code to runtime. Despite the proliferation of containers and Kubernetes, organizations are still struggling with security. According to recent report by Kubernetes security vendor StackRox, nearly half (44%) of respondents have delayed rolling out applications into production because

of security concerns while 90% of the respondents have experienced a security incident. Misconfigurations are generally the top culprit for security issues related to containers while monitoring applications is also an issue. With PortShift in hand, Cisco will be able to address a multitude of container and Kubernetes security issues. "Today, the application security space is highly fragmented with many vendors addressing only part of the problem. The PortShift team is building capabilities that span a large portion of the lifecycle of the cloud-native application," said Cisco's Liz Centoni, Senior Vice President for Strategy, Emerging Technologies and Incubation.

"They bring cloud native application security capabilities and expertise for containers and service meshes for Kubernetes environments to Cisco, which will allow us to move toward the delivery of security for all phases of the application development lifecycle." "They bring cloud native application security capabilities and expertise for containers and service meshes for Kubernetes environments to Cisco, which will allow us to move toward the delivery of security for all phases of the application development lifecycle." Centoni said once the deal closes, the PortShift team will join Cisco's ET&I Group.

**Exciting News:**  
**"Cisco Announced the Close  
of its Acquisition of Portshift"**

 portshift



## Cisco Helps To Bridge the Digital Divide in the United States

Delivering on its commitment to power an inclusive future where everyone has access to the internet, Cisco unveiled its network solutions for rural broadband designed to help U.S. service providers extend and improve the cost-efficiency of their networks for infrastructure buildouts in rural areas. According to the U.S. Federal Communications Commission (FCC),

nearly 30 million Americans still do not have high speed internet access. Being able to connect to high speed internet opens many doors, and more opportunities are created through education, skill sharing, access to better healthcare, and so much more. Cisco's 2020 Inclusive Future Report estimates that providing internet access to unconnected parts of the world has the

potential to lift 500 million people out of poverty globally. The report also asserts that internet usage and lower levels of inequality often have a close correlation, making digital communications infrastructure essential to attain equality. Cisco has announced plans with Mural Net to launch a Sustainable Tribal Networks program to provide consistent internet

access and services to the 574 federally recognized, sovereign, Native American Tribes (close to three million people) to foster better economic, health and educational opportunities. Approximately 1.5 million people on these reservations do not have basic wireless services, and more than a third of those living on Tribal lands don't have access to high-speed broadband. Cisco is providing financial support, legal, technical and market expertise, among other resources. Through a series of programs involving \$37 billion in federal funding, the U.S. Government has committed to closing the digital divide in America, particularly in rural areas where broadband is insufficient. TruVista, a telco service provider in Chester, South Carolina, is planning to deploy 257 miles of fiber-optic cables to expand its network and offer high quality, low latency broadband services to 81 square miles of unserved communities. Thanks to a \$9.1 million grant from the USDA Re-Connect program, it can cost-effectively extend broadband services to reach over 1,700 additional homes. With the addition of Cisco's Rural Broadband network solutions, TruVista's best-in-class IP transport network will have the increased backbone capacity to meet both current and growing demand.

"We began our journey to deploy an end-to-end IP architecture with Cisco five years ago, and throughout they have been a guiding light, helping us work through pros and cons to make more intelligent decisions," said Sam Fitzgerald, Senior Director of Engineering and Operations, TruVista. "Since deployment, we have yet to see a single glitch -- not one. When you find a great partner up front and can choose the right solutions that scale, it just works." "Closing the digital divide is an imperative for government decision makers and all of society," said Ron Westfall, Senior Analyst + Research Director, Futurum Research. "The necessary move to more remote working and learning is proving that access to affordable, reliable internet access is essential to fulfilling the unique demands of rural communities in top-priority areas such as public safety, public health, education, and communications. Rural communities must be able to join the emerging digital workforce and ecosystem to survive and prosper." Stemming from its Internet for the Future launch in December 2019, Cisco has been actively investing in an inclusive future, working with service providers around the world to transform the economics of networking and improve the cost structure to connect more people

and reach underserved communities. This Fall, the company will unveil its Rural Broadband Innovation Center, in Raleigh, North Carolina where it will showcase to customers the steps for converging wireline and wireless infrastructure and services to enable more cost-effective broadband networking. The innovation lab will feature Cisco's routing and optical platforms, including the new Cisco 8000 Series routers powered by Cisco Silicon One, Cisco Cloud Services Stack providing a validated Telco Cloud environment and its service provider network automation and security solutions. "I'm proud that Cisco has been very vocal and actionable in our effort to bridge the digital divide," said Jonathan Davidson, Senior Vice President and General Manager, Mass-Scale Infrastructure Group, Cisco. "Everyone should be able to connect to the internet. As technology leaders, we have the power to change lives and shape the future through inclusion. It is critical for people to be connected to each other and to information now more than ever before. With our network solutions for rural broadband, we are providing our customers with the critical tech infrastructure they need to reach the underserved rural communities as soon as possible."



## Eutelsat Awarded Service Contract by Ovzon for Operation of OVZON-3 Satellite

Eutelsat Communications (Euronext Paris: ETL) and Ovzon AB have entered into a long-term agreement for the provision of satellite control services following a competitive bidding process involving all major satellite operators. Under the agreement, Eutelsat will ensure the control of Ovzon-3, the first satellite procured by Ovzon, over its full operational life. The agreement reinforces a long-standing cooperation between Ovzon and Eutelsat, where Ovzon has operated capacity on a number of Eutelsat satellites since 2012. Ovzon-3 is a powerful geostationary satellite with multiple high-performance steerable beams and a revolutionary

newly developed On Board Processor. To be launched in the fourth quarter of 2021, it will address the mobile connectivity segment. Commenting on the deal, Magnus René, Chief executive Officer of Ovzon AB said: "Ovzon's current service offering, through leased capacity, will be significantly expanded with the launch of our new satellite, Ovzon-3, in 2021. Ovzon-3 will provide dramatically enhanced performance and functionality and is an important step to further revolutionize mobile broadband by satellite, offering the highest bandwidth with the smallest terminals. We are delighted to rely on the expertise of Eutelsat to assure the

operation of Ovzon-3. Eutelsat shares our vision to bring high performance mobile broadband to users unserved by terrestrial infrastructure". "Arlen Kassighian, Director of Satellites Engineering and Operations at Eutelsat communications added: "We are proud to build on our long term relationship with Ovzon and to be entrusted with the operation of Ovzon-3. The award of this contract is a testimony to the skills and reliability of Eutelsat's satellite service teams, and demonstrates our ability to provide a diversity of support services to our customers in the commercial and government services fields."

## Eutelsat's HOTBIRD Selected by Kabelio for New Swiss HD Platform

Eutelsat Communications' (Euronext Paris: ETL) HOTBIRD video neighborhood has been selected by Switzerland's Kabelio AG for the launch of a new Swiss direct to home HD platform. This multi-year contract will enable Kabelio to leverage the unparalleled reach of Eutelsat's premier hotspot to launch a service targeting Swiss audiences both at home and throughout Europe. Launched mid-October, Kabelio's new line-up features both domestic and

international channels, and includes 34 premium TV channels in HD quality including entertainment, sport, news and documentaries, supplemented by a range of free-to-air channels in various European languages. Commenting on the contract, Apostolos Triantafyllou Eutelsat's Vice President of Sales, DACH, CE & SE Europe said: "We are delighted to welcome Kabelio aboard HOTBIRD and to support the launch of a new HD platform in Europe.

This agreement highlights the unmatched reach of EUTELSAT HOTBIRD, as well as the resilience of the European broadcast landscape." Kabelio Chief Executive Officer, Damir Krilcic added: "Kabelio's new platform aims to address Swiss DTH satellite households offering them a range of premium channels many of which have not previously been offered by satellite. We are excited to partner with Eutelsat to launch this new service offering."

## Azam TV Migrates Services to EUTELSAT 7C with Multi-Year Contract Extension and Additional Capacity

Eutelsat Communications (Euronext Paris: ETL): Azam TV has completed the migration of its video platform from the EUTELSAT 7B to EUTELSAT 7C satellite, with a multi-year extension of the existing contract and an incremental capacity commitment. One of Africa's leading pay-TV operators, Azam will leverage the enhanced performance of Eutelsat 7 C to distribute some 120 channels in a mix of standard and high

definition across its footprint covering Tanzania, Uganda, Malawi, Kenya and Rwanda. Commenting on the deal, Patrice Paquot, Deputy Regional Vice President, Sub Saharan Africa of Eutelsat said: "We are honored to continue to partner with Azam, one of our anchor customers at the 7° East position as it successfully expands its broadcast offer. 7° East has become a new DTH hotspot for Sub-Saharan Africa

and a key pay-TV neighborhood for Eastern Africa with some of the fastest growth rates in the region." Jacob Joseph, Deputy Chief Executive Officer of Azam added: "Every Azam TV household will have the opportunity to enjoy a wide variety of local and international programmes with excellent signal quality. We are delighted to rely on Eutelsat to leverage the unparalleled reach of its 7° East position."

## FACEBOOK

### Facebook Sues App Developers for Data Misuse

Facebook initiated legal proceedings against app developers in the UK and the US for alleged misuse of user data on its main platform and account infringements on its Instagram subsidiary. In a statement, director of Facebook's platform enforcement and litigation team Jessica Romero explained the company was suing UK-based MobiBurn, and Oak Smart Technology and its founder Fatih Haltas for gathering user data from Facebook and other social media

companies "by paying app developers to install a malicious Software Development Kit (SDK) in their apps". MobiBurn was collecting information including users' name, gender and email addresses without compromising Facebook, but by using "the malicious SDK on the users' devices to collect information", Romero noted. Facebook claimed it demanded an audit after discovering the issue with the help of security researchers, but the defendants failed to comply. Its US

lawsuit accuses Nikolay Holper of running Nakrutka, a service used to "distribute fake likes, comments, views and followers on Instagram" through bots and automation software. The company said it previously cut off accounts linked to Holper and Nakrutka, and issued a cease and desist letter. Last month, Facebook admitted a flaw allowed around 5,000 third-party app developers to collect personal user information after authorized periods had expired.

### Facebook Adds Cloud Gaming Feature to Its Platform

Facebook Inc FB.O launched a free-to-play cloud gaming feature on its social media platform, allowing users to stream and play games like "Asphalt 9: Legends" and

"WWE SuperCard" without downloading them. "We're not spinning off a separate cloud gaming service," the company said in a blog here post, adding that all

cloud-streamed games can be played on the platform's gaming tab or News Feed. Facebook's gaming feature is smaller in scale than premium cloud-based game

streaming services like Google's GOOGL.O Stadia, Nvidia's NVDA.O GeForce NOW or Amazon.com's AMZN.O Luna, which are competing for users in a high-growth market. The feature will be available to

Android and web users for now, Facebook said, while it was working on alternative options to launch the feature on Apple's AAPL.O iOS. "Apple treats games differently and continues to exert control over a very

precious resource," the company said, adding it is unsure if launching on Apple's app store is a "viable" path.

## Facebook Connects Messenger, Instagram

Facebook enabled Instagram users to exchange messages and calls with users on Messenger, following through on a long-discussed plan to increase interoperability between its apps. In a blog, Instagram Head Adam Mosseri and Messenger Chief Stan Chudnovsky said the goal was to make it "easier to stay connected without thinking about which app to use". Instagram users also gained access to other Messenger features, including content viewing service Watch Together, message forwarding, animated

effects, customizable chat colors and the ability to set messages to disappear from a conversation after a set period of time. User can block and sort message requests. Facebook reportedly began working on cross-platform messaging in January 2019 as part of a broader push to make its apps interoperable. In May, the company launched an e-commerce feature enabling small businesses to create a single digital storefront visible across its entire family of apps.



## Huawei Announces Q3 2020 Business Results

Huawei announced its business results for the first three quarters of 2020. During this period, Huawei generated USD98.57 billion in revenue, an increase of 9.9% over the same period last year. The company's net profit margin in this period was 8.0%. Throughout the first three quarters of 2020, Huawei's business results basically met expectations. As the world grapples with COVID-19, Huawei's global supply chain is being put under intense pressure and its production and operations face significant challenges. The company continues to do its best to find solutions, survive and forge forward, and fulfill its obligations to customers and suppliers. Moving forward, Huawei will leverage its strengths in ICT

technologies such as AI, cloud, 5G, and computing to provide scenario-based solutions, develop industry applications, and unleash the value of 5G networks along with its partners. Its stated goal is to help enterprises grow their business and help governments boost domestic industry, benefit constituents, and improve overall governance. ICT has become a cornerstone of modern society and the main driver behind sustainable social, economic, and environmental

development. Huawei believes that rapid and healthy development within the ICT industry will rely on open collaboration and mutual trust across the global industry, so it will continue working closely with its global partners and using its innovative ICT technologies to create greater value for customers despite the complex situation it is currently facing. The company will continue contributing to pandemic responses, economic growth, and social progress.



## Huawei AirPON Awarded Best Fixed Access Solution at Broadband World Forum 2020

Thanks to an innovative feature set which provides premium home network experiences and enables mobile operators to quickly build fixed networks, Huawei AirPON has been awarded Best Fixed Access Solution at the Broadband World Forum 2020 (BBWF 2020) online award ceremony. The achievement marks the second straight year that Huawei has received this accolade, having previously won for its SingleFAN Pro solution. Such consistent industry recognition further cements Huawei's continued innovation and leadership in the full-fiber broadband domain. Currently in its 19th year – and held entirely online for the first time in 2020 – the BBWF remains the premier annual exhibition within the fixed network field. As the most important award presented by the BBWF, the Best Fixed Access Solution Award is intended to recognize solutions that boost the development of the fixed access industry and significantly improve the end user

experience. In February 2020, following in-depth analysis of the business trends of fixed-mobile convergence and accelerated fiber network construction, Huawei officially launched the AirPON solution in London. The solution features three key innovations: zero site acquisition, zero fiber splicing, and zero frame freezing. It can help operators address key challenges such as extended payback periods, slow fiber network construction, and unstable user experiences. Zero site acquisition: The innovative Blade OLT can be installed on existing wireless base stations in order to reuse the site's power supply and backhaul fiber resources. Consequently, a new site is not required, the fiber access distance is shortened from 5 km to less than 1 km, networks can be built much faster, and the CAPEX is reduced by 27%. Zero fiber splicing: The DQ ODN feature supports end-to-end pre-connection without fiber splicing, improving construction efficiency by 70% and shortening the time-

to-market (TTM) by 30%. In addition, AI technologies are used to digitally manage passive ODN resources, achieving network topology visualization, precise resource management, accurate fault locating, fast service provisioning, as well as an ODN sink cost reduction of 20%. Zero frame freezing: The industry's first AI-embedded home ONT series products can intelligently identify service types, including online games, education, and teleconferences. The intelligent acceleration engine can reduce the latency of specific services by more than 50%, allowing operators to launch value-added service packages with service acceleration. Jeffrey Zhou, President of the Huawei Access Network Product Line, said, "Fixed-mobile convergence has become an industry consensus, and fiber is the most important infrastructure. The Huawei AirPON solution can help mobile operators build full-fiber networks efficiently and economically, and provide an optimal FTTH broadband experience. It's a great honor to win the Best Fixed Access Solution Award from BBWF. Huawei looks forward to more extensive cooperation and joint innovations as we continue to help global operators achieve greater business success." Only 6 months after its official launch, the Huawei AirPON solution has been widely recognized by the industry and adopted by more than 45 operators worldwide, covering more than 1 million households. In the future, Huawei will continue to work with partners in the industry chain to build ubiquitous fiber connections and accelerate the construction of a fully connected, intelligent world.



## Huawei Appoints New President for Cloud and AI Business Group in the Middle East

With demand in the region increasing for cloud and artificial intelligence (AI) technologies, Huawei—a leading global provider of information and communications technology (ICT) infrastructure and smart devices—has appointed a new regional president for

its Cloud and AI Business Group as the company restructures its offerings in these fields. Mr. Li Shi assumes the role of president of the Huawei Cloud and AI Business Group in the Middle East region effective immediately. Under his leadership, the group seeks to help

governments and local industries to tap into the power of digitalization while creating more intelligent and safer societies. Based in Dubai, UAE, Shi will oversee the expansion of the group's regional product and solution portfolio along with partner ecosystems that will

create ultimate service experiences by utilizing Huawei’s global capabilities. The executive will further seek to deliver comprehensive terminal-edge-cloud solutions and services to more of Huawei’s customers and strategic partners, all with respect to data sovereignty that can support the digital economy and smart society of countries across the Middle East. Shi has nearly 15 years of international experience with Huawei. He was most recently the CEO of Huawei UAE and had also previously held executive positions for Huawei in other Gulf and Levant countries. “The innovations behind AI and cloud computing are advancing by leaps and bounds, and will soon pave the way to

a digital Middle East in which all things are connected. Governments and enterprises are reinforcing their investments in these two fields. Under Li Shi’s leadership, I am confident that Huawei’s Cloud and AI Business Group will bring the value of ubiquitous computing to even more communities across the Middle East,” said Charles Yang, president of Huawei Middle East. Established earlier this year, Huawei’s Cloud and AI Business Group in the Middle East is an evolution of the company’s Cloud Business Department. Under the slogan “Cloud Everywhere”, the restructuring enables a more focused approach to developing and deploying solutions that will form the bedrock of

the digital world. “Nearly every industry in the region has been re-booting for the digital age. Cloud and AI technologies will accelerate this transformation over the next decade. By offering new cloud services with our partners, enabling deeper AI research and development, and introducing new supercomputing capabilities to the region, our team will reinforce Huawei’s unrivalled end-to-end capabilities in the ICT domain while inspiring innovation in organizations of all shapes and sizes,” said Li Shi, president for the Cloud and AI Business Group in the Middle East. In particular, Huawei now offers customers an unparalleled machine vision and intelligent collaboration portfolio, leading to a smarter governance and office experience. Different types of general computing power provide organizations in the region with multiple choices for strengthening their computing capability. Moreover, Huawei’s flagship all-flash storage is helping organizations to redefine their data infrastructure, while the Huawei Atlas series of computing and cloud services with heterogeneous architecture delivers an open-stack platform for developers to build applications that can lead the region’s digital charge. The Group is also looking for partners, manufacturers, developers, and solution providers to join Huawei in building these new ecosystems together for a better digital world.



## Nexign Strengthens Its Expertise in Digital Customer Experience



Nexign, a leading Business Support System (BSS) and Internet of Things (IoT) solutions provider, announced that Nexign JSC is acquiring a 99% stake in the authorized capital of the STORM Technologies LLC from the Forpost group. Nexign plans to strengthen its product portfolio with advanced digital customer experience management solutions. Thus, Nexign will help its customers – telco operators – to build relationships with subscribers more efficiently. Meanwhile, STORM Technologies will gain access to the global market and new customers from the telecommunications industry.

The team of STORM Technologies LLC has been developing and implementing automated digital customer experience management systems. These products provide omnichannel communications, which improve the quality of service and reduce the costs associated with user support. Currently STORM Technologies is developing two flagship products:

- Cascana platform – a software platform that enables companies to rapidly create ergonomic universal workplaces for employees in contact center, front office and customer interaction centers. The platform allows to combine the interfaces of a customer's existing systems, communication channels and security models for better customer experience.
- Cascana Customer Engagement Center product – an advanced omnichannel platform for organizing a single

workplace for a contact center specialist. The platform enables robotisation of service functions, support of interaction via voice and digital communication channels, as well as automation of telemarketing processes, collection of feedback, handling claims and scenario automation of end-to-end business processes.

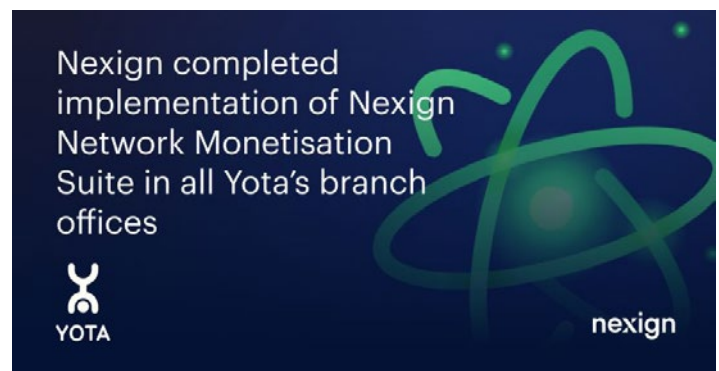
"Today, the introduction of omnichannel platforms for telecom operators is a guarantee of subscriber loyalty. It also means the ability to combine marketing and customer services by creating products for the needs of a specific user. I am confident that STORM Technologies' digital customer experience management solutions will be an excellent addition to Nexign's product portfolio, and our joint offer will be in demand in the global market," says Igor Gorkov, CEO of Nexign. According to the deal, STORM Technologies will remain

an independent brand. Meanwhile, the company will receive access to Nexign's technological platform and will be able to promote its solutions worldwide. "I am convinced that by becoming a part of the Nexign ecosystem STORM Technologies will find new opportunities for business development, including the increase in customers from telecommunications industry and the ability to enter global markets. For 10 years, our company has been helping organizations from various industries to automate contact center business processes and improve service quality and customer loyalty by optimizing costs for service and sales processes. I am confident that Nexign's technology and marketing expertise will accelerate this development," comments Sergey Byakov, CEO of STORM Technologies.

## Nexign Completed Migration of Subscribers in all Yota's Branch Offices

Nexign a leading Business Support System (BSS) and Internet of Things (IoT) solutions provider, announced the successful migration of subscribers in all branch offices of the Russian mobile broadband services provider Yota to the Nexign Network Monetization Suite – a versatile solution for real-time rating, charging and policy control across all network services. Yota was the first operator to offer its customers communication bundles configurable to minutes and gigabytes, as well as differentiated payment for various types of traffic. Yota's existing solution did not enable horizontal scaling, which meant that the company needed a scalable and flexible instrument for charging and policy control inside the network. To increase effectiveness of its internal processes, Yota opted for Nexign Network Monetization Suite, which included solutions like PCRF (Policy and Charging Rules Function), RCAF (RAN congestion awareness function) and UDR (User Data Repository). As a result, Yota received future-proof and flexible solution, which fully met the business needs of the mobile operator. Nexign Network Monetization Suite enabled Yota to quickly launch new products and services with minimum cost for their implementation. The system also has many open interfaces and allows Yota to integrate new services easily, even if it involves partners. Thanks to functional and technological capabilities of the product, the company provides customer services even in the conditions of congestion. After migration to the Nexign solution, Yota reduced the total cost of ownership (TCO) by 10-20% by saving on additional third-party licenses. Use of PCRF function enabled Yota to reduce time to market (TTM) by 20% and increase the fault tolerance by 40%, which allows the operator to deliver great customer service and stand out from competition.

"The jointed project with Nexign and implementation of Nexign Network Monetization Suite allowed us to launch unique product for the telco market called "The communications constructor" and maintain high quality of our services while increasing the number of customers. In the past six months the new solution underwent unprecedented stress test. Due to the pandemic, traffic from business apps inside the network has grown 2.5 times," said Andrey Zhikin, IT Director of Yota. "This Nexign project for Yota is the first time when we implemented our solution in a telecom operator that uses a third-party billing system," said Alexey Vedin, Director of Network Monetization Products at Nexign. "Nevertheless, integration with Yota's BSS systems was carried out with no impact on customers in all Yota branches, and without any failures or service interruption. At the same time, no additional modifications were required on the part of billing or other systems – all the needs of the operator were covered by the capabilities of Nexign's solution."



## Nexign Signs TM Forum's Open Digital Architecture Manifesto

Nexign (a part of ICS Holding LLC), a leading Business Support System (BSS) and Internet of Things (IoT) solutions provider, announced that it has signed TM Forum's Open API and Open Digital Architecture (ODA) Manifesto. Nexign will enrich its development and integration process with the Forum's Open Digital Architecture (ODA) principles helping to harmonies existing and prospective customers' IT landscape. TM Forum's ODA replaces traditional operational and business support systems (OSS/BSS) with a new approach to building software for the telecoms industry, opening a market for standardized software components, and enabling communication service providers and suppliers to invest in IT for new and differentiated services instead of maintenance and integration. The Open API and Open Digital Architecture Manifesto is a logical continuation of the

earlier Open API Manifesto which paved the way for the industry to rethink how to design, build and operate the systems required to deliver the operating agility, cost base and customer experience required to successfully monetize 5G and thrive in the 2020s. Nexign has supported TM Forum's Open API principles for more than five years and continues following major industry standards by committing to the ODA principles that define telco industry today. Specifically, Nexign agrees to publicly endorse and follow the ODA, contribute to the continuous evolution of this architecture and build and market products that support the ODA. "As an active TM Forum member, Nexign sees ODA as an opportunity to win new markets, harmonies the customers' IT landscape and develop its solutions according to the needs of CSPs to help them stay ahead of competition and ensure continuous

growth. We appreciate TM Forum's effort to create a set of common rules for BSS and other software systems and are happy to be a part of this process," said Michael Matyishin, CTO of Nexign. "In signing the manifesto, TM Forum members such as Nexign are transforming IT and operations to be fit for the 2020s," said George Glass, CTO, TM Forum. "The momentum building to collaboratively deliver the Open Digital Architecture is the software market foundation our industry deserves, instead of sinking resources into maintenance and integration of customized legacy solutions that are blocking agility and innovation." Nexign is among the first 42 organizations worldwide committed to Open Digital Architecture guiding principles, and one of the first BSS providers of Eastern European origin to commit to the manifesto.



## Oman Broadband, Ooredoo and Telecommunications Regulatory Authority Team Up To Provide Fixed Internet to Remote Areas

As part of an initiative under the auspices of the Telecommunications Regulatory Authority (TRA), Ooredoo and Oman Broadband (OBB) have signed an agreement to connect remote regions with high-speed fixed broadband internet.

Under the agreement, the parties will provide quality satellite bitstream to previously underserved areas in a number of governorates across the Sultanate. The project is part of Oman's Vision 2040, the gateway to becoming a developed country

under His Majesty Sultan Haitham bin Tarik, which aims to build a knowledge-based economy and society. Ian Dench, Chief Executive Officer at Ooredoo Oman, said, "Transforming the digital landscape of Oman is our focus and we want customers across the country to be able to enjoy the internet with us. This agreement with the TRA and Oman Broadband will allow us to ramp up telecom services in rural areas, providing an environment for growth and a further boost to the economy." Omar bin Abdullah Al Qutbi, Senior Executive Manager of the Telecommunications Regulatory Authority added, "Our mission is to work with partners in various sectors to achieve the collective objective of providing communication services to all regions in the Sultanate, eliminating the digital gap between urban and rural areas. With this latest agreement, together with Ooredoo and Oman Broadband, we aim to provide service to approximately 325 villages, though we hope to build on these





efforts and eventually deliver such services throughout Oman." Bader bin Saud Al Zaidi, Acting Chief Executive Officer at Oman Broadband, also commented, "The signing of this partnership came as a result of the ongoing collaboration between Oman Broadband Company and the Telecommunication Regulatory Authority to achieve the objectives of the National Broadband Strategy, and to bridge the existing digital gap in the rural areas of the

Sultanate. Oman Broadband will unlock the potential in these areas through the adaptation of the latest satellite technology using Ka Band Spectrum. We are delighted to see Ooredoo Oman as the first service provider contributing towards the success of this initiative and we hope to partner with the rest of Internet Service Providers in the sultanate to ensure that the beneficiaries obtain the freedom of choice through our open access network". As data experience

leaders, Ooredoo has played a key role in supporting the government in achieving their digital transformation goals. The telecoms company continues to partner with organizations to develop the best solutions to enrich the digital lives of all. And through network, technological and solutions investment, Ooredoo helps to position the country as an active player in the global race towards digital innovation.

## Oman Broadband to Provide Sat-Enhanced Telecom Services

Space Technologies Company signed a contract with Oman Broadband Company to provide telecom services via satellites.

The move comes within the context of the national initiative launched by Telecommunications Regulatory Authority

(TRA) to provide 598 villages and other residential areas with telecom and internet services. The contract was signed by Eng. Salim bin Said al-Alawi, Executive Manager of Space Technologies Company, and Eng. Badr bin Saud al-Zaidi, In-charge of tasks of CEO of Oman Broadband Company. According to the contract, Space Technologies Company will establish infrastructure for telecommunications via satellite and manage the service to provide full coverage of the Sultanate, including (previously unconnected) government departments, of them 100 schools and health centers. In turn, Oman Broadband will coordinate with telecommunications companies providing fixed line internet services to extend the service to subscribers in the designated areas in the Sultanate.



## PCCW Global

## HKT Wins Contract for Procurement cum Management, Operation and Maintenance of Real-Time Arrival Information System for Green Minibus

HKT has been awarded a HK\$65 million contract for procurement cum management, operation and maintenance of real-time arrival information system for green minibus (GMB) by the Transport Department (TD). The real-time arrival information system (the System) for GMB is one of the new initiatives set out in the Chief Executive's 2018 Policy Address. HKT will provide and install location detection device on each of the GMB for detecting its real-time location, and disseminate real-time arrival information of each GMB route. Once the System is up and running, passengers are able to get access to the

real-time arrival information of the next three coming GMBs through TD's mobile application "HKeMobility" as to facilitate their trip planning. As part of the contract, HKT will also provide a 24x7 hotline service for general enquiries from public users and technical support to the GMB operators and maintenance of the System. The contract involves approximately 3,500 GMBs covering more than 600 GMB routes on Hong Kong Island, in Kowloon and the New Territories operated by more than 160 GMB operators. It is expected that the System will be fully commissioned in 2022. Mr. Tom Chan, Managing Director,

Commercial Group, HKT, said, "We are delighted to contribute to the smart mobility initiatives of Hong Kong Government. GMB is one of the most frequently used transportation in Hong Kong with over 1.5 million daily passengers\*. An efficient and real-time arrival information system will definitely offer greater convenience to the public." Mr. Chan added, "With our strong partner ecosystem, HKT is committed to leveraging more emerging technologies such as 5G, IoT, big data analytics and cloud services to further accelerate smart city development and uplift smart mobility in Hong Kong."

## PCCW Global Brings Global On-Demand Connectivity to NJFX through New Point-Of-Presence

PCCW Global, a leading international communications service provider, and New Jersey Fiber Exchange (NJFX), the only Cable Landing Station (CLS) colocation campus in the U.S. offering Tier 3, carrier-neutral data center capabilities, announced the launch of a new point-of-presence (PoP) at NJFX CLS for direct access to PCCW Global's MPLS network and the Console Connect platform. The availability of Console Connect's Software Defined Interconnection® platform at the NJFX carrier-neutral CLS facility in New Jersey immediately brings connectivity on-

demand to NJFX customers, giving them instant and easy access to a global ecosystem of leading cloud, data center, SaaS, UaaS, IX and IoT partners. Console Connect's Network-as-a-Service (NaaS) platform also offers extended coverage to more than 350 data centers in 44 countries worldwide. The automated Console Connect fabric is underpinned by PCCW Global's industry-leading IP backbone and MPLS network which spans more than 3,000 cities and 160 countries. Via the new PoP at the NJFX CLS, users can access PCCW Global's MPLS network – either by using the

Console Connect centralized port or by leveraging the open API platform – and directly reach major cities across Africa, Asia Pacific and Latin America. Financial organizations located at NJFX CLS can also leverage the secure, uncontended PCCW Global MPLS network to access financial markets globally. Mr. Marc Halbfinger, Chief Executive Officer, PCCW Global, said, "Establishing a PoP at NJFX provides Console Connect and PCCW Global users with access to direct, low latency routes to major business hubs along the east coast. At the same time, we are excited to bring Console Connect's on-demand global connectivity to NJFX customers, who can experience the agility and flexibility of Software Defined Interconnection®." NJFX's carrier-neutral CLS colocation campus offers direct access to multiple independent subsea cable systems interconnecting North America, Europe, South America and the Caribbean. The facility serves a growing ecosystem of global carriers, content providers, enterprises and government entities, and offers access to more than 10 terrestrial backhaul fiber routes across North America. Mr. Gil Santaliz, Chief Executive Officer and Founder of NJFX, said, "We welcome PCCW Global to NJFX's rich carrier-neutral CLS ecosystem. Our 'Tier 3 by the Subsea' motto emphasizes NJFX's unique advantage of having diverse interconnection options located at a cable landing station. With PCCW Global, our customers now have increased access to routes across Asia Pacific through their robust global IP network."



## neutrality.one Collaborates With PCCW Global To Deliver Global Connectivity On-Demand To Enterprises Through Console Connect

neutrality.one, a cloud networking company delivering software-defined infrastructure, has collaborated with PCCW Global to use its Console Connect platform to provide global connectivity services to neutrality.one's enterprise customers in Asia, the Middle East and Africa. Leveraging the power of the Console Connect Software-Defined Interconnection® platform, neutrality.one customers can now directly connect to over 350 data centers in more than 40 countries worldwide, as well as access a growing ecosystem of leading cloud, Software-as-a-Service (SaaS), Internet of Things (IoT), carrier interconnect and Internet Exchange (IX) providers. This

ecosystem includes DE-CIX, Google Cloud, AWS, IBM Cloud, Microsoft Azure, Oracle Cloud, QingCloud, Alibaba, Tencent, NAVER Cloud, Cloudflare and more. Using Console Connect's Wholesale NNI solution, neutrality.one now has the ability to extend its network reach and provide on-demand layer 2 connections for its customers between key data centers, partners and service providers on the platform. Through a single NNI port in Frankfurt, Germany, neutrality.one has directly interconnected to the automated Console Connect fabric, which is underpinned by PCCW Global's leading IP backbone and one of the largest MPLS networks in the world. By

using this private dedicated network that bypasses the public internet, neutrality.one enterprise customers gain an additional layer of security and can experience improved network performance such as lower latency and higher availability of guaranteed throughput. Mr. Rick Hillson, Co-Founder and CTO, neutrality.one, said, "We see a tremendous opportunity to deliver software-defined networking to enterprises in Asia, the Middle East and Africa. Our collaboration with Console Connect enables us to connect them around the world and into the cloud with secure and high-performance networking. The team at Console Connect has been great

to work with and is helping us to deliver SDN in unique markets with an optimized end-to-end experience. We are building a world-class platform that is tailored to the changing demands of enterprises. We are delivering the networking they need to succeed." neutrality.one is in the process of deploying further Console Connect NNI ports in the Middle East, Hong Kong, London and Singapore. Carrier customers such as neutrality.one can create connections between their NNI port and any other port on the Console

Connect fabric instantly via the Console Connect online portal or through an open API. Carrier customers such as neutrality.one can create connections between their NNI port and any other port on the Console Connect fabric instantly via the Console Connect online portal or through an open API. Mr. Michael Glynn, Vice President of Digital Automated Innovation, PCCW Global, said, "This SDN collaboration ensures neutrality.one can offer more flexibility to its enterprise customers, who can now enjoy the benefits of on-

demand global connectivity across key markets in Africa, Asia and the Middle East. Using the Console Connect Network-as-a-Service (NaaS) platform, neutrality.one can extend its global reach while its customers can experience new levels of flexibility, reliability and control. The Console Connect ecosystem is constantly evolving to enable carrier partners and NaaS providers to interconnect to our platform to deliver services on-demand as well as extend their backbone network at the click of a button."



## stc Bahrain Wins Bahrain's "Best Integrated Payment Solutions Provider" At The Global Economic Awards 2020

stc Bahrain, the world-class digital enabler, has won the distinguished "Best integrated payment solutions provider" award at The Global Economic Awards 2020. The award recognizes stc Bahrain's contribution to the Kingdom's progress towards a cashless and digital economy. It proactively addresses the growing need for payment solutions convenient and easy to use with its digital mobile wallet, stc pay. The achievement reiterates stc Bahrain leading the way in digitizing service experiences and making them

more relevant to the needs of today's fast-moving, digital consumer. With a market-leading reputation for innovation aligned with evolving customer requirements, the company has been focusing on digital technology and digital solutions that are secure, quicker, and easier. Eng. Nezar Banabeela, CEO of stc Bahrain, commented: "We are honored to be recognized as the Best integrated payment solutions provider award on a prestigious international platform as we continue to invest in next-generation innovative digital

solutions and set new benchmarks in the Fintech sector. The stc pay is another step forward for us to go beyond the Telecom pure-play and enrich the lives of our customers even further and create a safe and integrated digital service experience." The Global Economic Award adds to the many local, regional and international awards, which stc has won since its inception, including Best enterprise service, Best Digital Transformation and Best Customer Service.



## Tech Mahindra Expands Strategic Alliance with BMC Software to Enable Digital Transformation for Global Enterprises

Tech Mahindra, a leading provider of digital transformation, consulting and business reengineering services and solutions, expands its strategic alliance with BMC Software, a global leader in IT solutions for the Autonomous Digital Enterprise, to enable digital transformation for global enterprises. The multi-tiered partnership will focus on increasing agility and reducing time to market by leveraging AIOps (Artificial Intelligence for IT Operations) and analytics. Tech Mahindra is a part

of BMC Software's Global Outsourcers and Systems Integrators (GOSI) Program that focuses on mutual business growth, vertical solution offerings, joint marketing, skill enhancement and a dedicated BMC Software Center of Excellence (COE). As part of the partnership, Tech Mahindra and BMC Software will jointly work towards driving global opportunities in areas including sales, marketing, presales, technical support, trainings, and certifications amongst others. The

collaboration will enable clients leverage cutting-edge services with BMC Software toolsets, powered by Tech Mahindra Infrastructure services. Tech Mahindra and BMC Software aims to reinvent business operations through best-in-class solution offerings for next-generation service and operations management, multi-cloud management, and automation to streamline business applications, enhance business delivery, and reduce risk.

## Tech Mahindra Acquires Momenton and Tenzing Ltd to Bolster Capabilities in Financial Services in ANZ

Tech Mahindra, a leading provider of digital transformation, consulting and business reengineering services and solutions announced strategic acquisition of Momenton, a digital enterprise technology firm, offering consultancy and implementation services, and Tenzing Limited, a technology consulting company. Tech Mahindra has acquired 100% equity in both the organizations, and together they will enable digital capabilities, modern cloud-based architecture and transformation for customers in the ANZ (Australia and New Zealand), in Financial Services and other sectors. Vivek Agarwal, Head Corporate Development & Global Head for Healthcare and Financial Services, Tech Mahindra, said, "The acquisition of Momenton and Tenzing Ltd, are in line with our strategy to strengthen our digital capabilities, and offer our clients end-to-end transformation services. This will significantly enhance our local presence in the markets, and the combination will create significant synergies and help in bringing next generation solutions to customers enabling them to run better, change faster and grow greater. We welcome the team of Momenton and Tenzing Ltd into the Tech Mahindra family, and look forward to creating and delivering enhanced customer experiences for our customers." Jeff Ferdinands, Country Head – ANZ, Tech Mahindra, said, "The addition of Momenton and Tenzing Ltd will further strengthen Tech Mahindra's position in the ANZ marketplace, especially in the Financial Services sector, enabling the organization to deliver comprehensive suite of technology, stronger onsite services and enhanced customer experience. Tech Mahindra through its distributed delivery model will enable Momenton and Tenzing

Ltd to amplify and deliver a wider range of services to our combined customer base." Momenton, is a Melbourne-based digital enterprise technology firm offering consultancy and implementation services in enterprise agility, product enablement, engineering and emerging technology to clients across industries with advanced capabilities in digital engineering and cloud native architectures. Bobby Singh, Momenton Founder, said, "This acquisition represents an important step in Momenton's growth journey. It provides our organization and its people with extensive global reach and the ability to tap into significantly more opportunities in this fast-growing market. This acquisition will further enhance and strengthen our client relationships and enable us to expand the set of capabilities and services we currently offer by drawing on the combined experience of Momenton and Tech Mahindra. We look forward to being part of Tech Mahindra and continuing to offer innovative, agile and industry leading services to our current and future clients." Tenzing Ltd, is a management and technology consultancy offering, business

strategy, insurance core system transformation, program management, target operating model design across industries and public sector organizations. Suri Bartlett and Chris Day, Joint Managing Directors, Tenzing Ltd, said, "Tenzing Ltd is a market leader in the delivery of management consulting and technology services to a wide range of industries in New Zealand and Australia. Joining forces with Tech Mahindra will enable Tenzing Ltd to rapidly scale up our existing service offerings and facilitate the provision of a wider range of solutions to our existing and new customers in the ANZ region. We are pleased that Tech Mahindra is expecting to leverage Tenzing's strong capabilities in the market." The acquisitions underline Tech Mahindra's focus on digital growth, under the TechMNxt charter, which focuses on leveraging next generation technologies and solutions to disrupt and enable digital transformation, and to build and deliver cutting-edge technology solutions and services to address real world problems to meet the customer's evolving and dynamic needs.



## Tech Mahindra to Offer Blockchain Solutions to Global Clients Built On Amazon Managed Blockchain Services

Tech Mahindra Ltd., a leading provider of digital transformation, consulting and business reengineering services and solutions and an AWS Partner Network (APN) Advanced Consulting Partner, is

teaming with Amazon Web Services (AWS) to build solutions based on blockchain technology. Tech Mahindra will introduce blockchain solutions built on Amazon Managed Blockchain to global customers

using AWS and other leading organizations across the globe. Amazon Managed Blockchain is a fully managed service that makes it easy to create and manage scalable blockchain networks using the

popular open source frameworks. As part of the collaboration, Tech Mahindra will offer the following solutions through the AWS Marketplace using Amazon Managed Blockchain services:

- Kit Management (Aviation and Aerospace) – Effective track and trace of the 'kits' as they are procured from multi-tier suppliers in the aviation industry
- Outbound Logistics (Telecom Supply Chain) – Enhanced visibility for Original Equipment Manufacturers (OEMs) on the Expected Time of Arrival (ETA) for business to consumer (B2C) supply chain in the telecom industry
- Medical Material Track and Trace (Healthcare Supply Chain) – Timely tracking and identification of fraudulent

medical materials (Personal Protective Equipment (PPE) Kits, Face Masks, Gloves and Sanitizers) through the medical supply chain

Further, Tech Mahindra plans to develop and market several transformative blockchain solutions across a gamut of industries like Banking and Financial Services, Telecom, Retail, Manufacturing, Oil & Gas, Travel and Logistics and Healthcare in the next 12 to 18 months. Rajesh Dhuddu, Blockchain and Cybersecurity Practice Leader, Tech Mahindra, said, "Global businesses are facing sustained headwinds and struggling to collectively navigate and strategize in this new, uncharted territory and facilitate business continuity in the current COVID world. Ensuring supply chain continuity is paramount and needs more attention

in the coming times. Organizations are advised to leverage technologies like Blockchain to address the challenges and create a competitive advantage for themselves. Our collaboration with AWS will support future pandemic preparedness and accelerate an economic rebound post COVID-19 for organizations operating global supply chains and eliminate siloes." According to the 2020 Supplier Information Study, 81% of supply chain leaders aren't completely confident in their supplier data, while 60% say it took them four days to update outdated supplier information. This has resulted in missed deadlines, unhappy clients and financial loss. The collaboration is in line with Tech Mahindra's TechMNxt charter, which focuses on providing solutions that enable digital transformation and meet the customer's evolving needs. Tech Mahindra provides a holistic framework called 'Block Ecosystem' comprised of various levers: Block Studio, Block Engage, Block Talk, Block Geeks, Block Accelerate, Block Access & Block Value, which can be used to create industry leading applications that unlock significant value for clients. Tech Mahindra's technologists can also assist clients to build Blockchain-Platform-as-a-Service (BPaaS), System Integration and Product Engineering Services on AWS Blockchain. 🌱

## PRESS RELEASE

Tech Mahindra to offer **Blockchain Solutions** to global clients built on Amazon managed blockchain services





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## ARTICLE

## stc Kuwait Aims to Reduce OPEX and Carbon Dioxide Emissions with Advanced Green Power and Eco-friendly Solutions



**Fahad Al Ali**  
Chief Technology Officer  
stc Kuwait



*As a leader in the ICT sector in Kuwait, stc continues to develop and deploy solutions to reduce the impact of its operations on environment. stc is also dedicating its efforts towards implementing environment friendly solutions through digitization and automation.*

Kuwait Telecommunications Company – stc, a world-class digital leader providing innovative services and platforms to customers, enabling the digital transformation in Kuwait, announced its commitment to build on its environmental responsibility role by reducing its carbon dioxide emissions and operational expenditure through advanced, green powered and eco-friendly solutions.

With renewable energy expected to be the largest single source of electricity growth in the next five years, according to the International Energy Agency (IEA), and based on the vision of His Highness the Amir of the State of Kuwait, Sheikh Sabah Al-Ahmad Al-Jaber Al-Sabah, calling for 15% of Kuwait's electricity consumption to be sourced from renewable energy by 2030, stc has taken the steps to implement its green power solutions to reduce carbon dioxide emissions (the most common global warming gas) caused by generators burning diesel fuel.

With the lack of commercial power at some of stc's live networks sites, the Company uses generators as a power supply, which consumes more than 13 million liters of diesel fuel each year. Additionally, the generators also require frequent maintenance which comes at an added cost.

In 2017, stc started planning for green energy initiatives to power its remote sites to reduce the operating time of diesel generators on the entire network to save costs and reduce its environmental footprint. The designs incorporated state-of the-art technology with the latest generation of the solar-battery-diesel generator hybrid system. The solution uses solar panels and generators to charge high cycle lithium-ion batteries to store energy as a main source of power for telecom equipment in tower cell sites. The generator will only work when the batteries are fully discharged.



In 2018, stc successfully completed the development of the Battery-DG hybrid system in 250 remote tower cell sites, which lead to considerable reduction of DG running time from 24 hours a day to less than 12 hours. The Company successfully reduced overall fuel consumption by a total of 2.5 million liters per year hence a major reduction in its carbon footprint. This achievement demonstrates the Company's will to follow on its commitment to adopt sustainable, green and energy efficient solutions in its industry.

*The Company successfully reduced overall fuel consumption by a total of 2.5 million liters per year hence a major reduction in its carbon footprint. This achievement demonstrates the Company's will to follow on its commitment to adopt sustainable, green and energy efficient solutions in its industry.*

Taking into consideration the weather conditions in Kuwait, with temperatures reaching over 50 degrees Celsius in

summertime. This solution uses the latest lithium-ion high cycle batteries and DC power air conditioners to reduce the cooling power consumption of air conditioners in the equipment room.

stc also started a pilot project in 10 sites using the leading solar energy technology and batteries hybrid solution to save energy, operational costs, diesel fuel and eventually its carbon footprint.

stc believes that overcoming challenges by developing sustainable solutions is not

a sprint but a marathon that requires long-term commitment, a carefully planned strategy, and the proper execution. As a leader in the ICT sector in Kuwait, stc continues to develop and deploy solutions to reduce the impact of its operations on environment. stc is also dedicating its efforts towards implementing environment friendly solutions through digitization and automation. The Company's recent developed Procure-To-Pay (P2P) program, designed to automates processes, resulted in a major reduction in the number of papers required to be used or printed out in the day to day operations. This initiative serves as another contribution to the steps taken by stc to protect and preserve the environment in line with its corporate social responsibility agenda. 🌱

*stc believes that overcoming challenges by developing sustainable solutions is not a sprint but a marathon that requires long-term commitment, a carefully planned strategy, and the proper execution.*





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## REGIONAL NEWS

# UAE Ranks First in Arab Region in IMD World Digital Competitiveness Ranking



The UAE ranked first in the Arab region and one of the best in the world in the "World Digital Competitiveness Ranking 2020" issued by the IMD World Competitiveness Centre in Lausanne, Switzerland. The UAE, which ranked 14th globally, ahead of countries such as Australia, China, Germany, France, Japan and Belgium, maintained its leadership in the Arab region in all categories of the rankings, most notably in the "Technology" factor where it ranks fourth globally, as well as in "Future readiness" where it ranks 11th globally, and "Knowledge" where it advanced four places. Now in its fourth year, the IMD World Digital Competitiveness Ranking measures the capacity and readiness of 63 economies through three key factors (Knowledge, Technology and Future readiness), nine sub-factors and 52 criteria to adopt and explore digital technologies as a key driver for economic transformation in business, government and wider society. It uses an array of data

to understand how 63 economies employ digital technologies. Abdulla bin Touq Al Marri, UAE Minister of Economy, said, "The fact that the UAE ranked first globally in the 'Public-Private Partnerships' confirms the strong belief of its government in the importance of the partnership between the public and private sectors, upon the directives of the country's leadership to promote the role of the private sector, as one of the key cornerstones of the national economy." Hamad Obaid Al Mansoori, Director-General of the Telecommunications Regulatory Authority, TRA, praised the UAE's performance in this year's rankings and its advancement in this strategic sector, stating, "The results achieved by the UAE in the IMD World Digital Competitiveness Ranking 2020 represent a global recognition of its achievements in the area of global competitiveness, confirming the country's capacity to adapt and develop various forms of digital technologies that will facilitate the digital transformation of its government authorities, business sector and community." Major General Mansour Ahmed Al Dhaheri, Director-General of the Federal Authority for Identity and Citizenship, ICA, expressed his pride in the UAE achievement of first place in the world in the "Immigration laws" index. The Federal Authority for Identity and Citizenship has attached great importance to digital transformation in its method of work, which is based on improving ICA's performance in the field of digital transformation, and the integrated digitization of operations and services, starting with 100 percent automating its services and reducing the percentage of customers in customer happiness centers to 80 percent by 2021," he said. As investment in human capital is the engine of development, we will work with all our strategic partners to spread digital awareness and build a digital

culture among all members of society, he added. The UAE ranked first in the factors of "Wireless broadband," "Public-private partnerships" and "Immigration laws," and jumped to second place in the factors of "Foreign highly-skilled personnel" and "Use of big data and analytics by businesses." It also ranked third globally in the factors of "Management of cities," "Net flow of international students" and "Foreign highly-skilled personnel," as well as in the "Legal Framework" sub-factor. The country ranked fourth in the "Technology" key factor, as well as in factors of "Opportunities and threats" factor and "Cyber Security." It also ranked fifth in the world in the "Attitudes toward Globalization" and the "Talent" sub-factor. The United States came first, Singapore second, and Denmark third in the 2020 IMD World Digital Competitiveness Ranking, a giant compilation of data that economists said could help predict how well economies would weather the pandemic. "In the midst of uncertainty and a fluid global situation, it seems that business and societies that are agile correlate strongly with the IMD World Digital Competitiveness ranking. Knowledge also remains of paramount importance for the digital performance of different economies," stated Professor Arturo Bris, Director of the IMD World Competitiveness Center. COVID-19 has shown the importance of digitalization as one way to increase resilience. An economy's ability to adopt new technologies quickly in response to the changing landscape that the pandemic has brought about will affect its recovery speed. "Recovery is driven by many factors, such as the health of public finances. But also, fundamentally, by the digital competitiveness of those economies," he explained.

## TRA UAE Awarded the Certified Innovation Organization by the Global Innovation Institute

The Telecommunications Regulatory Authority (TRA) announced that it has been awarded the Innovation Organization Certificate by the Global Innovation Institute, after achieving the internationally approved conditions in this field, which places TRA one step away from reaching innovation leadership. TRA's achievement of this certificate is a result of the great efforts made by TRA innovation team in recent months, which included training workshops, development meetings and procedures, as well as meetings with evaluators accredited by the institute. The evaluation process assessed the innovation TRA's strategy and policy, the innovation objectives and their alignment with the innovation policy, training workshops, innovative individuals,

innovative ideas, the innovation process, and innovative projects during the last three years until the beginning of 2020. The evaluation process also included innovation financing, innovation budget, innovation organizational structure, and others among the topics related to adopting innovation in all operations, functions and services provided by TRA. Commenting on this achievement, Mohammad Al Kitbi, Director of Administration Affairs and Innovation CEO in TRA said: "In line with the directives of the wise leadership to promote innovation and future foresight in all government entities, TRA is committed to implementing the highest standards of innovation, enhancing and promoting the culture of innovation in the institutional work environment, and

empowering TRA employees in the field of innovation. TRA has been keen to transform innovation into a practice, culture and lifestyle. In this accelerating time, where developments are successive, innovation is no longer a need for growth, but rather a necessity for survival. Today we can say with confidence that survival is for those with innovative." Al Kitbi added: "Awarding TRA this certificate comes as an endorsement of its leadership in the field of innovation and future foresight. In TRA, we developed our plans and strategies for future foresight and innovation, in order to excel in one of the fastest developing sectors. Today, we focus on innovation, future foresight, and their requirements, and implement them through innovative plans, developed and implemented by our trained and highly qualified national cadres. Today, we are proud of what we have achieved as we are only one step away from reaching the leadership position in the field of innovation, which is the rank that will enable us to be evaluators of the level of innovation in various local, regional and global bodies." Through adoption of innovation, TRA aims to provide advanced and new ICT services to enhance the smart lifestyle in the UAE, develop ICT innovation competencies, and contribute to strengthening the UAE's position as an intellectual leader in the field of enabling innovation in the ICT sector. TRA works according to a comprehensive methodology to enhance innovation in all sectors that fall within its responsibility. TRA has developed a special policy that serves 11 innovation-related topics: open data, VR technologies, Internet of things, smart city technologies, artificial intelligence, future generations of communications, cyber technologies, Arab digital technology, blockchain, robotics, and advanced data analysis. The UAE has achieved leading positions in the Arab region in the Global Innovation Index 2019, as innovation is a component of the national pillars of the UAE Vision 2021, under the title United in Knowledge, which seeks to achieve a diversified and flexible knowledge economy led by skilled Emirati competencies, and reinforced by the best experiences to ensure long-term prosperity for the UAE and its people.



## UAE Telecom Subscribers Top 21.8 Million

The number of subscribers in telecommunications services in the UAE, including mobile phones, landlines and Internet, grew to 21.808 million by the end of August, 1 percent up compared to the preceding month. The latest statistics released by the Telecommunications Regulatory Authority, TRA, indicated an increase

in the number of mobile phone subscribers to 16.685 million at the end of the month, a growth of 206,000 from 16.479 million from July. Pre-paid mobile phone subscriptions totaled 13.107 million, while post-paid mobile phone subscriptions stood at 3.578 million at the end of the reference month. Landline subscriptions likewise increased

to 2.127 million from 2.125 in July, which indicates a rise from 23.6 to 23.75 lines per 100 people. In the meantime, the total number of internet subscriptions slightly declined to 2.996 million from 3 million in July, with all subscriptions conducted through broadband services.

## Saudi Arabia Companies Lead the Adoption of 5G

5G-enabled industries have the potential to deliver \$8 trillion in value to the global economy by 2030, according to new research from Nokia. The '5G Business Readiness' report surveyed 5G maturity of companies in various sectors such as mining and energy, public safety, transportation and health, around the world. The report found Saudi Arabia to be leading the race in 5G maturity with 13% Saudi companies rated as 5G mature, meaning they have deployed and are planning to expand their 5G networks. Overall, 47% of technology decision makers have a long term 5G strategy. The report further lists significant variations by sector in terms of 5G maturity. Globally, those with the highest maturity are healthcare (10%), manufacturing (9%), and energy and utilities (7%), while 94% in transportation and 93% in mining sectors are currently investing or have plans to invest in 5G. For Saudi Arabia, these industries could drive the next level of 5G adoption towards

contributing to the realization of the Saudi Vision 2030. Also, it was observed that companies have accelerated digital investment as their response to the Covid-19 pandemic. Rather than stepping back from technology investment in the wake of the pandemic, most companies have strengthened it. 56% of decision makers surveyed in Saudi Arabia as part of Nokia's research said they had accelerated their digital transformation programmes as a result of Covid-19. The report also highlights a clear correlation between 5G deployment and business performance. Companies at an advanced level of 5G adoption were the only group to experience a net increase in productivity (+10%) following Covid-19, and the only group able to maintain or increase customer engagement during the pandemic. Bernard Najm, Head of the Saudi Arabia Market Unit at Nokia, said: "The new study underlines that 5G adoption has clearly fuelled business success in Saudi Arabia.

Companies that have embraced 5G stand to benefit from advantages that go way beyond faster, more efficient and reliable network services. Moreover, the biggest challenges we face as a society – from climate change to the pandemic – can be better tackled through use of the data and technologies that 5G will unleash."

More interesting findings:

- 54% respondents said they have their CXOs support for 5G implementation in their organization;
- New sales opportunities (65%) and improved data management (61%) are the top 2 impacts of 5G for those who have already invested in 5G;
- Two thirds of technology buyers (65%) are planning to invest more in 5G than they did in 3G/4G technology; and
- 97% of technology purchasers have had their technology requirements impacted by Covid-19. 99% have had their strategic technology planning impacted.

## Cellular Service Providers Bag Broadband Contracts In Pakistan

The Universal Service Fund (USF) on Monday approved the award of contracts to several cellular service providers, including Telenor, Zong, Ufone and PTCL under the Next Generation Broadband for Sustainable Development and Next Generation Optical Fiber Network and Services programmes. The total worth of the awarded contracts is Rs5.11 billion. Under the Next Generation Optical Fiber Network and Services projects, worth approximately Rs3bn, around 1,078 km of optical fiber cable will be laid out to connect 140 villages and union councils thereby providing high-speed mobile broadband services to an unserved population of approximately 4.7 million. According to the details of the contracts, PTCL was awarded the contract for Kashmore, Ghotki, Sukkur and Khairpur districts in Sindh. Telenor, Zong and Ufone bagged contracts worth Rs2 billion. Telenor was awarded the contract for Chitral, Upper Dir and Lower Dir districts in Khyber-Pakhtunkhwa (KP) where an unserved population of around

0.7 million would benefit from high-speed mobile broadband services in 648 unserved villages and an approximate unserved area of 18,212 square kilometers. Similarly, Zong has been awarded the contract of Karachi West and Malir districts in Sindh that will benefit an unserved population of approximately 0.1m in 36 unserved villages and approximately 690 sq. km of unserved area while Ufone is being awarded the

contract of Mastung and Ziarat districts in Balochistan to serve an unserved population of approximately 0.1m in 226 unserved villages and an approximate unserved area of 6,324 sq km. The projects which would improve digital and cellular connectivity in the country, especially in rural areas as well as promoting tourism infrastructure.



## Saudi Arabia Signs MoUs with IBM, Alibaba and Huawei on AI

The Saudi Authority for Data and Artificial Intelligence has signed memorandums of understanding with IBM, Alibaba and Huawei in areas of artificial intelligence (AI) at a summit in the Kingdom, the Saudi Press Agency reported. SDAIA and Alibaba Cloud announced at the Global AI Summit in Riyadh a MoU to partner in supporting Saudi Arabia's path to develop smart cities through AI, SPA said. "Saudi Arabia's Vision 2030 has clear goals to transform KSA cities into smart ones by unlocking the value of city data as a national asset to realize Vision 2030 aspirations," said Abdullah Bin Sharaf Alghandi, President of SDAIA. SDAIA and Huawei signed an MOU to recognize Arabic language and character using AI technology and with the help of researchers from the Kingdom

and Huawei, according to SDAIA's Twitter account. SDAIA is seeking IBM's help in developing "real use cases" of AI in areas

of health, energy and other sectors, as well as training through a strategic relationship, it said.



## GCC Cloud Market Expected To Hit US\$2.3 Billion By 2024

GCC countries are witnessing accelerated cloud adoption, aided by the ongoing investment by cloud providers and the continued need for remote working arrangements, the International Data Corporation (IDC) revealed during a Dubai Outsource City event. The GCC public cloud market is expected to more than double in value by 2024, growing from \$956 million this year to \$2.35 billion at a cumulative annual growth rate (CAGR) of 25 percent. The findings were revealed at a recent panel discussion hosted by Dubai Outsource City, a business community supporting local and international outsourcing companies, which discussed the state of cloud adoption and data center management in the region. The session was moderated by Harish Dunakhe, Research Director (the Middle East, Turkey & Africa for Software and Cloud) of the IDC, with Santiago Freitas, Head of Technology for the Middle East and Africa, Amazon Web Services (AWS); Tanya Koval, Head of Enterprise Architecture, Infrastructure & Workplace, First Arab Bank (FAB); and Aleksander Andrijenko, Head of Infrastructure, DA-Desk forming the panel. Chief among the findings was that although enterprise spending on information technology has

remained subdued in general, several sub-markets within the sector have witnessed strong growth. This trend was particularly highlighted in the Infrastructure as a Service, Platform as a Service, and Software as a Service segment, in which spending has grown by 32.7 percent, 32 percent and 24.1 percent respectively. Ammar Al Malik, Managing Director, Dubai Outsource City, said: "During these exceptional times – when the vast majority of workers are collaborating across vast spaces, distances and time zones – cloud technologies become an unprecedented necessity. By leveraging these efficiencies, we are able to greatly simplify and smoothen workflows and processes, while also contributing to Dubai's vision to become one of the smartest, most future-ready cities in the world." Cloud adoption in the region is "seeing strong demand, driven by the diversification to non-oil economies, young and dynamic populations that are digital natives, an active startup community, and a drive to digitize across several industries," Santiago Freitas said. He also noted that the shift to the cloud is aided by significant cost advantages. By eliminating the need to make upfront investments on

physical infrastructure, and the speed of accessing servers, cloud computing enables businesses to go from idea to execution much quicker. For startups and entrepreneurs, cloud "democratizes access to technology, so that anyone with an idea and a credit card can gain access to the same technology that another large corporation can," he added. From an employer's point of view, "cloud is a major disruptor in terms of how organizations are structured, blurring the lines between different operational departments in an organization," said Koval. "It allows more room for career growth and flexibility, with employees being offered a wider field of opportunity to build different skills at different stages of their careers. It's also enabling more cohesive and collaborative conversations between business leaders and IT teams." For Andrijenko, the power of the cloud can be seen in its ability to "turn big data into informed business decisions". By leveraging the wealth of digital insights generated by greater data processing systems, companies can create strategies to drive themselves forward, increase commercial gains, and expand their bottom line. The IDC also found that 53 percent of Chief Information Officers in

the region are aiming to accelerate their existing digital transformation efforts to meet customer and business needs, whereas only 23 percent plan to slow down or stall these initiatives to focus on core IT

tasks. Saudi Arabia is forecast to spend the highest on enterprise IT in the GCC region this year, at \$5.8 billion, followed by the UAE with \$5.3 billion. Dubai Outsource City regularly brings together key industry

voices to share knowledge and insight on the rapidly evolving outsourcing landscape and will be hosting another digital panel discussion soon.

## Bahrain to Boost the Digital Economy

Bahrain is well on track to upgrade the telecommunications sector as part of its goal to further develop the country's digital economy. During AN's online weekly Cabinet meeting, chaired by His Royal Highness Prince Salman bin Hamad Al Khalifa, the Crown Prince, Deputy Supreme Commander and First Deputy Prime Minister, the Fifth National Telecommunications Plan, which outlines the government's general policies and strategies regarding the telecommunications sector during the next three years. The plan includes completing the development of the national broadband network, extending its coverage to all homes and in situations at fair and reasonable prices, achieving full equality in the provision of services and enhancing the role of Bnet in developing infrastructure for optical fibers. It further aims to enhance competition within the mobile telecommunications sector, spectrum and fifth generation, and to provide international connectivity to and from Bahrain, as well as to further develop the Kingdom's digital economy. HRH the Crown Prince issued directives to ministers and government agencies to expedite their responses to questions and requests received from the Council of Representative and Shura Council committees, in order to further enhance co-operation between the executive and legislative branches. The Cabinet also reviewed the Electricity and Water Authority's performance and efficiency regarding the production, transmission and distribution of electricity and water during the summer months. The memorandum submitted by the Minister of Electricity and Water Affairs also outlined the measures and preparations taken by the authority to rationalize the use of electricity, in addition to projects that contribute to increasing reliability and ensuring current and future development projects receive their required resources. The Cabinet praised the EWA for its efforts producing, distributing and transporting electricity and water. Bahrain is well on track to upgrade the telecommunications sector as part of its goal to further develop the country's digital economy. During online weekly Cabinet meeting, chaired by His Royal Highness Prince Salman bin Hamad Al Khalifa, the Crown Prince, Deputy Supreme Commander and First Deputy Prime Minister, the Fifth National Telecommunications Plan, which outlines the government's general policies and strategies regarding the telecommunications sector during the next three years. The plan includes completing the development of the national broadband network, extending its coverage to all homes and in situations at fair and reasonable prices, achieving full equality in the provision of services and



*HRH the Crown Prince chairs the weekly Cabinet meeting*

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## UAE Expects Full 5G Coverage By 2025

The Telecommunications Regulatory Authority (TRA) of the United Arab Emirates (UAE) says it expects all inhabited areas of the country to be covered by 5G wireless networks by the end of 2025. The watchdog recently allocated 24.25GHz-27.5GHz millimeter

wave (mmWave) spectrum to cellcos Etisalat and Du which they will use to complement their existing 3.5GHz 5G services. 1GHz of the higher band frequencies will be handed out this month, with a second tranche made available in the third quarter of 2021.

## TRA UAE Publishes List of Approved Telecom Devices on Its Website

The Telecommunications Regulatory Authority, TRA, has announced the launch of a special page on its website that includes all the approved telecom devices in the UAE, allowing customers to check their compatibility with the technical

standards. The list will help customers about the devices that have been approved and tested with the networks of service providers in the country. It also helps public and private entities to ensure that the suppliers' offers contain devices

approved by TRA. Saif Bin Ghelaita, Director of Technology Development Affairs, said, "TRA strives to ensure that the telecom devices in the UAE are compatible with the approved technical standards of TRA's Type Approval System, with the aim of ensuring access to the best services and full compatibility with the networks operating in the UAE. "Due to the large number and diversity of these devices, TRA launched a special page that includes all TRA approved devices, which allows consumers to ensure that the telecom devices have been approved by TRA before purchasing them, through checking on TRA approved devices webpage, and making sure that the devices they want to buy are enlisted among approved devices." The TRA page includes more than 15,000 devices, including mobile phones, computers and their accessories, tablets, transmitters and other devices that are used in the field of ICT.



## Bahrain Has Potential to Become Mideast ICT Hub

Bahrain has the adequate infrastructure, advanced legislation and financial resources to become the region's leading ICT hub, according to an expert. There is increasing demand locally and regionally for these technologies and we anticipate high expectations for their revenues to grow significantly, stated Yaqoob Al Awadhi, the CEO of NGN International, a full-fledged systems integrator and IT consultant based in Bahrain. He pointed out that the kingdom had enough potential to become an advanced center in the field of industry, development, programming, and application of information systems in the region, depending on its national cadres that has the ability to learn and innovate. "Bahrain have the adequate ICT infrastructure, advanced legislation, and the presence of financial resources to ensure its dominance in regional and even global competition," noted Al Awadhi. "There is

increasing demand locally and regionally for these technologies and we anticipate high expectations for their revenues to grow significantly," he added. As Bahrain moves towards digital transformation and building a knowledge economy, advanced information systems appear as one of the most essential features of the 4th industrial revolution, said the ICT expert. "We can reproduce advanced technologies in AI, robotics, big data, blockchain, biotechnology, nanotechnology, three-dimensional printing, and the Internet of things and utilize them in diverse sectors," observed Al Awadhi. He pointed out that the kingdom had at one point been able to embrace the financial banking industry and develop it until it became a pioneer in the field. "Similarly, it can be the leader in the field of robotics industry whose market size is estimated at billions of dollars around the world," he added. He called upon authori-

ties to establish an incubator or business accelerator in Bahrain dedicated to advanced information technologies such as artificial intelligence and robotics, as these new technologies provide entrepreneurs with innovative ways to add value to their activities and open a new era for emerging companies. He also urged Bahraini youth to take up robotics as career. Downplaying the fear of linking the expansion of using robots and the high level of unemployment, Al Awadhi said: "Robotics industry will provide qualitative job opportunities for Bahrainis in the fields of programming, AI, and other systems." "Modern technologies will impose themselves into our business either we approve it or not, and it is more proper for us to be proactive in benefiting from them and integrating them into our lives and encourage our youth to deal with," he added.

## Saudi Arabia Launches National Artificial Intelligence Strategy

Saudi Arabia on Wednesday launched a national artificial intelligence strategy aimed at making it a global leader in the field as it seeks to diversify its oil-based economy. The National Strategy for Data and Artificial Intelligence (NSDAI) will seek to attract \$20 billion in foreign and local investments by 2030, a NSDAI statement said. Speaking at the opening of the kingdom's Global AI Summit, the head of the Saudi Data and Artificial Intelligence Authority (SDAIA) - which will spearhead the NSDAI strategy - said Riyadh would announce several AI partnerships. "Saudi Arabia will implement a multi-phase, multi-faceted plan that includes skills, policy and regulation, investment, research and innovation, and ecosystem development," the statement said. Saudi Arabia is pushing to diversify its economy away from oil, boost the private sector and create more

jobs for Saudis under its "Vision 2030" plan. The kingdom aims to train 2,000 Saudi data and AI specialists over the next

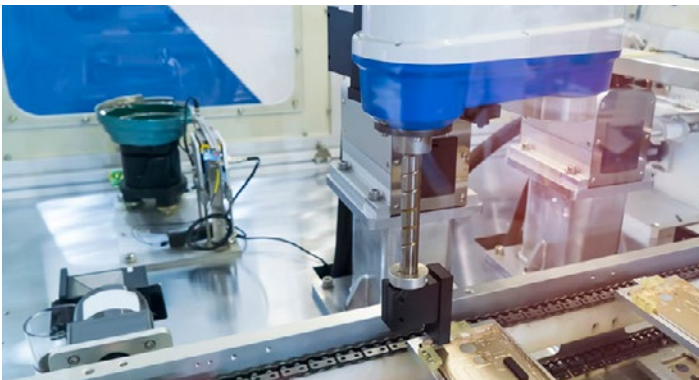
10 years, SDAIA head Abdullah bin Sharaf Alghamdi told Reuters.



## Government to Issue Licenses for Smartphone Manufacturing in Pakistan

The Senate standing on Information Technology and Telecommunication was informed on Friday that Pakistan Telecommunication Authority (PTA) will soon issue licenses for manufacturing Smartphones in the country. The committee met under the chairmanship of Rubina Khalid on Friday who observed that easy access to smartphones is essential for achieving the Digital Pakistan agenda. Committee members proposed PTA to bind mobile companies for providing mobile handset to the general public on installments. Member PTA said that the Authority will provide licenses and companies can manufacture 4G supporting phones by themselves. "PTA will soon launch license for local mobile manufacturing", said the official. The committee recommended that PTA should discourage the manufacturing of

ordinary telephones at the local level. Rubina Khalid also proposed that banks should be allowed to provide mobile handsets on installments. All electronics items including vehicles are available in installments. Not everyone can buy a mobile phone in cash, said Rubina Khalid. The committee proposed that PTA may block mobile handsets if the customer defaults and does not pay installments. Chairperson stated that withholding tax is levied on mobile packages. Why do students come into the tax net and ask them for holding tax?, she said, adding that the committee had proposed for tax exemption on net packages for students but it was rejected by the Federal Board of Revenue (FBR). The committee also discussed the matter pertaining to the non-payment of PTCL retired employees' pension. Rehman Malik got angry with Pakistan Telecommunication Trust officials while saying that elderly pensioners are being humiliated. The committee has been giving instructions for two years, but PTCL management is silent, said Malik, adding that the report of the sub-committee has been presented in the House. "I have the evidence of how the buildings were rented", said Malik, adding that Parliament will issue arrest warrants for two of the officers. The committee summoned the board members of PTCL in its next meeting. The committee also raised the matter of non-provision of internet facility in former FATA. Closing anything is not the solution, said the chairperson, adding that PUBG should not be banned, but parents should guide children.



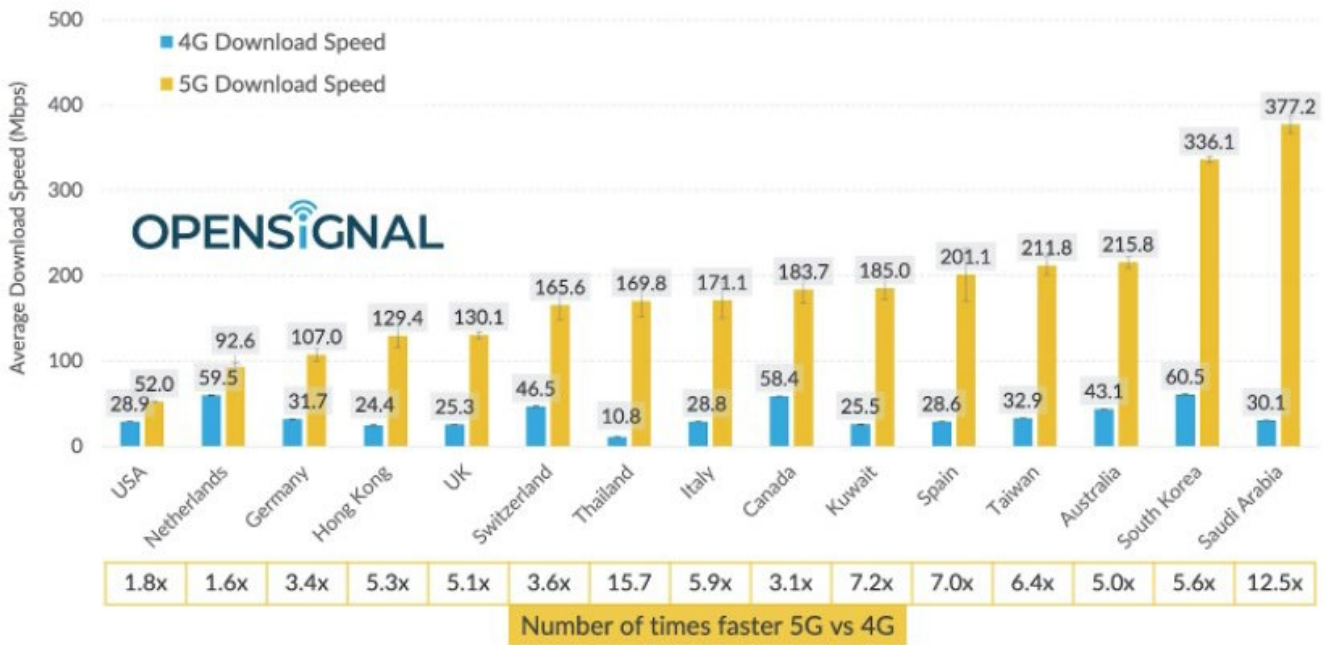


## Saudi Arabia Delivers 5G Download Speed of 377.2 Mbps

Saudi Arabia delivered an average 5G download speed of 377.2 Mbps, according to a report from industry tracker Opensignal. South Korea's 5G download speed is the world's second-fastest behind Saudi Arabia, reaching an average speed of 336.1 Mbps. Opensignal tracked data between July 1 and September 28 in 15 countries with 5G networks. South Korea's 5G download speed over the period was also 5.6 times faster than its

average 4G download speed of 60.5 Mbps. The latest data mark an improvement for South Korea's 5G network, which recorded an average download speed of 312.7 Mbps in an August report from Opensignal. The time South Korean 5G users spend connected to the network rose, reaching 22.2 percent, up from 20.7 percent. Many countries that have deployed 5G, including South Korea, currently offer the network's services on non-standalone

mode, requiring support from the 4G network. South Korea ranked fifth in terms of 5G mobile network accessibility, with Saudi Arabia at 37 percent, Kuwait at 27.7 percent, Thailand at 24.9 percent and Hong Kong at 22.9 percent, the report said. South Korea, which started the commercial roll out of 5G service in April last year, had 8.7 million 5G mobile accounts as of August as compared with some 800,000 from the previous month.



Data collection period July 1 - September 28, 2020

## Saudi National Cybersecurity Authority Issues New Controls for Cloud Services

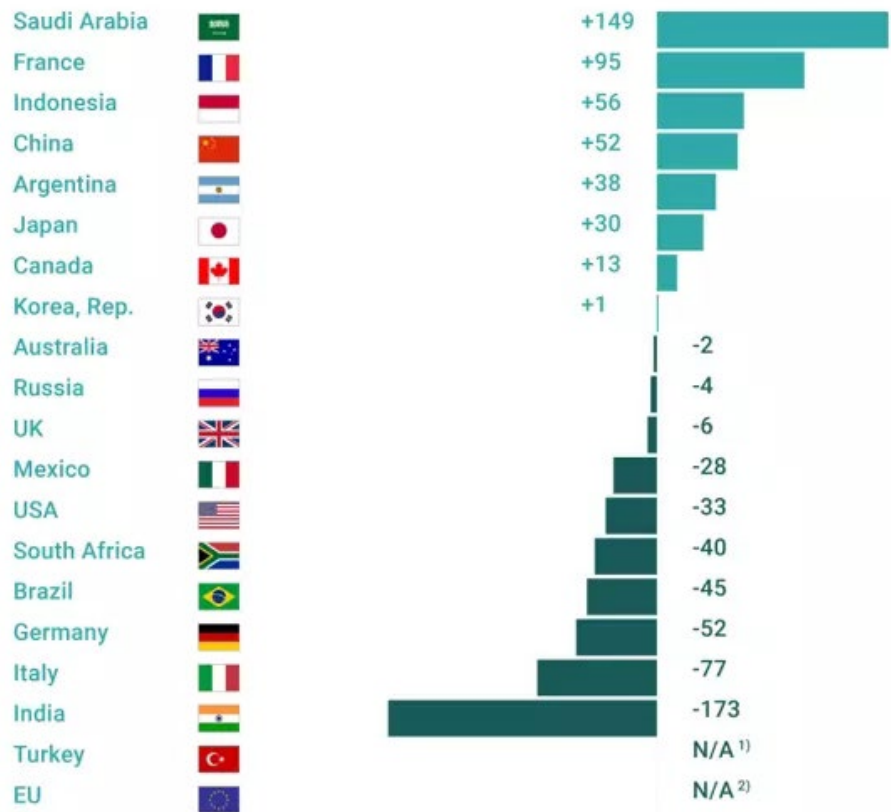
The National Cybersecurity Authority (NCA) issued its Cloud Cybersecurity Controls document, it announced. The controls aim to reinforce the reliability of cloud services by providing security against various threats and to support the continuity of services to users. The NCA is responsible for issuing, monitoring, and updating the Kingdom's Cybersecurity policies and standards. The document was developed after extensive research

into global Cybersecurity standards, practices frameworks and controls, the NCA said in its statement. The document consists of 37 main controls and 96 subcontrols for cloud-service providers, as well as 18 main controls and 26 subcontrols for cloud-service tenants. The NCA also announced its Cybersecurity cloud controls methodology and mapping annex document, which explains the design principles and structure of the

Cybersecurity cloud controls, and lays out their relation to international standards. The new document is an extension of other controls issued by NCA, including its Essential Cybersecurity Controls and Critical Systems Cybersecurity Controls. The authority stressed that by implementing these controls, users will be protecting national security and the Kingdom's critical infrastructure.

## Saudi Arabia Number 1 among 140 Nations in Digital Competitiveness

Saudi Arabia's heavy investments in technology allowed it to rank first among 140 nations in digital competitiveness, beating France, Indonesia, and China. The findings were based on a World Economic Forum report that analyzed the progress countries made in the last three years. According to Philip Meissner, founder of the European Center for Digital Competitiveness, which compiled the study, the standouts have clear strategic visions that were swiftly implemented and invested a lot in startups, future technologies, and innovation. Saudi Arabia's Vision 2030 blueprint for economic and social reform relies on technology as a key driver. The Kingdom is reducing its reliance on the oil industry by investing heavily in global technology companies while encouraging its citizens to pursue careers in the sector. The report noted that Saudi Arabia launched its "ICT Strategy 2023" in 2018 to transform itself into a digital and technological powerhouse and that it allocated \$500 billion for its smart city project NEOM to highlight aspirations toward the "Saudi Vision 2030." Saudi Arabia was the top digital riser among G20 countries, with India and Italy felling significantly behind. Among Middle Eastern countries, Iran



and Lebanon dropped significantly. The Middle East performed well with nine out of 14 countries improving in digital competitiveness. Morocco improved the

most in the "ecosystem" dimension, while Saudi Arabia was most improved in the "mindset" dimension.

## TRA Hosts Local Governments Delegations to Discuss the UN E-Government Survey 2020

The Telecommunications Regulatory Authority (TRA) hosted, in three webinars, delegations from the Competitiveness Office of Abu Dhabi (COAD), Dubai Government (Smart Dubai), and Digital Sharjah Office, to review the United Nations e-Government Survey 2020, its key results, and the role of local governments in enhancing the UAE e-Government in order to improve results. These webinars come within the framework of TRA's supervisory role in the achievement of the national Online Services Index (OSI), in accordance with the United Nations e-Government Survey, in strategic partnership with the relevant government entities. These webinars are

part a series of sessions initiated by the OSI Executive Team to exchange experiences with local electronic/smart/digital governments with the aim of highlighting the most prominent developments in the indicators included in the survey for 2020, such as the e-Government Development Index (EGDI), the digital participation index and the local services index (smart cities). During the three sessions, the speakers addressed the UN survey, the results of the main index, the sub-indicators, and the advanced results achieved by the UAE, which reflect the great efforts made by all local and federal government entities to advance the UAE rank in EGDI. The sessions also

discussed the role of local governments in enhancing e-government in the country, especially as the United Nations focuses on the development of smart cities during the survey process, in addition to the availability of local smart services, particularly in education, health and transportation sectors. Commenting on these webinars, H.E. Salem Al Housani, Acting Deputy Director General for Information & E-Government Sector, said: "The UAE achievements in the United Nations e-Government Survey are greatly praised, thanks to hard work and close cooperation between all local and federal government entities. We have been able to develop e-Government

performance and provide hundreds of online services, which placed the UAE among the best countries in the main index and sub-indicators." H.E. Al Housani highlighted that the results achieved motivate all local and federal government entities to continue their efforts to achieve further progress. He added: "The methods of evaluating e-governments change constantly with the development of technologies and work methods. In the next session, the focus will be greater on local governments, smart cities, and the extent of application of emerging technologies in the country's vital sectors such as the education, health and transportation, which will make the role of local governments greater in ob-

taining the best results. The measures taken to limit the effects of COVID-19 will also have a big role in the results, and we are proud that we are among the leading countries in taking the best measures in this regard, such as the application of remote work, distance education, and providing additional smart services." The sessions included a detailed explanation of the results of the main index and sub-indicators, and the main areas of focus during the evaluation process. The sessions also addressed ways to improve performance in the field of smart services, especially at the local government level. The United Arab Emirates ranked first in the Arab Region and in Western Asia, and 8th globally

in OSI issued by the United Nations within the overall EGD. It progressed to the 16th rank after ranking 17th in the previous session. In the same survey, the UAE ranked 7th the Telecommunication Infrastructure Index (TII). In its current session, the survey focuses on the role of governments in serving the UN SDGs and slogan "Leaving no one behind", in addition to the role of digital transformation programs in bridging the divide between segments of society in various fields. The survey addressed the programs of governments around the world in engaging the public in developing services, policies and programs that serve everyone's interests. 📍

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## ARTICLE

# Mobily Digital Transformation within COVID-19 Implications



## Omar S. Al Rasheed

Chief Digital & Experience Officer & A. Chief Strategy Officer

Mobily



*Digital Transformation is a key pillar of Mobily's GAIN strategy. The 'Digitalization' end result at Mobily has been synonymous with incremental gains rather than just rocking the boat. Soon after GAIN came into effect, we were engulfed by the COVID-19 pandemic, which necessitated the need for accelerating three years of digitalization across the entire operating model in this year.*

The Kingdom of Saudi Arabia's citizen's and residents are amongst the leading users of global digital platforms like YouTube, Twitter, Facebook and Snapchat with a wealth of a about 70% youth majority population. This growing demographic is dominantly focused on digital, and the pandemic didn't leave a choice for the rest of the population.

In an increasingly complex and toughly challenging market, competition is high, Telco's are not just competing for connecting people anymore. Pervasive computing and software technology services, applications and platforms are constantly being launched and accelerating the 'minimum expectations' our customers have of digital products.

As a result, major Saudi brands were already implementing large scale digital transformation efforts prior to the pandemic to improve the quality of their services, deliver products that meet customers' expectations, stand out from the crowd and also optimize their internal processes increasing employees' performance and satisfaction.

Large Saudi based companies have already begun this shift in the last years. They're focusing on investing and revamping their user-centered design thinking innovation processes, creating internal startup-like innovation teams, establishing "Google like" non-corporate workplaces, attracting and retaining the niche talent whom are necessary to deliver & actualize the kind of company performance that facilitates long term digital success.

Business has rapidly changed. The consumer has changed even faster. Spoilt by on-demand choices, the world is at your fingertips. With seamless "single click" user experiences, you can stream content, group conference, get anything from your city delivered within few hours and anything from the other side of the world within days.

Digital Transformation is a key pillar of Mobily's GAIN strategy. The 'Digitalization' end result at Mobily has been synonymous with incremental gains rather than just rocking the boat. Soon after GAIN came into effect, we were engulfed by the COVID-19 pandemic, which necessitated the need for accelerating three years of digitalization across the entire operating model in this year.

True to GAIN's strategic objective of being an Integrated Telco, we started by tackling both internal and external integration on a solid digital foundation of globally standardized APIs. We strongly believe that when complexity is addressed correctly and permanently, the business becomes much simpler to operate. Hence our focus for internal integration was "simplification" of processes leading to internal digitalization. This enables our infrastructure to be open and ready for integration with external partners, to offer better and more varied services to our customers. Serving our ultimate goal, achieving customer excellence through operational excellence. While this is easy to summarize in a few sentences, there are several on-going initiatives currently to achieve on-going value realization for customers and employees.

#### Using "Design" As A Differentiator

Luckily for us, Mobily's strategy to invest in creating a digital department with a dedicated design unit 2 years ago paid off. When Covid-19 hit, our digital app experience was already easy to use, ready to scale, earned the position of the number 1 telco app rating in the middle east and flexible to quickly adapt to the new changes that the pandemic required.

Telecom, a typically traditional industry, isn't at the forefront of innovative experiences and design that delights and inspires anymore. The instinct of

most companies is to hop on the "digital transformation" bandwagon in an effort to be in line with the new digital era. Often this involves a glossy design refresh, shiny new tools, and fancy processes that promise to streamline and modernize. Unfortunately, this is where things go wrong.

*Reaching digital maturity from an unaware state can be a difficult transition for a large traditional company. With that in mind, we opted for a multi-phase rollout (which is currently in play) to ease the change management process, especially from an operations and customer experience standpoint.*

It's easy to fall into the trap of wanting a grand reveal that shows an "overnight" transformation, but this tactic can come at a high cost if executed improperly or too hastily. Processes fall to the wayside, tools go unused, and eventually all that's left is only a nice-looking brand design without any substantial long term value delivered. So, when Mobily moved forward with a massive design upgrade two years ago, we decided that we wanted to powerfully hone in on our digital maturity as opposed to the often vague and superficial concept of digital transformation.

We weren't interested in satisfying symptoms of an underlying problem or turning ourselves into a feature factory as we tried to transition to digital. It is superficial changes like a freshly built website and a mobile app. or a new tech stack to underpin them that misguide corporates into thinking they are digital. Knowing this we were committed to ensuring that our internal operations and processes were well-prepared to support and sustain the complexities that would come with this kind of long-term change. Our teams rolled up their sleeves to begin the "True digital marathon".

Reaching digital maturity from an unaware

state can be a difficult transition for a large traditional company. With that in mind, we opted for a multi-phase rollout (which is currently in play) to ease the change management process, especially from an operations and customer experience standpoint.

While a bit unconventional, this phased rollout has yielded strong results, showing steady month-on-month growth in digital and customer experience maturity. Our target solution was broken down into smaller, actionable, design-driven experiences that could be meticulously planned and individually implemented while plugging into the other pieces to form our product vision.

One of the largest drivers of our industry leading digital experiences is our close integration with the customer experience department. Our digital team is driven by experiences not commercial or engineering teams. We're able to align across the company and look at things simultaneously from two views. The first being a holistic 30,000 foot view, a single experience map of our CX journeys, where each cx journey has its priority and maturity assessment. And second, dig into details by designing each customer journey, in a myriad of multiple possible user journey flows. For example, where others design a single payment flow, we may design 10-20 user journeys: we carefully design and monitor first time experiences to be different, easier, step by step, with less visual noise and we design returning customer experiences to be almost like AI, already present you with your preferred options so you speed through and get back to living your life. That's not all, prepaid, postpaid, fiber, all have their unique journeys and so do credit card, vouchers or cash options etc.

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### COVID-19 Situation: A Stress Test for Telco's

The whole world was impacted by the COVID-19 pandemic, the crisis reshaped lots of business notions, and like any change you can choose to simply resist or learn from it, evolve with it to capitalize on it and that's what we agreed at Mobily; to embrace the change and do what we can to drive benefit from it for our customers. At Mobily, we remained optimistic, there was no scope for negativity and we didn't lose confidence in our infrastructure and capabilities of our talented dedicated team members, who faced the most challenging demands of their jobs ever with unimagined continuous peak loads. The pandemic was a stress test not only for us but for all Telco's' capabilities providing SWOT to leverage on in order to further solidify the business foundations necessary to survive and thrive in a digitally powered world.

According to a report by VISA, there was a surge in e-commerce, a preference for trusted brands, a decline in discretionary spending and a polarization of sustainability. Consumers switched to a larger basket, but reduced shopping frequency and shifted to making purchases through digital channels. Triggered by the COVID-19 pandemic, a change can easily be detected in Saudi consumer behavior.

Moreover, the crisis accelerated the journey of the realization of Vision 2030 goals of the Kingdom of Saudi Arabia with respect to digitalization and becoming a cashless society. The change in consumer behavior mandated the majority of businesses to re-think their business model by integrating with the right technology enablers. Though not to forget that these changes had their costs too, imposing new financial burdens on an already weakened business due to pandemic and the time required to build and adapt to a new business model.

#### Need for Telco's' Resiliency:

During the COVID-19, despite being one of the least impacted sectors, Telco's have found themselves at the center of a fast-changing world. Amidst lockdowns, staying connected was in great demand, in addition to being safe and healthy, as entire populations were staying home and Telco's' traditional & digital infrastructure became increasingly essential for day-to-day personal & business interactions.

As always, Telco's rose to the challenge by being backbones of robust and strong societies worldwide – which is undoubtedly something to be proud of as an industry. Telco's have achieved this by proving themselves to be agile, decisive and ensuring that networks can cope with the surge in demand. After decades of connecting people, Telco's finally received appreciation as providers of critical infrastructure in times of need.

Going forward, enterprise resiliency is by no means certain. Apart from the unforeseen increased demand on networks, disruption to frontline staff (e.g. sales & customer care) and a volatile supply chain is unsettling network rollout time frames along with execution of other commercial plans. The above are all key issues to address as we evolve to the 'new normal' and reflect back on the lessons learnt and their implications on the way Telco's operate in the future.

#### COVID-19 & Acceleration of Digital Transformation @ Mobily:

The crisis situation turned out to be a test of the several pilot programs that Mobily was running, which needed ample time to be scaled up. However, time was not on our side, the scalability test came much earlier than anticipated as traffic on digital

channels accelerated exponentially.

The Digital Transformation journey though has been nothing short of a roller coaster ride for Mobily. Like most of the Telco's, legacy infrastructure was one of the key bottlenecks to digitalization. Going with the approach of a completely new stack had fundamental inherent risks, which not all stakeholders were fully satisfied on the implementation implications on the business.

In such a situation, Mobily decided to follow essential steps and leverage the fundamentals of digitalization – agility, open source, analytics etc. Within the agile framework, scrum methodology was adopted, which was completely different from using the traditional approach where functions are done in a sequence that may not result in the same benefits being realized, or if they are, to a lesser degree.

The true north shall always be the customer need, and in a digital world this is expressed by the need for simplicity in usability. This isn't luck nor random. It can be scientifically measured in 5 core attributes: how to learn to use the system (learnability), how quick to use the system is (efficiency), memorability, simple error recovery and satisfaction of use.

When designing a digital product user experience, the user journeys should be designed end to end, starting with the bigger picture scenarios, then digging deep down into the details. A significant number of our plans and programs have been purposely designed to deliver in the long-term, and the seeds we have been planting have started to pay off. One such testament is our mobile app, a digital gateway to Mobily's services in the consumers' hands, that has attained the highest app rating from telco customers in the whole kingdom and all middle east. This is a real reflection of our adherence to these scientific processes of lean principles, experience design and usability engineering whilst focused on the "True North".

Our foundation for the design refresh is based on three experience principles – Dynamic, Empowering, and Inspiring – which cascaded from Mobily's Brand

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eco-system. We created these principles by referring to the Limbic System, an experience map modelled after our "emotional brain," helping designers tap into the psychology behind the human emotional response.

This served two purposes:

1. It enabled us to map four distinct behavioral customer archetypes (Early Adopter, Premium Enthusiast, Value Seeker, Optimizer) to the system, helping us define what kind of brand experience customers actually wanted across our B2B and B2C offerings.
2. It broadened our understanding of both the current and desired brand

*When designing a digital product user experience, the user journeys should be designed end to end, starting with the bigger picture scenarios, then digging deep down into the details. A significant number of our plans and programs have been purposely designed to deliver in the long-term, and the seeds we have been planting have started to pay off.*

positioning compared to competition and subsequently, the experience principles that would help in differentiating us.

These principles are firmly woven across our Product and Content Strategy, aligning brand positioning and perception by enriching the brand's values with an experience layer that resonates with our target audience. The approach delivered, legacy systems were no longer an excuse, longer cycle times were history, overhaul of the complete infrastructure was not required.

We have the vision of not only supporting the Kingdom's national transformation plan but to act as a catalyst, to work as a key player in achieving the successful execution of Vision 2030. Amongst several initiatives to realize this objective, we plan to innovate by bringing new delightful experiences and technologies that bring value to our customers in multiple sectors like education, banking, government services, health and beyond.

Innovation that combines the power of digital with the science of customer experience design can produce lots of valuable enjoyable solutions that enrich peoples' lives. As we innovate we aim to bring such positive impact on the Kingdom and our people, that our work becomes a case study for the region to aspire to. Our commitment is to always strive to utilize the latest technologies and inventions, to innovate in order to continuously make

*Innovation that combines the power of digital with the science of customer experience design can produce lots of valuable enjoyable solutions that enrich peoples' lives. As we innovate we aim to bring such positive impact on the Kingdom and our people, that our work becomes a case study for the region to aspire to.*

people's experiences and lives better not only as a business objective but rather a mission of life.

In summary, COVID-19 truly accelerated the digitalization efforts at Mobily in the form of carrying out execution in non-traditional ways, which have paid dividends. Penetration of digital sales, recharges and customer interactions (through digital channels) have multiplied many folds with Mobily reaping the benefits through efficiency, faster time to market and better customer engagement and satisfaction. Despite all the efforts and successes along the journey, Mobily still has a long way to go, however the outcomes prove that we are in the right direction to becoming the leading Digital Telco. 🇸🇦



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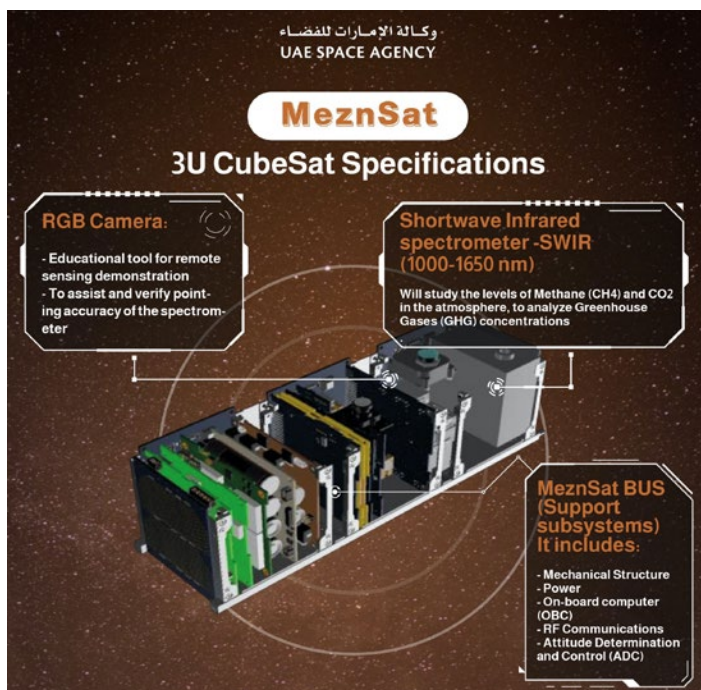
## SATELLITE NEWS

### UAE Launches Mini Satellite MeznSat into Space

A miniature satellite that will monitor greenhouse gases over UAE was successfully launched into space on Monday. MeznSat lifted-off on board a Russian Soyuz 2.1b rocket from the Plesetsk Cosmodrome in Russia at 3.20pm Gulf Standard Time. The nanosat, weighing 2.7 kilograms, will be carried to the low Earth orbit altitude of 575km and the first signal is expected to come about eight hours after launch if the nanosat remains 'healthy and alive'. Developed by university students in the UAE, the nanosatellite will detect gases such as carbon dioxide and methane over the Emirates to help scientists reduce the impact of climate change. The satellite was launched into the skies along with 18 other CubeSats. It was built by students at the Khalifa University and American University of Ras Al Khaimah (AURAK) and funded by the UAE Space Agency. "It is an honour for me to be part of developing our national nanosatellite program," Abdulla Almesmari, a PhD student in mechanical engineering at Khalifa University who assisted with the testing and integration of MeznSat, told The National. "MeznSat is a remarkable achievement for us, since it is the first UAE CubeSat with a 3-unit platform, carrying the short-wave infrared spectrometer. Looking forward to receive the first beacon from MeznSat." Maryam Saeed Al Nuaimi, an AURAK student who worked on the CubeSat's programming, said: "I am happy and proud of the success of the launch. Finally, MeznSat in space. We are waiting for the first contact." Students will use the YahSat Space Lab



in Khalifa University as the primary ground station to process and analyze the nanosat's data, as well as the ground station in AURAK. MeznSat is the third CubeSat to be launched by the UAE, after Nayif-1 in 2017 and MySat-1 in 2018. This is the first 3-unit nanosat to be built by the UAE, meaning it features more systems than the previous one-unit versions. MeznSat has the Argus 2000 spectrometer and RGB (red, green, blue) camera. Both of these will be used for greenhouse gas monitoring, as well as predicting algal bloom. It will estimate the concentration of total suspended matter in the coastal waters of the Arabian Gulf. "These projects seek to develop national capabilities and enhance scientific research in universities, bringing up a new generation of Emirati engineers ready to join in the space sector," said Dr. Mohammed Al Ahbabi, Director General of the UAE Space Agency (UAESA). "This direction by UAESA aligns with the keen interest of the wise UAE leadership in engaging the youth in scientific projects and giving them the experience needed for the job market." Dr. Arif Sultan Al Hammadi, Executive Vice President of Khalifa University, said their students plan on developing three more nanosatellites in the future. These include the MySat-2 and Light-1 CubeSats. "Our students have the opportunity to contribute to these projects during their studies," he said. "Their research innovations will have a great impact on the future of the UAE's space sector. We look forward to witnessing similar achievements, as we provide our students with an opportunity to demonstrate their capabilities." Sarah Al Amiri, the President of UAESA, also congratulated the university students on the successful launch. She said experience-based learning helps prepare students for the job market. "We would like to congratulate all the students and professors on this great achievement," said Ms. Al Amiri. "We are proud to see national capabilities designing, developing, and manufacturing satellites that will have an impact on UAE's space sector." UAESA used the commercial services of Exolaunch to launch MeznSat.



## Mohamed Bin Zayed-Sat: Sheikh Mohammed Announces New UAE Satellite

The satellite bears the initials of His Highness Sheikh Mohamed bin Zayed Al Nahyan. A new satellite will be built in the UAE and it will be called MBZ-Sat, His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, announced on Wednesday. The satellite bears the initials of His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces. Taking to Twitter, Sheikh Mohammed said this satellite technology will be the latest in the region and the team behind the project will be 100 per cent Emirati. The UAE Vice-President said this satellite will be used for civilian and commercial purposes. "Its name will be MBZ-sat. The previous satellite was named Khalifa Sat, and this one will be named after my brother Mohammed bin Zayed, may Allah protect him," Sheikh Mohammed tweeted. KhalifaSat was the first satellite that had been 100 per cent designed and manufactured in the UAE. One of the world's most advanced remote sensing observation satellites, it was launched into low Earth orbit in October 2018, beginning



a five-year mission to capture and transmit high-quality, detailed images of Earth back to the Mohammed Bin Rashid Space Centre in Dubai. The UAE launched its National Space Program as part of the country's ambitious space program of reaching Mars by 2021 and building the first settlement there by 2117. Its Mars probe, Hope, has now travelled over 200 million kilometers since it was launched

in July this year. Cruising through space, the orbiter is nearing the halfway mark in its journey towards the Red Planet. The country sent its first astronaut to space on September 25, 2019. Emirati astronaut Hazzaa Al Mansoori went on the eight-day mission on board the Russian spacecraft Soyuz MS-15 to the International Space Station.

## Mexican and South African Companies Take Part in Satellite Project

The past few days have brought more news of the HyperActive program, expected to launch in mid-2021, whose primary aim is a flight demonstration of hyperspectral imaging and communication payloads. NanoAvionics, a leading nanosatellite bus manufacturer and mission integrator, has revealed the remaining three payloads of its D-2/AtlaCom-1 rideshare mission hosted on board its M6P 6U nanosatellite bus. The additional payloads, a camera for hyperspectral remote sensing, a new high-gain X-band antenna and an upgraded X-Band downlink transmitter, are all part of the HyperActive collaboration. As well as demonstrating hyperspectral imaging and communication payloads

HyperActive aims to evaluate market interest for hyperspectral imaging data captured and processed as part of the program. The consortium partners for this international collaboration comprise a number of players from both South Africa and Mexico. Dragonfly Aerospace is a South African space company focused on creating high-performance imaging payloads that are designed for compact satellites enabling large imaging constellations. A key instrument of the program is the Mantis imager, a hyperspectral camera for remote sensing developed by Dragonfly Aerospace, which will also provide an X-band data download ground station for the mission. The high-

gain X-band antenna and transmitter to send the data back to Earth are products of the consortium's partner CubeCom, also from South Africa. Responsible for processing the collected hyperspectral data and distributing it to interested parties around the world is Space JLTZ, a space company from Mexico. The generated data can be used to protect populations against natural disasters, and to develop innovation solutions to optimize various industries, among many other uses. The other partners are NanoAvionics of the US as a supplier to the consortium, as well as a mission contributor from Mexico, the Polytechnical University of Atlacomulco.

## Ethiopia Readies to Launch Second Satellite

Ethiopia is in the final stages of launching its second remote-sensing satellite into space, with the help of China, as the country seeks to advance its space science development. In an exclusive interview with *The EastAfrican*, the Director-General of the Ethiopian Space Science and Technology Institute (ESSTI), Dr Solomon Belay, said that the country's second satellite will be launched on December 20, 2020, from China's Taiyuan Spacecraft Launch Site. Named ET-SMART-RSS, the second earth observation nano-satellite was designed by Ethiopian engineers in collaboration with China's Smart Satellite Technology

Corporation under an initiative co-funded by both Ethiopia and China. The satellite, according to Dr Solomon, has improved resolution features that would enable it to capture and send high-quality images to its command center in Addis Ababa. "The major mission of the second satellite is on flood and disaster prediction," he said, adding that "agriculture and environment are also its secondary missions." Further, the satellite is expected to collect data in areas in Ethiopia not covered by the first one. "The first satellite couldn't cover all territories of Ethiopia but the second satellite will fill these gaps," Dr Solomon

said. The first satellite, named ETRSS-1, was launched on December 20, 2019. It is used for weather forecast, environment, and crop monitoring. According to the officials, the data collected from space is in high demand and is being used in universities and research centers. Ethiopia is among several African countries that have built and launched satellites to advance economic development and scientific innovation in line with the African Union policy on space development adopted in 2017.

## Turkey to Launch Communications Satellite



The Turkish Transport and Infrastructure Ministry will launch Turkey's new Türksat 5A communications satellite on Nov. 30, following the satellite's delivery by the French company Airbus on October 2, state-run Anadolu Agency reported. Transport and Infrastructure Minister Adil Karaismailoğlu announced the news at a model satellite competition at the Salt Lake in central

Anatolia. The launch "will be followed by (another satellite,) the 5B," the minister said. "We will have surprises (in store) at that time. We will be making a statement." The competition is aimed at garnering interest in aerospace for Turkey's youth, Karaismailoğlu said. "This is a competition where students can experience all phases for satellites, from the design of a space system to its implementation," he added. One of the teams from the northern Zonguldak province is also working on the launch of the actual satellite, the minister said. The Airbus Defence and Space Co. signed the contract for Türksat 5A and 5B, Turkey's first all-electric communications satellites, in 2017. The satellites were manufactured in Britain and France with Turkish Aerospace Industries (TAI) as Airbus's local industrial partner, and will be launched by SpaceX, tech heavyweight Elon Musk's aerospace company. "With Türksat 5A, Turkey will have a coverage area that encompasses the Middle East, Europe, North Africa and South Africa," Presidential Digital Transformation Office Director Ali Taha Koç told Anadolu. "With this project, Turkey will become one of 10 countries in the world that produces its own telecommunication satellites," Turkish President Recep Tayyip Erdoğan said in a speech about Türksat 6A, scheduled for 2022.

## SES Signs Central America Distribution Deal over SES-6 Satellite

Satellite operator SES announced a partnership with Guatemala-based media consortium Grupo A and Trabroadcast, a local integrator for several TV stations in Guatemala and Honduras, to provide a full suite of managed services to broadcast two local free-to-air channels across

Guatemala via the SES-6 satellite. Under the deal, Trabroadcast will air the channels Canal Antigua and Conectados con Dios TV via its teleport in Guatemala and using a multiplex turnkey service on the SES-6 satellite. Canal Antigua offers a program portfolio that provides national news,

analysis, as well as spaces for debate and opinion, supported by a global strategic alliance with CNN. Conectados con Dios TV is a channel focusing on religious content. 📺



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# iCONNECT

## ARTICLE

# New Power Solution Brings Speed and Savings to 5G Rollout



*5G base stations are more power hungry and complex than their predecessors, but the innovative and intelligent iConnect 5G Power Cabinet from China Mobile International is helping carriers evolve to next-generation networks more quickly and easily, with reduced capital expenditure and ongoing operational cost savings.*

The rollout of next-generation 5G base stations is creating challenges for carriers on the frontlines of 5G deployment across Asia Pacific and the Belt and Road countries.

A 5G network requires more base stations than its 4G LTE predecessor for the same coverage, and these base stations are more complex and more costly. They also consume much more energy because they need more antennas. At the same time, carriers are deploying multi-access edge computing (MEC) to support local processing and Internet of Things services, creating even more need for power at 5G base stations.

"Together, the rollout of 5G networks and the adoption of MEC will more than double the energy consumption of base station equipment and require a dynamic and more complex power supply system," said Alex Lee, China Mobile International Middle East. "Many base stations don't have sufficient power supply or battery capacity to support 5G deployment. Carriers will also face increased costs for the deployment, modification, operation and maintenance of 5G sites, with significantly higher power costs, particularly in the early deployment stage while the 5G traffic is still low."

## iConnect 5G Power Cabinet

In response to these challenges, CMI has introduced its innovative iConnect 5G Power Cabinet, an integrated base station power system with multiple energy input and output capabilities and modular design to support on-demand deployment. It needs less installation space and modification, ensuring a faster deployment time, and incorporates an energy management and control platform that allows remote monitoring and management to increase efficiency and reduce maintenance costs.

"The iConnect 5G Power Cabinet quickly solves the problem of insufficient power supply capacity and helps carriers deploy 5G more easily and at greater speed," Alex said.

With a one-station-one-cabinet approach, the innovative iConnect 5G Power Cabinet has the following component systems, all of which are modular, to allow flexible configuration and quick and easy replacement of parts:

- Smart multiple input multiple output (MIMO) power supply, which incorporates power from multiple energy sources (including mains, backup generator, solar and residual

power supplies) and then provides consultant voltage output for network equipment.

- Smart **Intelligent Lithium Battery**, which allows dynamic management of charge and discharge for optimum capacity and works with existing battery packs.
- **Smart energy management** platform, allowing intelligent monitoring, management and control of the power supply equipment and site energy efficiency, with an intelligent power distribution module for remote power-on and power-off control for each output branch.

*"Together, the rollout of 5G networks and the adoption of MEC will more than double the energy consumption of base station equipment and require a dynamic and more complex power supply system," said Alex Lee, China Mobile International Middle East.*

### Flexible power solution for faster construction and cost savings

The iConnect 5G Power Cabinet uses multiple energy sources and peak shaving to level out peak hour energy use and reduce power costs. This is not only an elegant way to ensure sufficient power supply for 5G equipment and minimize energy costs, but also avoids the lengthy

*"The iConnect 5G Power Cabinet quickly solves the problem of insufficient power supply capacity and helps carriers deploy 5G more easily and at greater speed," Alex said.*

approval process for mains expansion, which shortens construction time by up to 90% and lowers construction cost by up to 40%. Retaining original battery packs and alternating between them and new lithium batteries further reduces battery costs by about 30%.

### Compact and modular for easy expansion

The modular system is also easy to expand. It enables the easy scaling of distribution circuits and the phased expansion of both the battery and heat dissipation capacity as the load increases. Should any parts fail, modules can be removed and replaced, without shutting down the power supply system.

### Smart energy management and control

The iConnect 5G Power Cabinet includes

a smart energy management platform that goes beyond simple equipment monitoring to allow the carrier to control power supply equipment, analyse energy efficiency indicators and conduct system maintenance. It also provides multi-dimensional analytical reports, trend forecasts and business recommendations.

*The iConnect 5G Power Cabinet uses multiple energy sources and peak shaving to level out peak hour energy use and reduce power costs. This is not only an elegant way to ensure sufficient power supply for 5G equipment and minimize energy costs, but also avoids the lengthy approval process for mains expansion, which shortens construction time by up to 90% and lowers construction cost by up to 40%.*

The platform also includes an intelligent power distribution module that allows remote shutdown of the power supply when it is not needed, increasing overall energy efficiency by 8% to 17%.

"iConnect 5G Power Cabinet is a welcome addition to the iConnect product suite, helping carriers rapidly deploy 5G services with reduced CAPEX and electricity costs," Alex said. 📍



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## ARTICLE

## Combating Climate Change with 5G

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

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

Government leadership is important, but not enough on its own. Modern lifestyles have driven a sharp increase in energy usage, 85% of which was still based on fossil fuels in 2018. Use of fossil fuels is one of the key factors driving higher emissions of greenhouse gas (GHG), which contribute to global warming. This, in turn, has multiple dangerous impacts on the environment and on human life, such as natural disasters and the destruction of human and animal habitats. GHG emissions rose by 1.5% per year between 2008 and 2018, according to the United Nations (UN) Emissions Gap Report 2019, and total GHG emissions reached a record high of 55.3 gigatonnes of carbon dioxide equivalent (GtCO<sub>2</sub>e) in 2018.

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



**Li Xiangyu (Spacelee)**  
VP of Public Affairs and Communications  
Huawei Middle East



*5G will help other industries to hit their climate goals, known as the “enabling effect”. According to the International Telecommunication Union (ITU) SMART 2020 report,<sup>2</sup> the scale of the enabling effect, across all ICT, will be equivalent to 15% of all global emissions by the end of 2020.*

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

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

5G will help other industries to hit their climate goals, known as the “enabling effect”. According to the International Telecommunication Union (ITU) SMART 2020 report,<sup>2</sup> the scale of the enabling

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

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

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


There are many other sectors where 5G and other related technologies can have a dramatic impact on sustainability. Some of these are particularly important because they affect every industry. For instance,

transport contributes around one-third of total emissions in many regions, so there is considerable interest in using 5G to support rising levels of vehicle autonomy, so that vehicles, powered by renewable sources of electricity, have the real-time information they need to make the best decisions about routeing, parking and so on, and thus use power most efficiently and avoid traffic congestion and pollution.

Smart cities are among the best examples of how 5G can interact with other emerging technologies, including AI analytics, edge computing and massive IoT, to support a fully efficient, digital and sustainable way of living, working and travelling. Smart-city programmes, like those of the C40 Cities,<sup>4</sup> have dramatic results, with connectivity as a key enabler. In Europe, for instance, London, Berlin and Madrid have reduced GHG emissions of motor vehicles by 30% each from their peak rates, and Copenhagen by 61%.

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

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

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

## WHOLESALE NEWS

### ARCEP Extends Free Mobile-Orange Roaming Deal To 2022

French telecoms regulator ARCEP has approved a two-year extension to the national roaming agreement between Orange France and Iliad's Free Mobile, with Free Mobile users now allowed to access Orange's 2G/3G networks (subject to a down/uplink cap of 384kbps) until the end of 2022. The regulator said that it believed the move would not hinder the 'effective and fair competition between

operators for the benefit of users and the development of investment, innovation and competitiveness in the electronic communications sector', despite strong opposition from Altice France (SFR), Bouygues Telecom and industry group Alternative Telecom. All three critics provided comments in ARCEP's consultation phase, with Altice France claiming that the deal provided an

'unacceptable competitive advantage and had serious anticompetitive implications for the market', while Alternative Telecom argued it would damage competition in the wholesale segment. Free Mobile initially applied for the extension in April 2020, citing difficulties matching the coverage of its more established rivals.

### NCC Approves MTN and 9mobile National Roaming Trial

The Nigerian Communications Commission (NCC) has revealed its approval for MTN Nigeria and Emerging Markets Telecommunication Service (9mobile) to carry out a trial of national roaming. The tests can be conducted for a period of three months, from 1 August to 31 October 2020, in a few local governments, designated as the 'National Roaming geographic area', in Ondo State. According to the Executive Vice Chairman of the NCC, Umar Garba Danbatta, the primary objective of the national roaming trial is to encourage network resource sharing among operators. He said this will lead to operational expenditure optimization and capital expenditure efficiencies, thereby freeing up resources to expand mobile network coverage to unserved and underserved communities across the country, which will result in improved quality of service delivery to subscribers. 'The successful implementation of the trial will enable 9mobile

subscribers to access MTN network service within the National Roaming trial geographical area without the need for an MTN SIM card,' Danbatta said.



### ACCC Confirms Reduction in Regulated Transmission Prices

Wholesale transmission services prices in many regional and rural parts of Australia are to be reduced 'substantially', following the Australian Competition and Consumer Commission's (ACCC's) decision to reduce the regulated prices for the declared Domestic Transmission Capacity Service (DTCS). In a press release regarding the matter, the ACCC noted that it regulates transmission services in areas where there is little competition between transmission providers or limited infrastructure. In its 2020 DTCS final access determination (FAD) the regulator has set pricing which it

said is significantly lower than the previous regulated prices. As an example, it said that regulated prices for high capacity services will be 60% lower than the previous FAD, while low capacity services will see prices fall by 35%. The prices set out in the FAD are reportedly based on a benchmarking model developed by the ACCC in 2016, which uses transmission prices on competitive routes to determine appropriate prices on regulated routes. According to the regulator, the 2020 FAD reflects the overall decline in prices since 2016, while also considering the higher

costs and risk for providing undersea cable services to Tasmania and Christmas Island. The prices for the DTCS will apply until 31 March 2025. Commenting on the matter, ACCC chair Rod Sims said: 'We expect these lower prices will promote competition in downstream retail markets which will lead to lower prices as well as new, innovative services for consumers ... The downward trend in commercial transmission prices has continued over the past five years, which is reflected in the lower regulated DTCS pricing.'

## Polish Wholesale FTTH Operator NEXERA Collaborates With Enxoo on Network API

NEXERA, Poland's first exclusively large-scale wholesale telecommunications operator, has launched a Network API that enables service providers to rapidly connect and deploy services across its infrastructure in Poland. Local service providers can use the API to extend their reach with visibility into inventory, automated processes and direct connectivity to one of Poland's fastest growing high-capacity fibre-optic access networks. NEXERA's platform was developed in collaboration with Enxoo, a leading provider of cloud-based solutions for the telecoms industry. The platform enables NEXERA to present its services via API while expanding its capabilities

through consuming third-party APIs in the future. Enxoo helped it to deploy a multi-cloud solution that includes the integration of OSS and BSS systems with its network infrastructure. The platform was developed to comply with both the TM Forum and the Metro Ethernet Forum's (MEF) standards and recommendations. NEXERA is the first and largest wholesale-only Fibre to the Home (FTTH) operator in Poland with a Next Generation Access network of the 1,000,000 HPs target coverage. Network development is partially financed with European Funds under the Digital Poland Operation Program (POPC) while the majority of the investment is covered by NEXERA shareholders: Infracapital and

Nokia. Jacek Wiśniewski, CEO at NEXERA said, "We are providing our partners with rapid access to network infrastructure across Poland. We're removing the barriers to rolling out new services and automating processes to simplify and accelerate how they operate." Artur Ostrowski, Chief Commercial Officer at Enxoo said, "NEXERA is a visionary in the Polish market and together we have rolled out automation, analytics and an API-first strategy across its operations. The launch of its Network API means it can rapidly serve new demand from its partners and enable them to connect and deliver applications and services seamlessly."

## Ufone Offers Lowest Data Roaming Rates for Saudi Arabia and UAE

Ufone has introduced the lowest ever data roaming rate for Saudi Arabia and UAE. Data roaming offer will now be available for as low as 4 Paisa per 10Kb mean approx. Rs 4/MB. This allows one to remain connected with their loved ones without worrying about high connectivity charges. By using the same prepaid number, customers in Saudi Arabia and UAE can enjoy seamless services at affordable prices. Subscribers only have to dial \*506# free of cost for data roaming service activation. The roaming services will allow customers to use all social applications including Whatsapp, Facebook, IMO and Skype without any restrictions. The offer is available to customers round the clock and there is no time limit attached to it neither does it bind customers to one platform only. With travel resuming all over the world, the international data traffic has once again seen a surge. Owing to greater customer needs, Ufone revised the rates of its roaming standard PAYG data in Saudi Arabia and UAE so customers can avoid high and unpredictable data charges. The new roaming plans are built on affordability

and convenience. The Pakistani telecom company has ensured that customers remain satisfied and can enjoy complete convenience in transit without getting to have any bill shocks. With this offer, Ufone has once again reaffirmed that customer convenience and ease is a priority for the company. Ufone is constantly striving to facilitate its customers and is diligently working to stay true to its slogan "Tum hi

tou ho." The offer can also be availed by dialing Ufone Customer Helpline 333 (In Pakistan) and Ufone IR Help Desk +92-333-5100038 (Outside Pakistan only). Standard Ufone Voice Outgoing Roaming charges apply on calling IR Help Desk. Another option for customers to avail the offer is to visit nearest Ufone franchise, Service Centre or PTCL Joint Shop.

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## NBN Co to Create 'Business Fiber Zones' and Cut Wholesale Enterprise Broadband Prices

Australia's NBN Co has announced it will invest up to AUD700 million (USD508 million) over the next three years in what it called a 'multi-faceted package of initiatives', with a view to supporting business innovation, productivity and growth. As its first initiative, the company will create up to 240 'Business Fiber Zones' across the country, including a presence in 85 regional centers. All businesses within these zones will reportedly have access to Enterprise Ethernet at significantly reduced wholesale prices and in total these zones are expected to cover more than 700,000 business premises. NBN Co has already revealed the locations of the first 130 Business Fiber Zones, with these including 61 in regional locations such as Bunbury, Mount Gambier, Devonport, Shepparton, Port Macquarie and Rockhampton. Meanwhile, the company's second initiative will see Enterprise Ethernet pricing reduced by up to 67% for those businesses in Business Fiber Zones. Such a move will, NBN Co claims, give thousands of regional businesses access to the same support as businesses in capital city centers, at the same wholesale price. Thirdly, as part of its package of

initiatives, the company has allocated AUD50 million over three years to work with local councils and state and territory governments to identify opportunities to extend business-grade services outside of its designated Business Fiber Zones. As an additional element to its plans, NBN Co has announced that when a retail service provider (RSP) places an order

for Enterprise Ethernet, for an estimated 90% of business premises in the National Broadband Network (NBN) footprint, it will not charge the retailer for building the fiber. Further, should an RSP sign up for a three-year Enterprise Ethernet plan, NBN Co has said it will not charge the retailer an up-front connection cost.



## Roaming Rate Reductions Imminent In South America

Roaming charges for mobile users in Argentina and Chile are to be abolished. That's the promise of an agreement first mooted more than two years ago and scheduled for last year – and then rescheduled for May this year. However, this time, according to TeleGeography's CommsUpdate, the scrapping of roaming charges will actually go ahead. Whether this will signal a wider attempt to promote regional roaming is an interesting question. Plans to eliminate roaming charges for Chilean subscribers travelling in Peru,

Argentina, Brazil and Colombia have been discussed for some time and are seen as potentially beneficial not just for end users – especially in border areas – but for businesses and the tourist industry. Andean community (CAN) member states Peru, Bolivia, Colombia and Ecuador had also been aiming for an agreement to end international roaming – in this case as early as mid-2019. Although that didn't happen, international roaming rates in voice and data communications are now falling and the hope is that they can be abolished

entirely by 1 January 2022. This trend is by no means limited to South America. As we recently reported, the Central African Economic and Monetary Community (CEMAC), made up of Cameroon, Congo, Gabon, Chad, Equatorial Guinea and the Central African Republic, plans to abolish roaming charges by the start of next year. The Economic Community of West African States (ECOWAS), meanwhile, agreed to remove roaming fees for its 15 members back in 2017.

## Cellcos Reiterate Position on AGR Dues; Jio Fires Opening Salvo in New Price War

Indian telecoms group Bharti Airtel has written to the Department of Telecommunications (DoT) to clarify that it has already paid the first instalment of its Adjusted Gross Revenue (AGR)-related dues, the Economic Times reports. The Supreme Court ruled on 1 September that operators must pay 10% of the total AGR dues by 31 March 2021, with the remainder to be cleared through annual payments until 31 March 2031. Following a statement from Minister of State for Communications Sanjay Dhotre, however, there appears to be some difference in interpretation between regulators and operators. In a written reply to parliament, the minister stated that telcos would be required to pay 10% of the total dues demanded by the DoT by 31 March 2021, without acknowledging the amounts already paid by the companies. As such, Airtel sought to reiterate that it has already paid INR180.04 billion

(USD2.45 billion) towards its total bill of INR439.80 billion – or more than 40% of the demanded amount – and consequently its next payment was not due until 31 March 2022. Similarly, the CEO of Vodafone Idea Limited (VIL) – now operating under the Vi brand – told reporters this week that the company also had until the end of the next financial year to pay its next instalment, having already submitted its first payment. Vi has paid INR78.54 billion towards its dues of INR582.54 billion, although the minister told parliament that the amount paid was just INR35.00 billion, with the company still owing some INR547.54 billion. In a related development, meanwhile, the minister confirmed that Reliance Jio Infocomm (Jio) would not be required to pay the AGR dues of Reliance Communications (RCOM), telling parliament that companies would not be held liable for the AGR dues of companies

with which they share spectrum. Whilst the apex court decision on AGR payments has given operators some breathing room, Vi remains in a precarious financial position and the company has confirmed that it is looking to increase its share of high ARPU subscribers, and will do so by improving its 4G network. To that end, the cellco says it will refarm its 2100MHz spectrum for 4G, with a phased shutdown of its 3G network. Disruptive rival Jio is set to capitalize on the company's vulnerability, however, with the launch of a new range of tariffs targeting the high-ARPU post-paid segment. The offers provide unlimited voice and SMS and include bundles subscriptions to popular streaming services Netflix, Amazon Prime and Disney Plus. The launch has raised concerns that the company is keen to re-ignite a tariff war, after the previous price crash contributed to the exit of several companies from the sector.

## DOCOMO Launches Inbound 5G Roaming With AT&T



NTT DOCOMO, INC. announced that it has launched an inbound 5G roaming service to allow foreign operators and their customers to visit Japan to roam on DOCOMO's 5G network, effectively immediately, initially for customers of AT&T Mobility, DOCOMO's partner mobile


operator in the United States. DOCOMO is the first mobile operator in Japan to offer an inbound 5G roaming service. Going forward, DOCOMO plans to expand its inbound 5G roaming service with mobile operators around the globe. NTT DOCOMO, Japan's leading mobile operator with

over 79 million subscriptions, is one of the world's foremost contributors to 3G, 4G and 5G mobile network technologies. Beyond core communications services, DOCOMO is challenging new frontiers in collaboration with a growing number of entities ("+d" partners), creating exciting and convenient value-added services that change the way people live and work. Under a medium-term plan toward 2020 and beyond, DOCOMO is pioneering a leading-edge 5G network to facilitate innovative services that will amaze and inspire customers beyond their expectations. DOCOMO is listed on the Tokyo Stock Exchange.

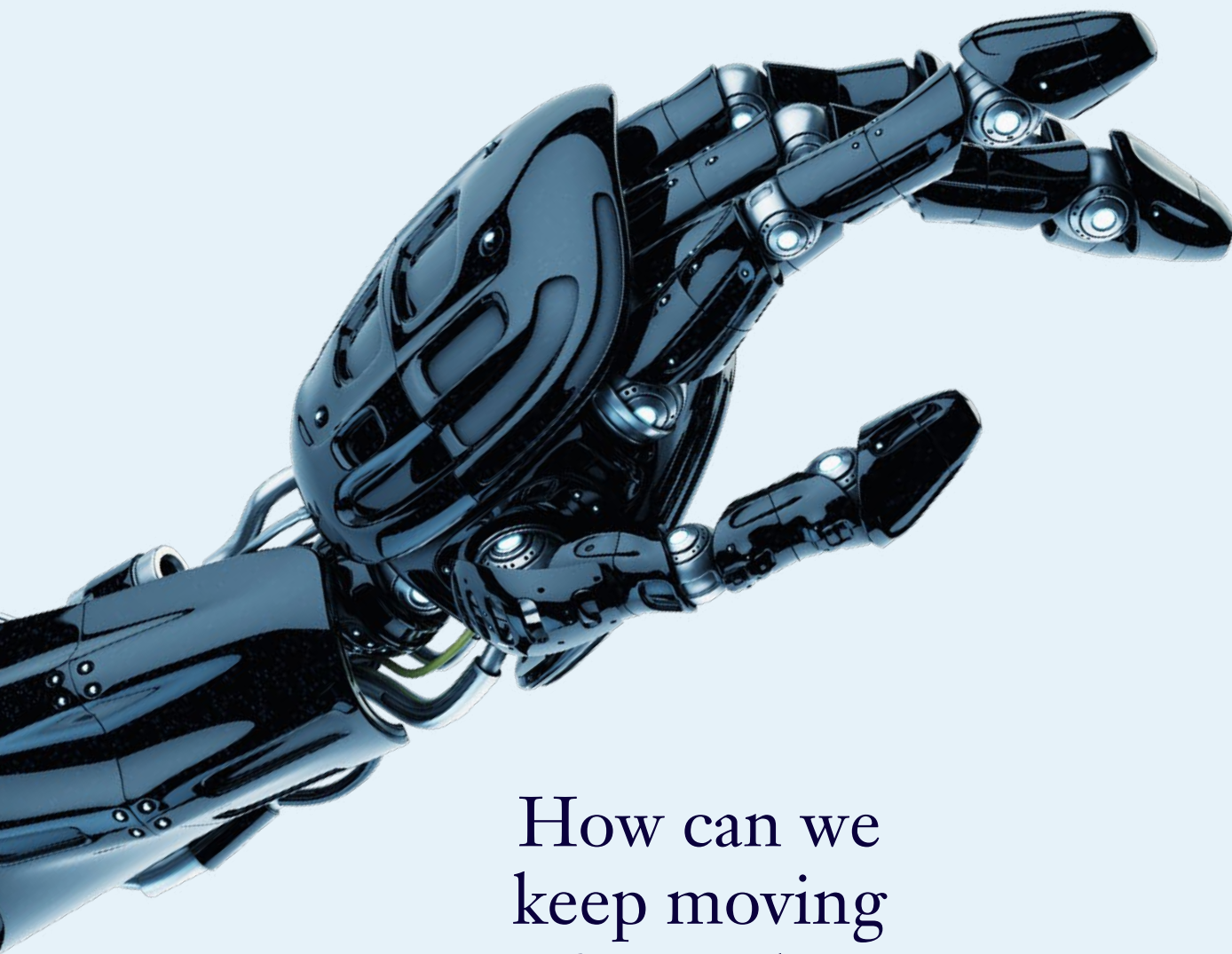
## Telenor Inks Wholesale Fiber Agreement with FIBIA

Telenor Denmark has inked a wholesale fiber deal with FIBIA, under which the operator will start offering its MaxSpeed services (with maximum downlink of

1Gbps) to 500,000 addresses within FIBIA's footprint in Zealand, Lolland, Falster and in eastern Jutland during 2021. Going forward, the deal will be expanded

to cover 600,000 households, in line with FIBIA's rollout plans. The new contract will increase Telenor's fiber footprint to 2.4 million households. 

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## ARTICLE

## Digitizing With “Purpose”



**Vidhitha Kanakamedala**

Senior Manager  
Arthur D. Little

**Arthur D Little**

*Digital access is positively correlated with 65% of the SDGs across all development levels (developed regions, developing regions, Least Developed Countries) and geographies.*

### Proven direct linkages between “digital” and SDGs

Globally economies have made significant progress on the Sustainable Development Goals (SDGs). Yet, even at the start of 2020, no country was on track for achieving all SDGs and COVID-19 has been an unexpected setback with severe short-term negative impacts on most SDGs.

In the context of COVID-19, digital infrastructure and technologies when deployed and leveraged strategically and used responsibly, are undeniably powerful tools to further SDGs. Fundamentally, digital provides access to information and services, improves productivity and enables cost and time savings, and if the infrastructure and technologies can be used to provide access equitably, they can drive societal progress and efficiency, ultimately building more sustainable economies that are potentially more resilient to even pandemics.

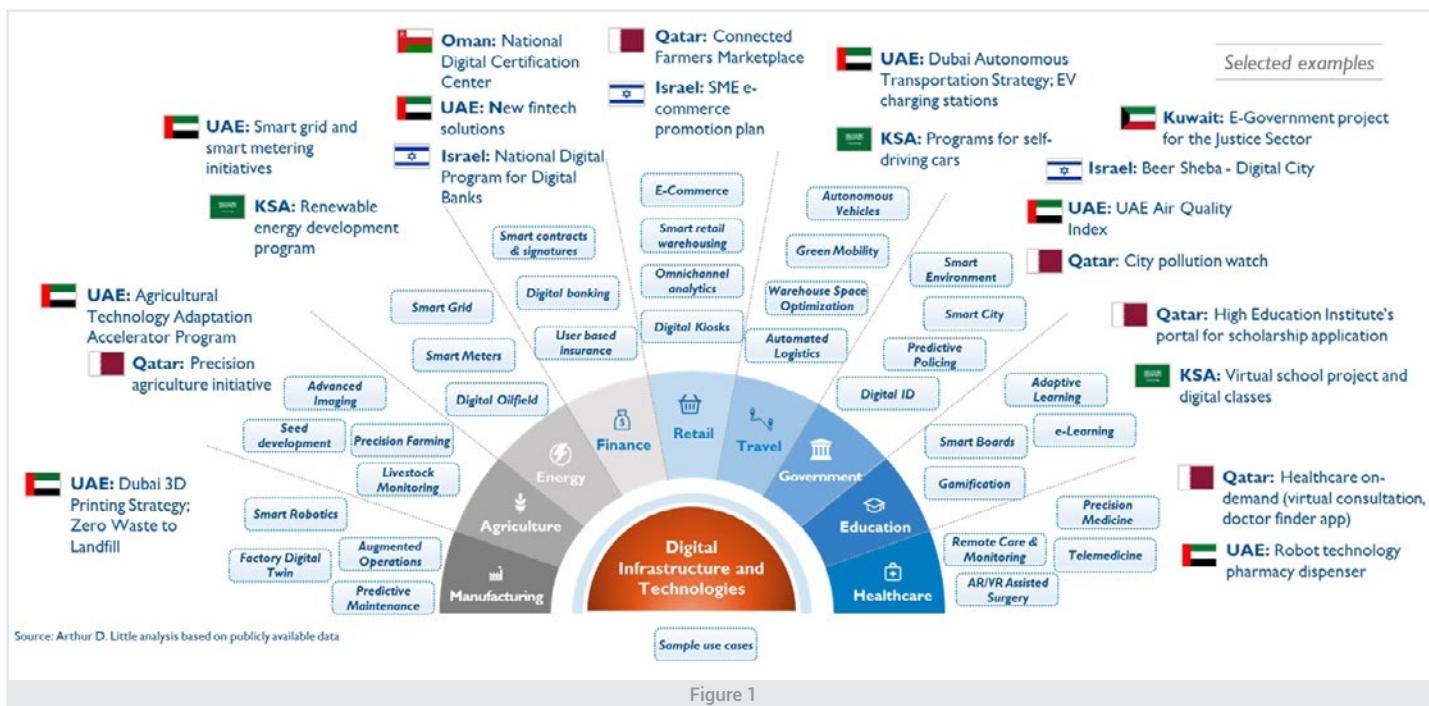
Digital access is positively correlated with 65% of the SDGs across all development levels (developed regions, developing regions, Least Developed Countries) and geographies. South Korea is well known as one of the few countries that has successfully climbed the economic ladder by embracing technology. South Korea scores especially high on measures of technological adoption and diffusion – higher even than the US. Not surprisingly, South Korea has relatively high performance across all SDGs.

South Korea today is a technologically intensive society, and that has almost certainly made a difference in the context of the pandemic, particularly when it has come to monitoring localized risks and containing the spread of the virus. From the very beginning of COVID-19, the South Korean government released the detailed trajectory of patients, which included patients' recent movements, places to stay, timelines of movements, and whether they were wearing masks. They were able to do this by using location information from mobile phones and cars, security camera footage, and credit card records.

### Identifying the right digital use cases to adopt

To drive inclusive and sustainable prosperity, digital technologies can be leveraged across all industries, to enable myriad of use cases as highlighted in Figure 1 below. By identifying and enabling high impact digital use cases across industries most relevant for the nation, governments can maximize the impact of digital on their SDGs.





Middle East countries to varying degrees, have embraced digital technologies as consumers and have policies and initiatives in place to achieve SDGs. Non-exhaustive examples of selected digital initiatives which support SDGs by industry are highlighted in Figure 1.

The virtual school project in the southern border of the KSA is a notable example, this initiative involves virtual digital classes launched for schools to ensure the continuation of education. Such digital education initiatives along with digital health and e-government services are widely seen across the GCC countries. Smart technologies that drive efficiencies in production and consumption such as 3D printing and Smart grid projects in UAE, precision agriculture in Qatar and renewable energy programs in KSA are all supporting SDGs.

Examples, such as UAE's Agricultural Technology Adaptation Accelerator Program, which fosters the adoption and development of sustainable technologies to promote agriculture in marginal environments through an interactive platform, are much less rare. This reflects the efforts of the UAE government to

establish the country as a world-leading hub in innovation-driven food security. Initiatives such as these have enabled UAE to achieve a 10-place leap on the Global Food Security Index, moving from 31st rank in 2018 to 21st rank in 2019.

The key hurdles that are preventing countries in Middle East from achieving SDGs are shortcomings in institutional mechanisms that deliver SDGs, insufficient clarity on benefits, gaps in the evidence base, and lack of earmarked and adequate financing. Digital technologies can help alleviate these challenges too as nations can establish digital platforms to collaborate between the entities better, and develop tools to closely track and monitor the outcome of various initiatives. While it cannot directly address the financing gap, digitalization can help optimize investments and bridge the funding gap by employing innovative digital financing technologies and encouraging private sector participation.

**Digital paradox exists but must be managed effectively by the governments**

The impact of digital on the SDGs may not be all positive, there are downsides that need to be acknowledged and acted upon.

The emergence of new technologies, such as artificial intelligence, robotics, blockchain, and especially their convergence is expected to disrupt many existing paradigms and bring about a radical change. For example, automation may negatively impact the labor market. Whilst new technologies are expected to improve the employment structure such as create jobs in computer and data science, considerable re-skilling of large parts of the population is crucial to truly benefit from this. Technology capability development in particular is a major challenge faced in the Middle East and new technologies may further exacerbate inequalities and generate negative externalities.

New policies and measures are critical to navigate and steer this change into a direction that benefits the SDGs individually. This requires more awareness and adaptability by governments which adds another layer of complexity to the implementation of the SDGs. The importance of coordinated whole-of-government action with cooperation among countries at a regional level, now acquires more heightened importance where even developed regions feel the need to act together. 🌍

## TECHNOLOGY NEWS

### VodafoneZiggo Makes Call on Virtual Open RAN

VodafoneZiggo, NEC Europe and AltioStar have jointly announced a successful voice call made on an open virtual Radio Access Network (Open RAN) on the Vodafone Netherlands mobile network. A press release said: 'Open RAN technology is the foundation of next-generation wireless infrastructure driven by innovation

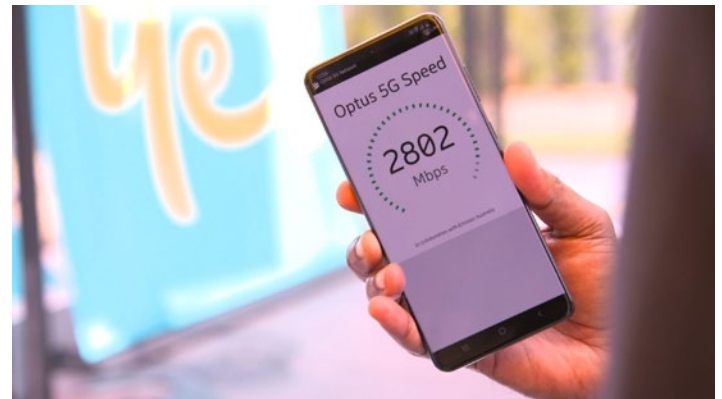
and open standards.' Vodafone Mobile Networks Director Ruud Koeyvoets added: 'The introduction of the technology enables us to introduce new suppliers, such as AltioStar, giving us greater flexibility when rolling out our mobile network. During the course of the ongoing trial, Vodafone and NEC intend to integrate

solutions of leading Open RAN technology vendors, such as AltioStar and various other radio vendors, including NEC's own 5G radio products, using commercial off the shelf (COTS) hardware from third parties, enabling Vodafone to transform its network to a software-based one suiting multiple deployment scenarios.

### Optus Claims New 5G Speed Record as It Launches 'Ultra-High-Speed' Site

Australian mobile network operator (MNO) Optus claims to have broken the country's record for real commercial 5G speeds, having delivered a downlink rate in excess of 2.5Gbps on a Samsung Galaxy S20 5G device. Working with technology partner Ericsson and Samsung, the MNO said it had utilized mid-band spectrum and 5G carrier aggregation to achieve these speeds at a live site in Sydney. The announcement came as the cellco launched what it called 'the first of its ultra-high-speed 5G sites earmarked for Sydney and Melbourne'. A further 150 ultra-high speed 5G sites will be deployed on existing Optus infrastructure by November, in selected areas of the two aforementioned cities. Meanwhile, it also expects its '5G Home Internet' customers to benefit from faster speeds as part of its plans to unlock 100MHz of 3.5GHz mid-band spectrum in selected areas of Sydney and Melbourne 'in the coming months'. With Optus' '5G Home Internet' service reported to be delivering average download speeds of 214Mbps currently, the operator has suggested the 60% increase in spectrum bandwidth will result in even faster average speeds for consumers. Commenting, Optus Managing Director Networks Lambo Kanagaratnam was cited as saying: 'As they roll out, these new ultra-high-speed sites will provide a real speed boost to

Optus customers with capable 5G handsets and 5G SIM ... The speeds we have achieved today are a real taste of what we are capable of delivering to Optus 5G Mobile customers in the coming months as we progressively roll out 5G ultra-high-speed sites in Sydney and Melbourne.' According to Optus, it currently has more than 920 5G sites in operation, with its network footprint encompassing around 650,000 premises, with its infrastructure rollout 'continuing at pace'.



### T-Mobile US Aggregates 600 MHz, 2.5 GHz in New SA 5G Trial

T-Mobile US has successfully staged a standalone (SA) 5G data session which aggregated the 600MHz and 2.5GHz spectrum bands. The cellco teamed up with Ericsson, LG and MediaTek for the trial, which utilized a commercial LG VELVET 5G smartphone. T-Mobile notes

that by aggregating the two bands, existing 5G download speeds were boosted by an average of 20%. The cellco explains: 'Today T-Mobile customers can access three different types of 5G spectrum – low, mid and high-band (AKA millimeter wave [mmWave]) – but they can only unleash

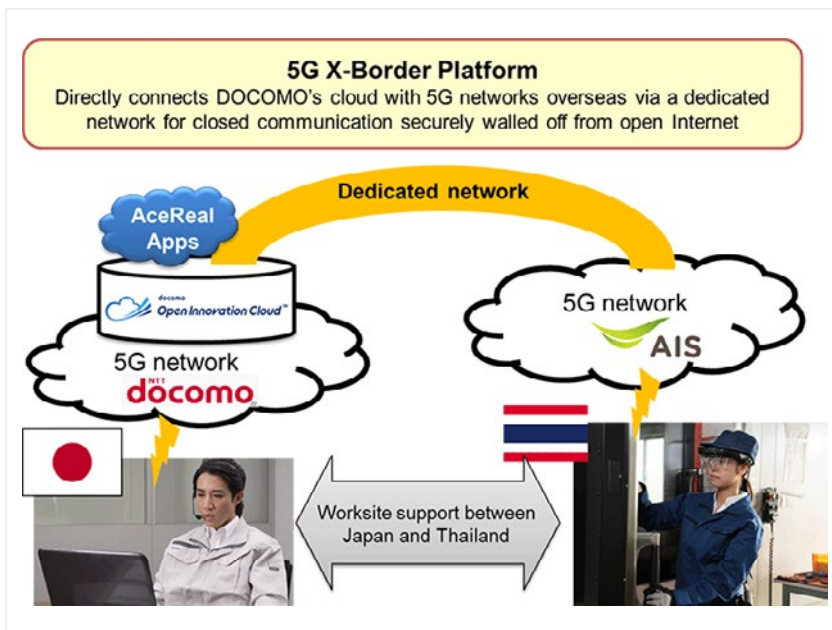
capacity from one of those 5G layers at a time. With new radio carrier aggregation (NR CA) that changes, giving devices the ability to combine the capacity of the different layers.'

## North American Operators Tackle 6G

Verizon, AT&T, T-Mobile US and US Cellular joined other telecoms heavy hitters under the guise of the Next G Alliance, aiming to steer development of 6G and establish North America as a global leader in the technology. The group's work will span R&D, manufacturing, standardization and market readiness, seeking to rally operators, vendors and other participants around a core set of priorities to influence technology development, government policy and funding. Beyond the US operators, founding members of the group include Canadian operators Bell Canada and Telus; equipment vendors Ericsson, Nokia and Samsung; Qualcomm; Facebook; Microsoft; JMA Wireless; Ciena; InterDigital; and Telnix. The group was launched by the Alliance for Telecommunications Industry Solutions (ATIS), which in May called on the US government and industry experts to begin work on the next generation of mobile networks. ATIS CEO Susan Miller stated the Next G Alliance's work will lay "the foundation for a vibrant marketplace for North American innovation".



## DOCOMO Develops 5G X-Border Platform



Japanese cellco NTT DOCOMO has announced that its new 5G X-Border Platform (5G-XBP) went live from 1 October 2020. In a press release, Japan's largest cellco by subscribers noted that 5G-XBP 'directly connects the DOCOMO Open Innovation Cloud platform with 5G networks overseas using a dedicated network for closed communication walled off from the open internet, allowing customers to use cloud services with confidence in secure cross-border environments'. The statement goes on to confirm that the carrier will initially use the new platform to offer 'a global version of the AceReal solution (i.e. a global version of a platform that includes DOCOMO's cloud-based AceReal Apps business-support application) on a limited-time pre-service basis in Thailand (in collaboration with local mobile operator Advanced Info Services) which will allow technicians in Japan to remotely support worksites in Thailand beginning 15 October 2020. The solution will be provided via a dedicated secure cloud network.

## Open RAN Spending Tipped To Top \$5B By 2024

Market research company Dell'Oro Group predicted sales of open RAN equipment will grow at double-digit rates in the five years to end-2024, citing political uncertainty as one of three main drivers of momentum behind the approach. Total spending over the forecast period is tipped to hit \$5 billion, with cumulative shipments of radio equipment including macro and small cells expected to reach 1 million units. Stefan Pongratz, VP

and analyst, explained momentum is being fuelled by "a confluence of factors including promising results from initial commercial deployments, growing support from the incumbent RAN suppliers and increased geopolitical uncertainty acting as a catalyst for operators to rethink their supplier strategies". The political reference appears to relate to attempts by the US government to push Chinese vendor Huawei out of domestic and international

operator networks: officials previously expressed interest in developing open RAN technologies as an alternative source of telecom kit. Major players Ericsson and Nokia both backed open RAN, with the former a member of the O-RAN Alliance since February 2019 and the latter joining a US-oriented lobby group in May. Nokia detailed plans to incorporate the technology into its range in 2021.

## KT Readies SME 5G Test Beds

South Korean operator KT detailed plans to cooperate with the government to build 5G testing facilities at four sites to allow small- and medium-sized companies to

trial new services on a research version of its network. In a translated statement, the operator said the 5G convergence service test bed project is expected to cost KRW28.5

billion (\$24.3 million) and be completed in 2023. KT established a taskforce in July to lead its backing for a KRW100 trillion government economic stimulus program. Yoon-young Park, head of the taskforce, said KT will create a commercial standards-based 5G network environment in which companies can research and contribute to the industry, with a focus on services including connected cars, drones, smart factories and media streaming. Each research facility will be equipped with a 5G network running on the 3.5GHz and 28GHz bands with multi-access edge computing, mirroring its nationwide commercial deployment. The core node and base stations at the sites are linked with the Korea Advanced Research Network. The KT Economic Management Research Institute estimates the socioeconomic value of 5G commercialization will reach about KRW42 trillion by 2030.



## Experts Warn Of Open RAN Fragmentation

Mobile industry experts cautioned fragmentation and proprietary creep could hamper open RAN's potential, and called for a single set of standards to avoid future interoperability issues as deployments grow. During a Federal Communications Commission (FCC) forum, Reliance Jio president Mathew Oommen argued for adoption of a "common reference definition", noting several different organizations including the Telecom Infra Project and Open RAN

Alliance are working on the approach. He stressed it is "very important to get to one standard that is clearly interoperable". Mavenir SVP of business development John Baker added "we've got to make sure that open specifications are full product specifications", rather than simple frameworks which could allow proprietary technologies to "creep back into" networks. IBM telecoms CTO Craig Farrell warned loose application of open RAN standards among vendors carries

the risk of "making the interoperability problem become significant enough that we don't get the widespread adoption that we absolutely need". Even with standards, AT&T assistant VP of member technical staff for access analytics and systems Laurie Bigler flagged integration as a key challenge as open RAN deployments grow. "You really don't find the issues with the specs until you actually try to integrate the equipment of two different vendors together."

## PLDT's Smart Kicks off Nationwide 5G Rollout

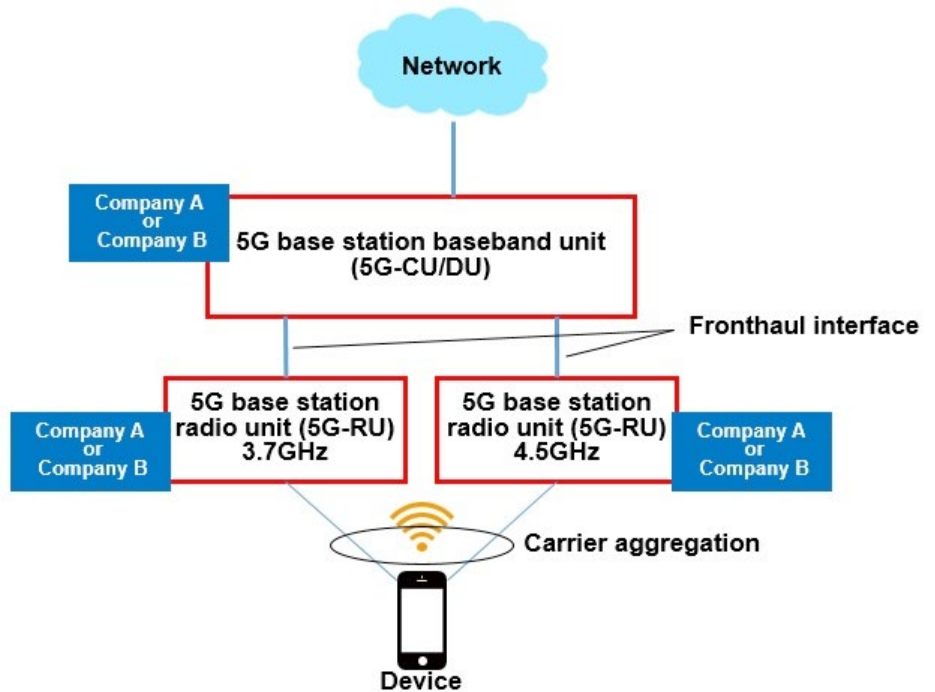
Smart Communications, the mobile arm of telecoms giant PLDT Inc., has begun the nationwide rollout of its fifth-generation mobile network, launched in July this year, confirming that 5G deployments will take place in Boracay, Cebu, Iloilo and Davao – key cities in the Visayas and Mindanao. Alfredo S Panlilio, Smart president and CEO and PLDT chief revenue officer, noted:

'The commercial launch of 5G underscores our commitment to bring the best digital technologies to our customers across the country'. Smart's 5G network is currently live in Makati Central Business District (CBD), Bonifacio Global City CBD, Araneta City, Mall of Asia Bay Area, North Avenue in Quezon City, Taft Avenue in Manila, Ortigas CBD, Edsa, and New Clark City in

Pampanga. Further, it has also launched 5G in 'strategic locations' in the provinces of Cavite, Laguna, Rizal, and the cities of Manila, Quezon City, Makati, Taguig, Pasig, Mandaluyong, Marikina, Paranaque, Valenzuela, Caloocan, Navotas, San Juan and Pasay.

## DOCOMO, Fujitsu and NEC Claim 'World First' CA Using 5G Frequencies on Multi-Vendor RAN

NTT DOCOMO, Fujitsu and NEC claim to have achieved the 'world's first carrier aggregation [CA] using 5G frequency bands in a multi-vendor Radio Access Network (RAN)'. In a joint press release, the companies said that interoperability with multi-vendor 5G base station equipment was achieved 'in compliance with specifications established by the Open Radio Access Network (O-RAN) Alliance'. DOCOMO confirmed that CA used the 3.7GHz and 4.5GHz bands designated for 5G networks, and noted that by bundling LTE bands, downlink speeds of 4.2Gbps 'will be achievable, enabling ultra-fast data transmission'. The statement went on to point out: 'DOCOMO already provides commercial 5G services in Japan through a multi-vendor RAN that connects baseband units and remote radio units manufactured by Fujitsu and NEC based on O-RAN's open fronthaul specifications. The same system configuration was used to achieve this 5G carrier aggregation.' Going forward, the three firms will continue working toward the early introduction of commercial 5G CA services, they said. In a related development, DOCOMO and



NEC also announced that they have successfully expanded multi-vendor interoperability by 'interconnecting a new 5G base station baseband unit (5G-CU/DU), developed by NEC and Samsung Electronics and compliant with O-RAN

Alliance specifications, with 5G base station remote radio units (5G-RUs) of other vendors on DOCOMO's commercial network'. The move should make it easier to drive the rapid and flexible deployment of 5G services across Japan.

## Tri Works With DOCOMO on Narrow Beam Antenna Deployment

Mobile operator Hutchison 3 Indonesia (Tri) has said it is working with Japanese counterpart NTT DOCOMO to deploy Narrow Beam Antenna technology in its networks in a bid to reduce the incidence of 'network instability', specifically in tall buildings. IndoTelko notes that installing narrow-

beam antennas on top of a mobile tower boosts signal strength and penetration into buildings in metropolitan areas, where the highest portion of its mobile data traffic originates. 3 Indonesia has so far deployed the technology in six Jabodetabek areas – Kuningan, Casablanca, Pancoran,

Jatinegara, Meruya and Bintaro. The cellco says that improving network quality is core to its drive to provide 'the best service for its users in more than 34,000 villages in Indonesia through its 4.5G Pro network, [the availability of] which 'is now wider and stronger,' it claims.

## T-Mobile, Ericsson Achieve 'Peak Cell Throughput' Of 5.6Gbps

T-Mobile US and Ericsson have teamed up to stage a 16-layer Multi MIMO demonstration, showcasing peak cell throughput of more than 5.6Gbps. The trial utilized one channel of the 2.5GHz spectrum acquired via T-Mobile's takeover

of Sprint. T-Mobile explained: 'Using a commercially available Massive MIMO radio with 64 antennas from Ericsson and the OnePlus 8 5G smartphones T-Mobile sells today, 16 unique streams of data were transmitted – each stream capable

of hitting more than 350Mbps. And with two data streams for each device, that's 700Mbps for each smartphone, all using the same radio resources at the same time.'

## China Mobile Pakistan Deploys Energy Efficiency Solution for Its 5G Network

Pakistan's leading telecommunication company, China Mobile Pakistan (CMPak), has deployed a state-of-the-art Energy Efficient Digital Management Platform to set a new benchmark for energy efficiency innovation and make its network ready for future technologies including 5G. The solution will focus on network development while continuing to build and optimize energy networks with expansions and upgrades and to smoothly evolve to 5G. CMPak's penetration is ranked the best in the country besides the company being recognized for its innovative technical solutions that solve the bottlenecks of power supply. Pakistan's telecom infrastructure faces challenges like high power cost, low site availability, and difficult site maintenance and management, making the upgrades to future technologies like 5G very difficult. CMPak's Energy Efficiency

Digital Management Platform aims to resolve these challenges by establishing an efficient, digital, and intelligent energy network. "We're the leading provider of best-in-class cellular and digital services in the country and are always on the lookout for advanced solutions to make our network future-ready," shared CMPak 4G spokesperson. "The deployment of the state-of-the-art Energy Efficient Digital Management Platform is in continuation of our focus on network development as we build and optimize energy networks to smoothly evolve to 5G and other future technologies." CMPak uses industry-leading technologies in energy solutions, such as wireless sensing, high-efficiency module, and one site one cabinet solution. It also improves energy efficiency through digital technology, along with power synergy, business synergy and site synergy, so that all sites save energy

effectively. Finally, it combines digital sites with big data & Artificial Intelligence to make networks visible, manageable, controllable and optimized, to achieve intelligent network O&M and management. The company has been a frontrunner of energy innovation during the past years. It became the first operator to introduce the innovative solution for D.G. removal reconstruction in Pakistan and this year alone, the company completed the energy reconstruction of more than 2,000 sites. Recently, CMPak's network superiority was recognized yet again by Opensignal – an independent global standard for analyzing consumer mobile experience – which ranked CMPak best in top five service areas that include Video Experience, Download Speed Experience, Upload Speed Experience, 4G Availability, and 4G Coverage Experience.

## Melita Begins 5G Network Trials

Maltese fixed and wireless operator Melita has begun trials of 5G mobile technology using its existing frequency holdings under a temporary permit it received last month. Melita says it has already deployed a 5G-ready network nationwide under a 2018 contract with Ericsson. The firm says it measured emissions from 282 antennae across Malta before beginning its tests, saying that emission levels were 'extremely low'. Melita is the smallest of Malta's three cellcos in terms of subscribers, with around 25% of the overall market according to TeleGeography's GlobalComms Database.



## US Cellular Seeks FCC Approval for 3.7GHz/3.8GHz Tests

US Cellular has requested Special Temporary Authority (STA) from the Federal Communications Commission (FCC) to conduct tests in the 3.7GHz/3.8GHz C-band frequency range, using equipment

from Ericsson and Nokia. As per paperwork unearthed by Fierce Wireless, the application requests a start date of 16 October and an end date of 14 April 2021. If approved, the trials will take place in

Delavan, Wisconsin and Belvidere, Illinois. TeleGeography notes that US Cellular successfully bid USD13.5 million for 243 licenses in the FCC's recently concluded Auction 105 3.5GHz spectrum sale.

## Unlocking The Potential Of eSIM For Consumers

eSIM has become a hot topic among device manufacturers and its increasing role in the industry is clear – as device manufacturers benefit from lower costs and more space on the processing board. Moreover, eSIM helps service providers to generate new revenue streams, and a future of billions of IoT connected devices. During 2019, two major smartphone manufacturers announced several of their models were now equipped with eSIM functionality. In 2020, many more are following suit. By 2025, GSMA estimates that more than 2 billion eSIM devices will be shipped. This is a strong incentive for the industry to go for eSIM. But what about consumers like me and you? What can eSIM bring to us? To answer these questions, Ericsson ConsumerLab has run a market research study, revealing key insights which means customers are ready to take the next step and pay for eSIM services:

1. Cellular connectivity for additional devices is the top application of eSIM that consumers are interested in. 6 in 10 want to connect their laptops to cellular connectivity, yet very few do it today.

2. Every SIM card is problematic, main issue being related to the ever decreasing size of SIM cards.

For consumers, eSIM represents peace of mind, for example 45 per cent mention having access to multiple operators in the same smartphone for emergencies. 3. 6 in 10 smartphones users are interested in eSIM. However, 40 per cent of them have locked smartphones, while 73 per cent have post-paid plans with a contract. 4. 29 per cent of smartphone users would consider buying a smartwatch with cellular connectivity if the process of enrollment with the operator was seamless. According to the report, there are four main eSIM benefits for consumers. Firstly, it excels in connectivity. Consumers say that the need to switch between operators depends on the connectivity performance at various times and places. If the connectivity is great, one operator is enough. So when is switching between operators relevant to consumers? The results took us by surprise – 75 per cent would activate a reasonably priced plan on top of their existing one to ensure access to connectivity. eSIM is not



about swapping back and forth between operators for the sake of just saving a couple of dollars a month. eSIM is about peace of mind! Even smartphone users whose expectations regarding network quality are met want to be able to shuffle between operators. Peace of mind is more important than loyalty when it comes to places out of reach and emergency situations. The second benefit is Travel specials, which refers to connectivity in the context of travelling abroad. In fact, 1 in 2 yearly travelers connect to mobile data abroad using local SIM card. Imagine that wherever you travelled, you could latch on to any operator and activate a mobile subscription directly in your phone. Travelers that use local SIM cards abroad are particularly interested in a service that would ease the process of choosing the optimal connectivity offering. The third benefit is connected devices. Smartphones are versatile, boast larger and better screens, and become smarter by the day. With such a device in your pocket, do consumers really need mobile connectivity for other devices? They most certainly do, and surprisingly laptops top the ranks. The main reason why consumers don't activate LTE on their smartphones are the price and lack of awareness regarding the LTE capability. A more dangerous obstacle is the enrollment process with the operator – 57 per cent of consumers with cellular-connected smartwatches mention about

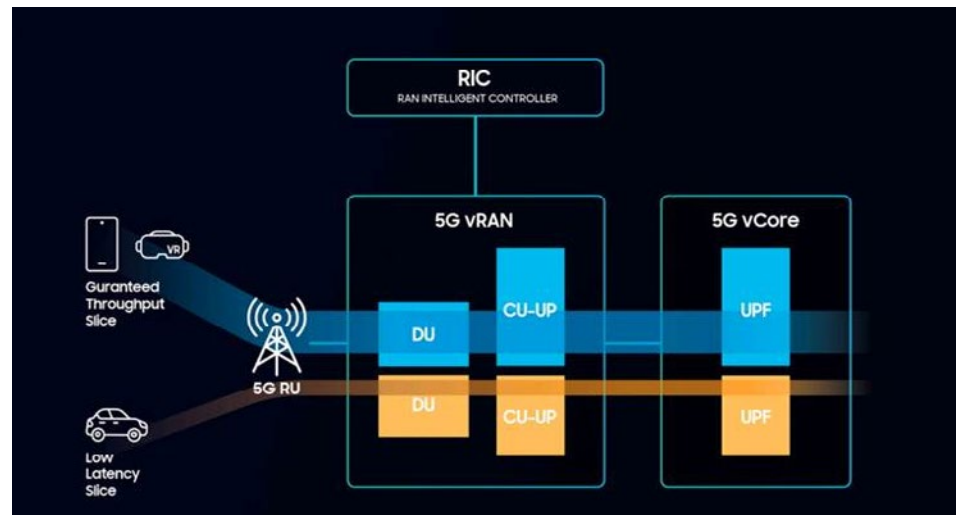
how cumbersome obtaining a smartwatch subscription had been! Lifting this barrier alone could ramp up the adoption rate tremendously. For instance, 29 per cent of consumers would buy a cellular-enabled smartwatch if only the enrollment process was just one click away. And finally, Try and Buy is probably the biggest benefit of eSIM for consumers. We see it in the interest level. For example, 86 per cent of respondents want to test at least one feature, which speaks to how genuinely curious we are. But the real value of Try and Buy offerings relates to 5G. As 5G coverage extends, more and more streaming, gaming, AR/VR shopping and AR/VR learning services will emerge according to latest 5G business potential report. However, only early adopters and digital natives will give them a try. Those following behind need to be convinced that what they are buying is worth it, which is why Try and Buy offerings are so compelling. If 54 per cent of respondents are interested in 5G speeds alone, the interest for immersive video formats and AR applications can only be higher. The opportunities with eSIM are many. Although eSIM adoption is a concern in the industry, in practice, its implementation can help enrich the relationship with consumers. From peace of mind to redeeming shopping for mobile data, eSIM is valuable to consumers.

## KDDI, Samsung Verify 5G Network Slicing In Latest Trial

KDDI (au) of Japan and Korean gear maker Samsung Electronics have successfully completed a trial of 5G network slicing technology (a type of virtual networking architecture that allows improved network flexibility through the partitioning of network architectures into virtual elements) in Tokyo. In a statement, Samsung said that the verification trial was carried out under laboratory conditions using 'a RAN intelligent controller with a handset, 5G base station, and 5G standalone core equipment'. 5G network slicing is expected to help carriers deliver services such as autonomous driving, cloud gaming, and industrial IoT applications due to its 'low latency and high reliability', the vendor said, adding that it will also improve connection speeds for virtual reality, augmented reality, and ultra-high resolution video

streaming services. Further, the trials also demonstrated that users 'can switch between an ultra-fast virtual network

and an ultra-low latency network without compromising connection quality for certain services'.



## Three Ireland Switches on 5G Network

Three Ireland has begun offering 5G connectivity on a commercial basis, having partnered with Swedish vendor for its network rollout. In a press release regarding the switch-on, Ericsson noted that Three Ireland has initially rolled out 5G on a total of 315 sites across Ireland, offering 35% population coverage. Looking ahead, the mobile network operator (MNO) is expected to add a further 500 5G-capable sites in 2021. The MNO's new 5G network

is reported to be powered by Ericsson's fully virtualized 5G Core and the latest products and solutions from the vendor's Radio System portfolio. Commenting on the launch, Three Ireland CEO Robert Finnegan said: 'As Ireland's largest mobile data network, carrying 68% of all mobile data, I am delighted that Three is now launching Ireland's largest 5G network, which will be available to Three customers in every county from today. We started our

5G rollout with Ericsson last year, building our network to bring customers in both rural and urban areas the best possible experience of 5G from the very beginning, which includes providing superfast broadband to remote areas in Ireland. With our nationwide 5G footprint now in place and a variety of 5G-enabled devices on the market, we believe now is the right time to launch.'

## M1's 5G Network Now Live In Singapore

M1 has announced that it switched on its 5G non-standalone (NSA) network in Singapore on 24 September for existing and new users, accessible via a simple 5G Booster pack to their existing mobile plan. Claiming a first in the city-state, the cellco confirmed its network is available to all customers with no limit on the number of sign-ups or restrictions on any plans. M1's 5G Booster packs start at SGD15 (USD10.9) for a 25GB data bundle – customers only need a compatible 5G NSA device to take advantage, it notes.

Further, M1 is offering customers who sign up before end-2020 a 70% reduction on their bill for six months, as well as a free year-long subscription to video streaming provider Viu. From launch, M1's new 5G network is available in Singapore's central business district (CBD), Orchard Road, Suntec City, and Marina Bay, with plans to extend coverage to the rest of the country's key urban areas/towns by end-2020. Moreover, it aims to begin deployment of its 5G Standalone (SA) network in early 2021, with a view to having SA-based

systems available nationwide by end 2022. Commenting, M1 CEO Manjot Singh Mann, said: 'It is no secret that 5G will play a pivotal role in boosting Singapore's digital economy. We have already seen glimpses of its potential through various enterprise and consumer 5G use cases and trials that we have embarked on so far. Now, we're thrilled to bring our customers the very best of this game-changing technology to our customers.'



## Qualcomm Doubles 5G Mmwave Range to 2.36 Miles for Broadband Modems

As 5G networks have continued to spread across the world, the biggest issue with ultra-fast millimeter wave (mmWave) towers has been their short transmission distance, which is generally measured in city blocks rather than miles. Today, Qualcomm announced a breakthrough in mmWave transmission range, successfully achieving a 5G data connection over a 3.8-kilometer (2.36-mile) distance – over twice the range originally promised by its long-range QTM527 antenna system last year. It's important to put today's news into perspective, as the record is specific to broadband modems rather than smartphones. Qualcomm is touting the achievement as evidence of mmWave's viability as a fixed wireless access solution, enabling carriers to offer fiber-speed 5G coverage in rural, suburban, and urban communities that might have had poor wired home broadband options in the past. The successful test was conducted in Regional Victoria, Australia, presumably with minimal physical interference between the sending and receiving devices. Millimeter wave 5G has the potential to be the fastest flavor of the new cellular standard, enabling

multiple gigabit per second transfer speeds, thanks to generally huge blocks of available wireless spectrum. In the United States, Verizon has thus far relied exclusively on millimeter wave for its 5G service, enabling both home broadband modems and handsets to reach 1-2Gbps speeds if they're in close proximity to 5G towers. Combined with fast network responsiveness (aka low latency), those speeds are expected to enable everything from real-time mixed reality streaming to next-generation industrial applications. But until now, mmWave has struggled to reach devices at long distances, requiring carriers to deploy large numbers of short-range "small cells" just to achieve coverage. Each doubling of range should significantly reduce the required small cell density, making deployment less expensive for carriers and more practical for actual 5G service rollouts. However, range improvement promises have thus far been focused on home broadband modems, not handheld devices.

The test relied on two existing Qualcomm hardware solutions – the Snapdragon X55 modem and QTM527 antenna – inside a consumer premises equipment broadband

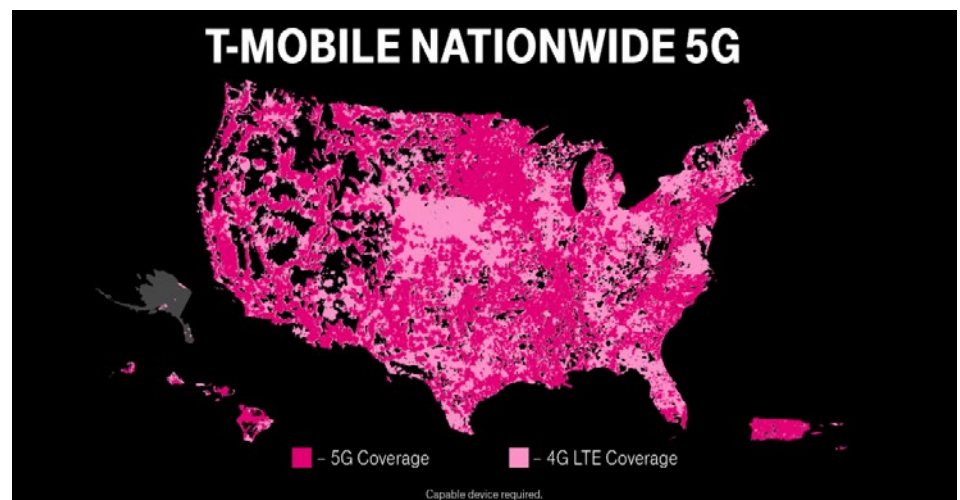
modem, communicating with Ericsson's Air5121 and Baseband 6630 tower hardware, enhanced by extended-range software. No details were provided on speeds or other details of the connection, but Qualcomm characterized the successful range test as "the first step in utilizing mmWave for an extended-range 5G data transfer," hinting that there may have been compromises in speed or other areas. The company previously noted that carriers would be able to deliver up to 7Gbps download speeds if the QTM527 could access a full 800MHz of mmWave spectrum. Existing tower hardware has hit 4.3Gbps for a single device or 8.5Gbps for two devices. Qualcomm has already announced the more capable Snapdragon X60 modem as a followup to the X55 but hasn't yet revealed a successor antenna solution to the QTM527, which was announced just under a year ago. As improving mmWave's long-distance performance appears to have been a top priority for the company and its partners, it's highly likely that we'll see continued gains in future consumer and carrier offerings.

## T-Mobile US Adds 121 New Cities to 2.5GHz 5G Footprint

T-Mobile US has added 121 new towns and cities to its 2.5GHz 5G footprint, meaning the cellco now serves a total of 210 locations with the former Sprint spectrum. New locations include the likes of: Minneapolis, Atlantic City and Virginia Beach. Going forward, T-Mobile says it will be lighting up 1,000 mid-band 5G sites a month. The cellco explains: 'T-Mobile has the first and largest nationwide 5G network, covering over 250 million people across 1.3 million square miles – that's bigger than AT&T and Verizon's 5G networks combined.' In April this year – shortly after the T-Mobile-Sprint merger closed on 1 April – T-Mobile repurposed the acquired company's 2.5GHz spectrum for a new 5G network in Philadelphia. Alongside the 2.5GHz network, T-Mobile also operates

a 'nationwide' 600MHz 5G network – incorporating both Standalone (SA) and Non Standalone (NSA) architecture – and

a limited millimeter wave (mmWave) 5G system. 📶

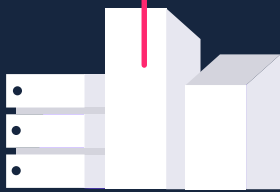


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## ARTICLE

## Delivering On-demand Connectivity into the Middle East



**Tarek Khalifeh**

Director of Sales, Middle East and Turkey  
PCCW Global

**PCCW Global**

*Using the power of Software Defined Interconnection®, Console Connect can help carriers and enterprises connect faster and more easily into the Middle East region.*

The Middle East region has always been an important strategic gateway for network traffic between Europe, Asia and Africa. Over the last ten years, the region's digital infrastructure has evolved enormously, leading to the arrival of new data centres, internet exchanges and network providers.

At the same time, countries such as the UAE and Oman have emerged as major business hubs that attract a large number of multinationals. As a result, carriers are increasingly looking for fast and secure network access into the Middle East region from key markets across Europe and Asia.

There has been significant interest from global carriers in leveraging the network automation and connectivity capabilities of the Console Connect Network-as-a-Service (NaaS) platform to connect into the Middle East. The platform offers carriers a much simpler and quicker way to make layer 2 connections on-demand - and it lets them do that using a network they trust.

The automated Console Connect fabric is underpinned by PCCW Global's MPLS network, which is a Tier 1 IP network that offers extensive global reach. This means carrier customers provisioning bandwidth on the Console Connect platform can experience improved network performance, such as lower latency and higher availability of guaranteed throughput.

Because PCCW Global's network offers multiple routes between the Middle East and Europe, Asia and Africa, carriers using the platform can also experience improved network resiliency and redundancy when they connect into the region.

Customers can find highly competitive pricing for bandwidth into the Middle East on the Console Connect portal, which is fully automated and available as a pay-as-you-go model. Carrier customers in the region can also resell Console Connect and bundle services for their enterprise customers.

### Faster connections to the cloud

The Middle East is one of the fastest growing regions when it comes to consuming cloud services. In the last year, major cloud providers, such as Microsoft Azure, AWS and Oracle, have launched data centres in the region.

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The Console Connect platform is directly connected to major cloud platforms, including AWS, Microsoft Azure, Google Cloud and IBM Cloud, which customers can access from our growing number of data centre locations worldwide. The

platform is a great fit for carrier customers looking to connect their enterprise customers quickly and easily to the cloud in the Middle East.

Console Connect is continuing to grow its ecosystem of data centre, cloud, SaaS, carrier and enterprise partners in the Middle East, and the platform is now enabled in key data centres in Dubai, Doha, Fujairah, Jeddah and Cairo. Carriers on the platform can make direct connections to these locations and more than 350 other data centre worldwide.

Carrier customers can easily interconnect to the automated fabric using one of the Console Connect NNI ports. Once the port is configured, customers can begin making instant connections between the NNI port and any other port on the Console Connect fabric – and they can do this either through the Console Connect online portal or through an open API.

Console Connect has recently collaborated with cloud networking company neutrality.one to support the connectivity

requirements of its enterprise customers in Asia, the Middle East and Africa. Using the platform, neutrality.one customers can now connect around the world and to the cloud using secure and high-performance networking.

The collaboration is a great example of how Console Connect is helping carrier customers extend their global reach while at the same providing their end customers with new levels of flexibility, reliability and control. [📍](#)

*Console Connect is continuing to grow its ecosystem of data centre, cloud, SaaS, carrier and enterprise partners in the Middle East, and the platform is now enabled in key data centres in Dubai, Doha, Fujairah, Jeddah and Cairo.*

## REGULATORY NEWS

## ITU Drives Skills Debate to Help Ensure That Existing Inequalities Are Not Exacerbated, And Everyone Can Profit Fully From the Benefits of Digital Transformation



The International Telecommunication Union (ITU) has released the 2020 edition of "Digital Skills Insights", a collection of articles by international experts on the impact of digital transformation on capacity and skills development. In eight articles, the publication reviews the interrelationship between digital connectivity and digital skills, as well as the correlation with education, gender, digital divides and the transformative aspects within the labor market. None of these should be addressed in isolation but be part of a holistic approach to ensure countries' successful transition to a digital economy. "Digital Skills Insights" 2020 provides a body of knowledge that will facilitate academic research and innovation; inform policy debates and decisions among policy-makers and regulators; and help the private sector to anticipate and plan for human capital requirements and skills. "The vital importance of digital skills to achieve the Sustainable

Development Goals has been brought into sharp perspective during the COVID-19 crisis", said Houlin Zhao, ITU Secretary-General. "The expert contributions in 'Digital Skills Insights' are helping to ensure that digital skill gaps do not exacerbate existing inequalities." According to ITU data, in 2019, 46 per cent of the world population was not using the Internet. [i] This number increases to almost 80 per cent in least developed countries. A large majority of the global population (93 per cent) lives in an area covered by at least a 3G mobile signal/service, [ii] however, the lack of skills is a barrier for many to use the Internet's full potential. [iii] Doreen Bogdan-Martin, Director of the ITU Telecommunication Development Bureau (BDT) said: "In the wake of COVID-19, the importance of digital skills has never been so evident, nor so urgent. Those lucky enough to enjoy fast connectivity took refuge from the global health emergency by moving to a virtual environment for economic continuity, education, and interpersonal contact. However, those lacking access to digital networks and skills were left even further behind. I hope this publication stimulates important discussions on the best strategies to rapidly strengthen the capacities and skills required to profit fully from the benefits of digital transformation."

### How to address digital skills gaps

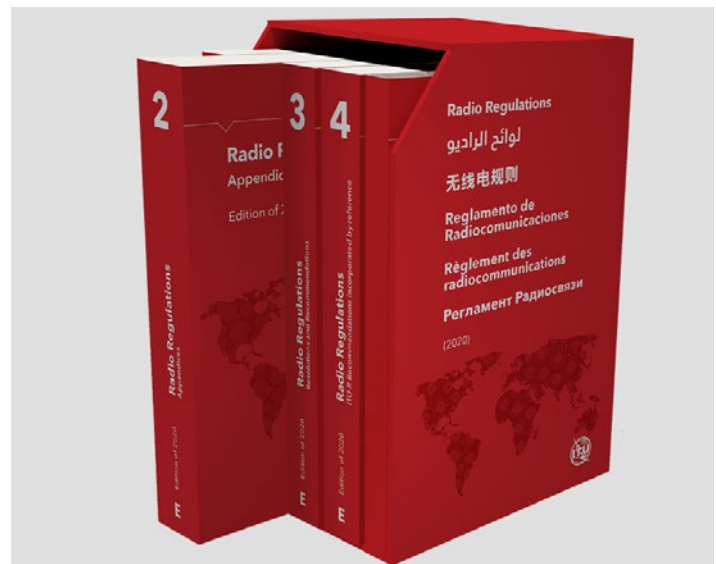
"Digital Skills Insights" provides concrete suggestions and recommendations on how some of these challenges can be addressed to better understand and bridge the digital divide, such as:

- Governments, businesses, educational systems and society need to work together to support a dynamic workforce and constantly redefine the skills demanded by future jobs.
- Further training and retraining will be necessary since employees will have to engage in lifelong learning if they are to be capable of responding to changes in skills requirements triggered by automation and digitization.
- Data literacy among citizens should be tackled by policy makers and practitioners through targeted data literacy programmes to enhance citizens' abilities to participate in the digital society.
- In sub-Saharan Africa, building human capital, specifically in digital skills, is critical for the region to leverage the benefits of the digital economy.
- Female participation in digital skills capacity development programmes can be increased by including more women in the programme design, reaching out to parents and community leaders in the recruitment of participants, and engaging female career role models.
- Bridging the digital gender gap relies on gender-responsive ICT policy and therefore the digital capabilities of policy-makers need to be strengthened for them to better understand the barriers to Internet access women face, and to equip them with the tools to promote more gender-inclusive public policy.

## ITU Updates Global Treaty Which Enables Better Access to Affordable Broadband Technologies

The International Telecommunication Union (ITU) published the 2020 ITU Radio Regulations – the international treaty governing the global use of radio-frequency spectrum and satellite orbits – which enables innovative ways to promote access to affordable broadband technologies. The publication contains the complete texts of the Radio Regulations adopted during the World Radiocommunication Conference (WRC-19), held last year in Sharm el-Sheikh, Egypt. The 2020 ITU Radio Regulations will come into force for all signatory parties on 1 January 2021. “The publication of the Radio Regulations is the culmination of the hard work and intense deliberations that took place during WRC-19,” said ITU Secretary-General Houlin Zhao. “Efficient and economical use of the naturally limited radio-frequency spectrum is key to ensuring we bring the benefits of connectivity and digital transformation to people everywhere. The ITU Radio Regulations are a vital vehicle for this endeavor.” The ITU Radio Regulations facilitate equitable access to and rational use of the natural resources of the radio-frequency spectrum and geostationary satellite orbits. They also ensure the availability of the frequencies provided for distress and safety purposes and assist in the prevention and resolution of cases of harmful interference between the radio services of different administrations. Further, the regulations facilitate the efficient and effective operation of all radiocommunication services and, where necessary, regulate new applications of radiocommunication technology. Mario Maniewicz, Director of the ITU Radiocommunication Bureau, said: “In a rapidly evolving digital wireless world, the Radio Regulations provide an opportunity for all countries to develop innovative ways to promote access to affordable universal next-generation broadband technologies.” He added, “we have published the 2020 ITU Radio Regulations within the agreed timeframe, despite the challenges posed by the global COVID-19 pandemic. My heartfelt congratulations to all those that have contributed to this great success.” The Radio Regulations cover fixed and mobile radio services, satellite systems, radio and TV broadcasting, radionavigation, meteorological monitoring, space

research and Earth exploration, as well as amateur radio services. It also prescribes how radio equipment and systems must operate to ensure efficient and effective coexistence and utilization of today’s increasingly crowded airwaves. The first International Radio Telegraph Convention was signed in Berlin on 3 November 1906, bringing together 30 maritime states. Since then, the Radio Regulations have evolved with 114 years of revisions and innovations into the 4-volume treaty of more than 2000 pages. They now cover more than 40 different radiocommunication services and frequencies ranging from 8.3 kHz to 3000 GHz, with internationally agreed governing principles and regulations on which the rights and obligations of ITU’s 193 Member States to use the spectrum and satellite orbit resources are based. The 2020 Radio Regulations are available in all six of ITU’s official languages. Electronic versions of the Regulations can be downloaded free of charge. The traditional four-volume boxed set, as well as a multi-lingual DVD will be available for purchase in the coming weeks.



## ITU Virtual Digital World 2020 Focuses on “Building the Digital World Together.”

ITU Digital World 2020 is going online with a three-day programme of virtual exhibitions and debates at the very highest level, taking place from 20 to 22 October 2020. This influential global event will bring together government and industry leaders, including the Prime Minister of Viet Nam, H.E Nguyen Xuan Phuc, to explore the critical role of digital technologies and

public-private sector collaboration in the COVID-19 era. Highlights will include:

- Ministerial Roundtables: Join the Prime Minister of Viet Nam along with ministers from around the world, regulators and top-level representatives from key industry players as they debate “The role of digital technologies during and after the COVID-19 pandemic” –

and explore the importance of digital connectivity in national strategies for economic recovery. Key discussion areas include the policy changes that have or are being pursued as a result of the COVID-19 pandemic; if and how national digital strategies need to be adapted going forward as a result of the pandemic; how the pandemic has



transformed regulatory priorities or business opportunities; and company priorities to help accelerate economic recovery.

- Forum sessions: Convening industry experts from across the digital ecosystem, forum webinars will focus on the policies, technologies and trends driving the digital economy in sessions on Bridging the broadband gap: stimulating public and private sectors to connect the unconnected; Entering the 5G era: demand, deployment, and disquiet; and Cybersecurity and privacy solutions: safeguarding our digital world.
- Expert insights: Ministerial Roundtable and Forum webinar sessions will feature top name speakers from across governments and industries including: H.E. Nguyen Xuan Phuc, Prime Minister, Viet Nam; Iyad Al Khatib, Minister, Ministry of communication and technology, Syria; Isa Ali Ibrahim,

Minister, Ministry of Communications & Digital Economy, Nigeria; Mercedes Aramendia, President, Unidad Reguladora de Servicios de Comunicaciones (URSEC), Uruguay; Jay Carney, Senior Vice President, Global Corporate Affairs, Amazon Web Services; Patricia Cooper, Vice President, Satellite Government Affairs SpaceX; Julie Garcia Welch, Vice President, Government Affairs & Public Policy, Asia Pacific, Qualcomm; Eugene Kaspersky, CEO, Kaspersky Lab; Nguyen Manh Hung, Minister, Ministry of Information and Communications, Viet Nam; Paola Vega Castillo, Minister, Ministerio de Ciencia, Tecnología y Telecomunicaciones, Costa Rica; Chris Wellise, Chief Sustainability Officer, Hewlett Packard Enterprise; Wojciech Wiewiórowski, European Data Protection Supervisor and more.

A global online tech exhibition including virtual national pavilions showcasing innovations from Cuba, Cambodia, Finland, Japan, South Africa and Zambia amongst others, key ICT players and high-growth tech SMEs.

## FCC Unveils Unbundling Overhaul

The Federal Communications Commission (FCC) has confirmed that it has eliminated a number of legacy unbundling and resale rules 'where they stifle technology transitions and broadband deployment'. The rules date back to the Telecommunications Act of 1996, which required monopoly local telephone companies to make portions of their networks and services available to competitors at regulated rates. The watchdog notes that the Order (dated 27 October) builds upon previous action to adjust those rules to keep pace with advances in the marketplace since the passage of the 1996 Act, 'as it has shifted from one dominated by monopoly incumbents to one characterized by vigorous, intermodal competition'. The Order eliminates rules requiring unbundling of the following network elements, subject to certain conditions and multiyear transition periods:

- DS1 and DS3 Loops. These legacy

last-mile lines are used primarily by business customers and are being replaced by higher speed, packet-based services sold by incumbent local exchange carriers (ILECs), competitive local exchange carriers (CLECs), cable providers and other intermodal competitors. The Order ends these unbundling requirements in areas with sufficient evidence of competition but keeps them in place in areas that lack sufficient competition.

- DS0 Loops. These network elements are typically used to provide both voice and broadband service using various DSL technologies. The Order eliminates unbundling requirements for these loops in densely populated areas, which tend to have more competitive options, but preserves unbundling requirements for DS0 loops in less densely populated areas.
- Legacy Narrowband Voice-Grade Loops. These network elements are

used to provide legacy voice service and have no broadband service capability. Given the shift away from legacy voice services to IP- and wireless-based voice services offered by multiple providers, the Order removes unbundling obligations for narrowband voice-grade loops nationwide.

- Dark Fiber Transport. These services provide a connection between phone companies' local wire centers. The Order eliminates unbundling requirements for dark fiber transport originating or terminating from a wire center within a half-mile of competitive fiber networks. The Order also discontinues, subject to a three-year transition period, a requirement that ILECs make available for resale their retail legacy telecoms services at cost-based rates. These services are predominantly used by CLECs to provide legacy voice services to business and government customers.

## ITU, Estonia, Germany and DIAL Join Forces to Accelerate Digital Transformation of Government Services

The International Telecommunication Union (ITU), together with the Ministry of Foreign Affairs of the Republic of Estonia (MFA Estonia), the Federal Ministry for Economic Cooperation and Development of the Federal Republic of Germany (BMZ), and the Digital Impact Alliance (DIAL) at the United Nations Foundation, have signed a joint declaration to accelerate digital transformation and digitalization of government services, particularly in low-resource settings. The partnership will establish a framework for digital cooperation among governments to assist countries in implementing scalable digital services and applications in a cost efficient, accelerated, and integrated manner. The aim is to scale the framework to global level for all ITU Member States to accelerate the achievement of the Sustainable Development Goals (SDGs), as well as to facilitate the development of transformative and paperless citizen-centric services that are accessible and available to all members of society. "In the last few months, digital transformation has accelerated at an unprecedented speed and scale, and governments are on the frontline," said ITU Secretary-General Houlin Zhao. "This new partnership between ITU, Estonia, Germany and DIAL is an important step in advancing digital government services, in particular in low-income countries, in support of the United Nations Sustainable Development Goals." One of the main goals of the partnership is to implement a reference digital government platform, called the Sustainable Development Goals (SDGs) Digital Platform, as a digital public good based on reusable, standards-driven, secure and interoperable building blocks in line with the whole-of-government approach to building and deploying digital services and applications. Doreen Bogdan-Martin, Director of the ITU Telecommunication Development Bureau said: "Successful digital transformation efforts require cooperation across all actors. ITU welcomes the opportunity to

work with Estonia, Germany and DIAL to continue to advance ICT-related solutions that can power country-level action to achieve the SDGs." Furthermore, the partnership aims at facilitating fundraising to support relevant and interested stakeholders who can contribute to deploying and scaling up digital services by building shared digital infrastructures that will power future innovations centered around citizen needs. "This collaboration will truly power digital transformation and give governments the chance to build and deploy their digital services and applications in a cost efficient, accelerated and integrated manner," explained Norbert Barthle, Parliamentary State Secretary to the German Federal Minister for Economic Cooperation and Development (BMZ). "Particularly governments in low-resource settings that have not yet digitized their services will now have the freedom to make decisions based on the state of technology as it is today – cloud, microservices and artificial intelligence – without being held back by legacy solutions of past decades." Other goals of the partnership include contributing to the work of the international community to power digital transformation by sharing expertise, guidelines, best practices and case studies on relevant topics, and undertaking joint actions, such as thematic meetings, capacity building

workshops, and knowledge sharing and exchanges. Raul Siem, Minister of Foreign Trade and Information Technology of Estonia, noted his country's openness to sharing expertise in digital transformation: "Estonia has a long experience in building a holistic digital society, from the technological standpoint to putting in place proper legislation. Our digital ecosystem relies on strong public-private partnerships which, among other things, is something we are also keen on sharing within this partnership and working towards the Sustainable Development Goals." "One of DIAL's main objectives is to connect, scale and support proven solutions that are necessary for digital transformation to be successful," said Kate Wilson, CEO of DIAL. "This partnership will support our efforts to do that, expand our existing work with ITU, including the Digital Investment Framework, and learn from both Estonia and Germany to help other countries on their digital transformation journey." The partnership and the establishment of the Sustainable Development Goals Digital Platform will be implemented within the framework of the ITU Regional Initiatives for Europe, a citizen-centric approach to building services for national administrations.





## ITU and EIF Join Forces to Reduce the Digital Gender Divide in Burundi, Ethiopia and Haiti

The International Telecommunication Union (ITU) and the Enhanced Integrated Framework (EIF) have launched a cooperative project to enhance the digital ecosystem and build digital skills for women in Least Developed Countries (LDCs). The project will address the ongoing gender digital divide which, while narrowing in developed regions, has widened in developing nations and the LDCs since 2013. Across Africa, the proportion of women using the Internet is 12% lower than the proportion of men; in African LDCs, the disparity broadens to a 31% gap. Combining their resources, ITU and EIF will enhance efforts to benefit women in Burundi, Ethiopia and Haiti. This will be achieved by building capacity at the policy level, increasing governments' ability to mainstream gender and information and communication technologies (ICTs), and by expanding the horizons of thousands of women entrepreneurs in sectors such as textiles and apparel, and the coffee and cocoa value chains. "More than ever before, digital technology is a key driver of women's economic opportunities," said ITU Secretary-General Houlin Zhao. "This partnership between ITU and EIF will result in vital policy support to ensure sustainable expansion of ICTs where it is most needed and will benefit women as they access and use ICTs to participate fully in their economies." The project will focus on nationwide fieldwork, specifically:

- Working with governments and other decision-makers to ensure that digital economy policies are gender-responsive;
- Working with organizational partners and other members of the local ecosystem to prepare working-age women to navigate in the digital world; and
- Working with the private sector to create economic opportunities for working-age women in the digital world.

For example, the project will develop national curricula for train-the-trainers



programmes, creating a system for distributed education ranging from the most basic use of major information/knowledge platforms to digital solutions for clothing and garment design, smart tailoring, production line, e-commerce solutions for small- and medium-sized enterprises, mobile banking, design thinking and technology innovation, and the Internet of Things for entrepreneurship. "Building digital skills for women in Least Developed Countries can help women take advantage of growing opportunities – for business expansion, increased market connectedness and enhanced employability. This is why I am so pleased that EIF is embarking on this effort together with ITU and the governments in Burundi, Ethiopia and Haiti as a part of its Empower Women, Power Trade initiative, which supports innovative work with women across the LDCs," remarked EIF Executive Director Ratnakar Adhikari. "Finding innovative ways to close the gender digital divide is critical. We need to empower women in local communities to properly use ICTs and to maximize impact at the economic and social level. This project focuses on the right sectors, the right communities, and the right entrepreneurs to do just that," said Doreen Bogdan-Martin, Director of ITU's Telecommunication Development Bureau. "By joining with EIF

to increase women's access, capacity and use of ICTs, we hope to support many working-age women to be change-makers in their communities." Improving the policy and regulatory environment that affects the selected countries' digital society will be key to the project's success. To start the conversation on what actions are needed to achieve this improvement, an open discussion is planned among key stakeholders, including women entrepreneurs and women employed in the relevant sectors, officials of ICT ministries, trade sector representatives, sector associations in textiles and apparel, cooperatives in the agriculture sector, and private sector companies. This joint project, a contribution to the EQUALS Global Partnership and part of EIF's Empower Women, Power Trade initiative, will help to match job market supply and demand, and facilitate the entrepreneurial activities of women through the use of ICTs. It will be conducted in close collaboration with local partners such as cooperatives and business associations to ensure that support for women continues and strengthens after the project is complete. EQUALS partners will be included in the work at the national level, bringing additional expertise to the project planning and execution.

## ITU Launches Connect2Recover to Reinforce Digital Infrastructure in Countries Affected By COVID-19



The International Telecommunication Union (ITU) has launched Connect2Recover with the support of the Ministry of Internal Affairs and Communications of Japan and the King Salman Humanitarian Aid and Relief Centre of Saudi Arabia to help countries recover from COVID-19 by expanding access to affordable and reliable connectivity. Connect2Recover will initially focus on selected countries in Africa which are some of the least well connected countries and likely to be hit hard by the pandemic in socio-economic terms. COVID-19 has highlighted that digital infrastructure is not just a convenience but an essential requirement for fully-fledged participation in society and the economy. Broadband connectivity has proved vital in helping countries' businesses and citizens adapt and respond to the pandemic, enabling them to access the latest health information and continue working, learning and socializing remotely. Connect2Recover seeks to expand access to affordable and reliable connectivity, which is an essential aspect of countries' COVID-19 recovery strategies. "ITU, and the wider international community, is transitioning from aiding countries with their immediate response to COVID-19, to helping countries prepare for and adjust to a 'new normal'," said ITU Secretary-General Houlin Zhao. "As the United Nations is calling on its Member States to 'build back better', Connect2Recover represents ITU's contribution by facilitating socio-economic recovery through the use of digital infrastructure, services, and applications, thanks to the generous support of the Japanese government and the Kingdom of Saudi Arabia." Connect2Recover will consist of three key elements.

First, Connect2Recover will develop a methodology for identifying gaps and bottlenecks in the use of digital networks and technologies at country level: to respond to and mitigate the consequences of the COVID-19 pandemic as well as preparedness for any similar emergencies in the future: and to enable recovery and readiness for the "new normal".

Second, on the basis of this methodology, Connect2Recover will assist countries in assessing their needs, gaps and bottlenecks, and develop strategies to ensure that the digital infrastructure and ecosystems adequately support recovery efforts and the "new normal." These strategies will be designed in line with global best practices, as well as with other relevant policy tools developed by ITU and other relevant organizations.

Third, Connect2Recover will conceptualize and implement pilot projects to test specific technological solutions in line with national country strategies and policies. The project will also undertake deep-dive studies in specific areas of digital policy as prioritized by the selected countries, such as

digital finance, e-education, e-health, e-government, or teleworking. "Japan recognizes the importance to continuously work together with countries to strengthen their digital broadband infrastructure for adapting to the 'new normal', which provides a base of teleworking and remote activities," said Minoru Terada, State Minister for Internal Affairs and Communications of Japan. "Digital technology is playing a vital role to respond to and mitigate the COVID-19 pandemic. Under these circumstances, our project aims at improving the connectivity through the development of resilient broadband networks to respond to the COVID-19 pandemic, especially among African countries." "The pandemic has affected the global economy, financial markets, trade, and global supply chains. Saudi Arabia recognizes its devastating impact, which has hampered growth and development and reversed the gains accomplished in the previous years. This human crisis requires a global response as the virus respects no borders, humanitarian situation or needs," said Dr. Abdullah Almoallem, Director of Health and Environmental Assistance at the King Salman Humanitarian Aid and Relief Centre. "During this pandemic, we heavily depend on ICTs to carry out our daily life needs under the new norms of social distancing. As it assumed the presidency of the G20, Saudi Arabia continued its humanitarian aid to other countries in order to help them to respond to the COVID-19 pandemic, and through this project we aim to enhance connectivity and leave no one behind in this digital age." "COVID-19 has demonstrated the vital importance of meaningful connectivity and it has also served as a wake-up call to the global community to renew efforts to connect the 3.6 billion people still offline," said Doreen Bogdan-Martin, Director of the ITU Telecommunication Development Bureau. "Connect2Recover represents a first step in our journey to recovery and preparedness. I applaud the commitment of Japan and Saudi Arabia, and I invite all stakeholders to join this initiative to help advance real and rapid progress for all." In addition to ITU's existing COVID-19 activities and work programmes in Africa, Connect2Recover reinforces the organization's long-standing efforts to accelerate digital transformation on the African continent and thus achieve long-term development goals. Out of the 25 least connected countries in the world, 21 are in Africa. According to the African Union's Digital Transformation Strategy for Africa, nearly 300 million Africans live more than 50 km from a fiber or cable broadband connection. Access to high-speed Internet thus remains out of reach for many Africans, hindering their ability to fully harness the potential of digital transformation.

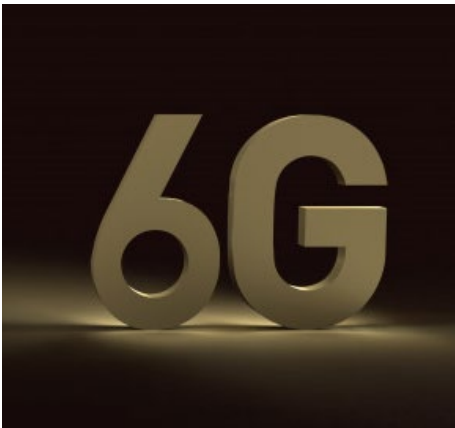
## Japan Government Targets Mobile Cost Reductions

The Japanese government outlined a range of measures it argued are necessary to boost competition in the mobile market, with pricing a key target of a strategy it plans to begin enforcing from April 2021. In a statement, the Ministry of Internal Affairs and Communications argued consumers are currently subject to high prices, along with a confusing and expensive process to switch providers. It also appeared to take a swipe at the control exerted by NTT Docomo, KDDI and Softbank Corp, with an element of its strategy designed to make wholesale access cheaper. The ministry's plan covers three key pillars: offering clear prices and services; promoting "fair

competition"; and boosting consumers' ability to switch provider, in particular by removing a JPY3,000 (\$28.65) fee attached to such changes if users implement the move online. It plans to establish a consumer website outlining the benefits of switching and advice on how to do so in the fiscal year beginning 1 April 2021, when it also intends to begin enforcing mobile number portability guidelines. The use of eSIMs will also be explored, with recommendations on promoting their use due to be issued by mid-2021. Another move in the pipeline is a review of data connection charges which could deliver a mandate for operators to

halve fees within three years, though the process for this is currently scheduled to begin in the new fiscal year. Before then, the ministry intends to begin exploring how frequencies are allocated, continue implementing programmes to promote infrastructure sharing and target "further reduction of voice wholesale charges". The Japan Times explained new Prime Minister Yoshihide Suga had a longstanding desire to tackle what he believes are high prices in the country. In late 2019 the country clamped down on a practice linking high data fees to device subsidies.

## FCC Chief Tips 6G to Change Regulator Role



US Federal Communications Commission (FCC) Chairman Ajit Pai speculated the nature of future mobile networks and development of technologies including blockchain could make his job obsolete, noting 5G had already changed the

regulator's role. Pai noted 6G "could be entirely virtualized" and unrecognizable from current networks comprised of "macro cell site towers intermittently dotting the landscape". He said it is "not inconceivable" a shift from physical to fully virtualized infrastructure could eliminate the need for the FCC to oversee network construction and spectrum allocation, suggesting blockchain could more efficiently manage some of these tasks. "If you had a distributed ledger that was able to document" who had access to spectrum and for what period, "and everyone else necessarily recognizes that because of the integrity of the blockchain, what role is there for a central regulator at that point?" Pai said the FCC's role had "changed substantially" since his appointment as a Commissioner in 2012,

with domestic battles over 5G spectrum allocation and efforts to harmonies global band assignments turning the job into "much more one of a negotiator or diplomat, as opposed to a straightforward regulator". The Chairman tipped 5G to boost competition as spectrum sharing schemes enable more companies to launch new services, pointing to a recent 3.5GHz auction which drew interest from the cable and utility sectors as an example. He argued "incumbents are going to have to really think hard and compete hard in the 5G environment...they can't just sit on their laurels". He highlighted early work on applications spanning telehealth, remote learning and agriculture, concluding "5G will pop, but it's too soon to say at this point exactly how, where or when".

## Trio Awarded USF Contracts worth USD5m

Pakistan's Universal Service Fund (USF) has approved the award of contracts to mobile providers Jazz, Zong and Ufone for 'Next Generation Broadband for Sustainable Development Projects' worth a total of around PKR895 million (USD5.4 million), The Nation writes. Jazz was

awarded the contract for the Ghotki, Sukkur and Khairpur districts, which will see around two million people in 549 unserved villages in the territories gain access to high speed mobile broadband networks. Chinese-owned Zong, meanwhile, was awarded the contract for Jaffarabad,

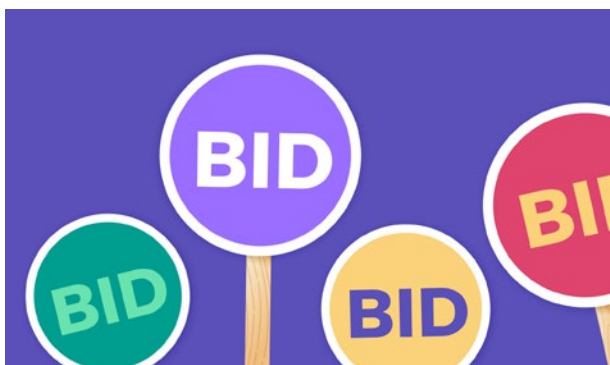
Sohbatpur and Nasirabad, covering roughly 400,000 people in 227 unserved villages, whilst Ufone will rollout coverage to just over 17,000 citizens in 15 villages across the Ziarat and Kalat districts.

## Auction 107 C-Band Bidders Include AT&T, T-Mobile, Verizon, Dish, Viasat, Cable Companies

Nearly 75 entities have applied to bid in Auction 107, an auction of 280 MHz of coveted mid-band spectrum in the C-band between 3.7-3.98 GHz. The list of would-be C-band bidders reads like a “Who’s Who” of service providers and reportedly includes all major mobile carriers, all major cable companies, Dish and Viasat, as well as numerous smaller companies. Many industry observers see mid-band spectrum providing the optimum mixture of coverage and range to support 5G services, both mobile and fixed. About half the applicants submitted incomplete applications—a common occurrence in wireless auctions. But typically, the majority of those submitting incomplete applications eventually provide required missing information and move to the complete applications list. The C-band auction is scheduled to start in December. Licenses will

be issued by partial economic area (PEA) and each license will include 20 MHz of spectrum. Spectrum in the C-band should be especially attractive to companies that won licenses in the recent CBRS auction because that band is adjacent to the C-band, which means that entities winning licenses in both bands may be able to combine spectrum to maximize speeds and capacity. Verizon was the biggest winner in the CBRS auction, but Dish, Charter, Cox and Comcast also were big winners. Some companies plan to bid in the C-band auction under unfamiliar names, but all three of those cable companies reportedly have applied to bid in the auction. Cable companies may use any spectrum winnings to support their mobile offerings, which currently rely in large part, on reselling Verizon’s network. But at least one cable company – Charter – is likely to use any mid-band spectrum it wins for fixed wireless services. Other companies on the C-band

bidder list that would likely use any winnings for fixed wireless include W.A.T.C.H. TV Company and Wisper ISP, both of whom are fixed wireless providers that were big winners in the 2018 Connect America Fund CAF II reverse auction, which awarded funding to cover some of the costs of deploying broadband in unserved or underserved rural areas. Perhaps the biggest surprise on the C-band bidder list was satellite operator Viasat. Rival satellite provider Dish has committed to building a mobile network, which might also support fixed wireless. But I doubt that a mobile network is in Viasat’s plans, as it would be extremely difficult to compete in that market. More likely, Viasat is looking at providing fixed wireless as an alternative to its traditional satellite broadband offering. Companies that submitted incomplete applications have until November 2 to submit complete applications, according to an FCC public notice.



## India Debates 5G Spectrum Allocation and Standards

The debate over India’s 5G future continues. India’s Department of Telecommunications (DoT) has reportedly asked the government to free up 3000 MHz in the 26GHz-28GHz band for 5G. Meanwhile, operator Reliance Jio has indicated its support for a home-grown 5G standard. The DoT is not alone in its request for operators to have access to airwaves in the 26GHz-28GHz band. There have been urgent requests from industry for spectrum in this band, in part inspired by 5G standards approval for the 26GHz band from the International Telecommunication Union (ITU). For operators, the appeal of the 26-28GHz band is clear: it is seen as ideal for ultra-

fast wireless broadband services, as well, of course, as having 5G standards backing from the ITU. This development is also part of a long-running saga in which India’s Department of Space (DoS) has staked a claim on the 26GHz frequency range. But could ITU standards be sidestepped in India? Reliance Jio has backed a country-specific 5G standard proposed by the Telecom Standards Development Society, India (TSDSI), with all that implies for a potential Indian 5G IPR. Rival operators Bharti Airtel and Vodafone Idea are not impressed, pointing out that the TSDSI’s 5G specifications aren’t interoperable with the globally defined 3GPP standards

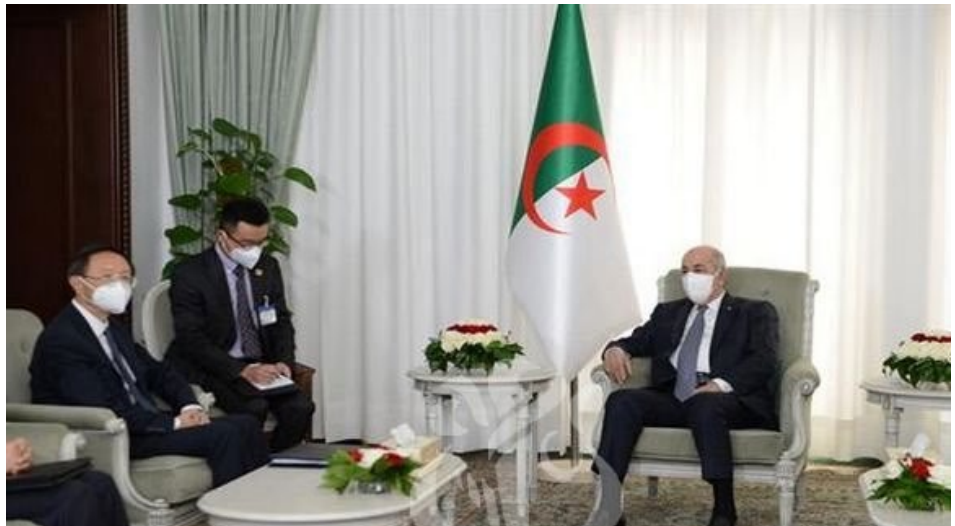
already underpinning 5G rollouts in many countries. Even if it were only used within India, a purely India-centric 5G radio standard would mean hardware changes in base stations and mobile devices, with all the additional cost that implies. As for other countries, whether the first Indian IPR in the global 5G arena would have a meaningful impact on markets outside India is a reasonable question. Nevertheless Jio seems to be planning to go ahead with its 5G technology, likely to be ready for field deployment next year, when, in theory, 5G spectrum will be finally be auctioned after a number of delays.

## Algeria Boosts ICT Cooperation with China

Yang Jiechi a member of the political bureau and Director of the office of the Foreign Affairs Commission of the Central Committee of the Chinese Communist Party (CCP), paid an official visit to Algeria from October 10 to 11, 2020. This was part of "the exchange of visits between officials of the two countries to strengthen and promote ties of friendship and cooperation between Algeria and the People's Republic of China," according to Algeria's Ministry of Foreign Affairs. Yang Jiechi - who was received in audience by the President of the Republic, Abdelmadjid Tebboune, and the Minister of Foreign Affairs, Sabri Boukadoum - assessed with them the cooperation relations between the two countries in various fields, including information and communication technologies. They also discussed the possibilities of promoting and developing their relations. During the trip to Algeria, which was attended by Wang Xiaotao, President of the Chinese International Cooperation Agency for

Development (CIDCA), the partners signed an economic and technical cooperation agreement for a grant of 100 million yuan (\$14.8 million). The money will be used to finance cooperation projects between the two countries. The cooperation between Algeria and China has been promoted to the rank of global strategic

partnership in 2014. It is also thanks to this collaboration that China helped Algeria to build and launch in December 2017 its first telecommunications satellite. The equipment was launched into space by a Chinese Long March-3 rocket from the launch center in Xichang, Sichuan province.



## MTN Ghana Seeks Supreme Court Review of SMP Declaration

MTN Ghana has filed an application with the country's Supreme Court seeking a review of its designation as a significant market power (SMP) operator by the National Communications Authority (NCA). The announcement comes after the High

Court of Justice (Commercial Division) issued a judgment on 1 September dismissing the company's legal challenge that the regulator's decision did not meet the requirements of procedural fairness. In a statement, MTN Ghana said it had

taken note of the ruling and acknowledges the role of the NCA in promoting fair competition, but 'regretfully our concerns remain unsolved'.

## Malaysia Operators Fined For SIM Registration Violations

Malaysia's telecoms regulator fined six mobile operators a total of MYR700,000 (\$168,500) for failing to verify the identity of new prepaid subscribers in 2019. The Malaysian Communications and Multimedia Commission (MCMC) said U Mobile was hit with the largest penalty of MYR250,000, while Celcom Axiata and Tune Talk each was fined MYR150,000. Maxis must pay MYR100,000 for the SIM card registration errors, YTL Communications MYR40,000 and Tone Plus MYR10,000. In a

statement, the commission said the action reflects its "firmness and commitment" in ensuring the interests of users are always protected as well as ensuring the prepaid SIM card registration process complies with its guidelines. The MCMC reminded operators it will take stern action against those failing to comply, adding they must use an automated platform that is encrypted and secure when registering new subscribers. A customer is limited to owning five SIM cards.



## Vodacom Secures Interim Order against Lesotho License Revocation

Vodacom Lesotho has been granted an interim order by the country's High Court to prevent the revocation of its operating license by the Lesotho Communications Authority (LCA), reports Business Insider. Last week Vodacom said it was lodging an urgent application in the court to review attempts by the LCA to withdraw its unified licence, and to impose a fine of LSL134 million (USD8.1 million) for alleged contraventions of the Lesotho



Companies Act, 2011 and certain conditions of its unified license. 'We had no option but to seek relief in the courts because the LCA's decisions imposing an excessive fine as well as the revocation of Vodacom's operating license are both erroneous as a matter of law and public policy,' commented the cellco's managing director Philip Amoateng, adding: 'The LCA has unfortunately violated its prescripts and rules and our efforts to find an amicable solution to the dispute has drawn a complete blank. Given the hostility shown by the LCA towards Vodacom, our options are now limited to seeking redress in the courts to avert further damage to our brand, reputation and the interests of stakeholders, including our customers, shareholders and employees.' The move by the regulator to revoke Vodacom's licence followed accusations that the cellco's external auditors were not fully independent, as required by the terms of its operating license and the Lesotho Companies Act, 2011. The watchdog fined Vodacom a total of LSL134 million, with 70% of the fine suspended as long as Vodacom complied with the licensing rules in the future. Following the High Court's decision, the LCA must show cause why the interim order should not be made final on 23 October, a Vodacom spokesperson was cited as saying.

## Uzbek President Issues Digital Strategy Decree, Including 2022 Universal Broadband Target

Uzbekistan's President Shavkat Mirziyoyev has issued a decree 'On approval of the Strategy Digital Uzbekistan 2030 and measures for its effective implementation'. The national digital strategy includes a goal to connect every settlement to the internet at speeds of at least 10Mbps by the end of 2022, with an intermediate target to connect 'all popular tourist destinations' with high speed internet by end-2021. Local website UzReport lists some other digitization initiatives in accordance with the decree: e.g. 2021 will see the introduction of a system of compensation for up to 50% of citizens' expenses for obtaining international IT certificates in system administration, information

security and other digital fields, while a new ID card system will incorporate a personal account to establish electronic relationships with government agencies and organizations. A publicly available electronic platform for domestic software products and IT services is also being created, and a September 2021 target was set to launch digital technology training centers in each district and city for the general population, especially youth and women. The website of the Ministry of Information Technologies & Communications (MITC) gives details of other aspects of the Digital Uzbekistan 2030 strategy, including further targets for 2022 involving the expansion of high

speed mobile network coverage 'from 78% to 95%' and the deployment of 20,000km of new fibre-optic lines in 2020-22, alongside other priorities for the development of digital infrastructure, e-government, digital economy, the national market for digital technologies, and IT education (with computer coding training earmarked for 500,000 young people under the 'One Million Programmers' project). Aiming to eliminate the digital divide in all regions of the country, three-year digital transformation programmes are being developed for each region, with 13 'model' districts/cities identified for pilot schemes in 2020.

## Swedish Regulator Revokes SMP Status of Three Firms

The Swedish Post and Telecom Agency (Post & Telestyrelsen, PTS) has repealed decisions relating to significant market

power (SMP) for three companies which it says no longer fall under the regulations for the fixed termination market. Devicom,

DGC and Voice Integrate Nordic have now had their SMP status removed.

## New Zealand Commerce Commission Releases Guidance on Telecom Operator Obligations and Monitoring

The Commerce Commission has released guidance about how it will monitor and enforce obligations on telecoms network operators to offer fiber and other wholesale services to retailers on an equivalent and non-discriminatory basis. Following a call for evidence on draft proposals in May, the

Commission is now examining whether the non-price terms on which these products are offered meet this requirement. The regulator is encouraging fiber providers to review their product offerings against the guidance and implement any changes necessary to bring them into compliance

as quickly as possible. It is also urging retailers to raise issues with the local fiber companies (LFCs) where they believe the product offerings are not meeting the required obligations.

## Australian Government Investing To Support 5G Development

Almost AUD30 million (USD22 million) is being invested by the Australian government to improve the allocation and management of spectrum, and to trial 5G use across different industry sectors. The funding initiative was revealed as part of the government's just-announced 'Job Maker Digital Business Plan', and specific measures include: AUD22.1 million for the establishment of the Australian

5G Innovation Initiative, to invest in 5G commercial trials and testbeds in key industry sectors such as agriculture, mining, logistics and manufacturing; AUD1.8 million over two years to invest in systems that allow more efficient spectrum allocation; and AUD5.3 million over two years to update and simplify the country's digital spectrum license system. Additionally, the government has said it is

providing AUD7.1 million to the Australian Communications and Media Authority (ACMA) to conduct auctions. Commenting, Minister for Communications, Cyber Safety and the Arts, Paul Fletcher, said: 'Spectrum is a critical component in the rollout of 5G. These investments will make the allocation of spectrum more efficient and reduce red tape, so that Australians can experience the benefits of 5G sooner.'

## PTA Set to Auction Additional 3G, 4G Spectrum to Telcos



Pakistan Telecommunication Authority (PTA) has initiated a drive to auction the available spectrum from 1800 & 2100 MHz bands to cellular mobile phone operators. The auction will be held in the coming months, as the telecom regulator wants to hire a consultant for this process to carry out research on the industry, the design of the spectrum, and the potential price of the spectrum. As the COVID-19 pandemic spread in the country, the demand for broadband internet has risen in a staggering way, including the use of the internet by old and new users. The country witnessed various new trends including increasing demand for content related to entertainment, online classes and work-from-home,

e-commerce and e-health. The high demand for mobile internet has compromised the quality of service for broadband internet. PTA, through its consultant, will conduct a study on the available spectrum in 1800 & 2100 MHz in Pakistan with future projections for the next 3 years, targeting to achieve overall economic growth and incentivize foreign investment, considering the impact of past auctions, renewals and other relevant factors. The study will help devise a strategy for available spectrum auction in the light of international best practices suited for Pakistan's Telecom market. The aim will be to assign the spectrum in a manner to make block size of contiguous frequencies by re-farming existing assignments to make standardized block sizes. The auction drive entitled "Spectrum Auction Pakistan 2020-21" is focused on regulatory consistency for the investors, mobile broadband proliferation, and future sustainability of the Cellular Mobile Communication Sector with an overall economic growth of Pakistan. PTA will carry out spectrum rationalization, re-adjustment plan (850, 900, 1800 & 2100 MHz) with an objective to maximize efficient spectrum utilization in line with international best practices for spectrum assignments. At present, Zong, Telenor and Jazz maintain 2 blocks of 5 MHz each. Ufone manages 1 block of 5MHz. In 2017, Jazz was last awarded a spectrum with a 4G license at \$295 million.

## PTA to Evaluate and Decide Future of WLL in Pakistan

Pakistan Telecommunication Authority (PTA) has decided to review the Wireless Local Loop (WLL) regime in Pakistan as its subscriber base is on a constant decline, it is learnt. By the end of July 2020, the total number of broadband subscribers in Pakistan was around 83 million and mobile broadband subscriptions stood at 81 million. The presence of non-cellular operators in general and WLL operators in particular is negligible in comparison with cellular operators. The frequency assignments will expire in 2024, and there is a need to have clarity on the future of WLL regime so as to allow WLLOs ample time to prepare their business plans, a official document available with ProPakistani revealed. WLL regime was introduced in Pakistan in 2004 in accordance with the de-regulation policy 2003 with spectrum assignments in 450 MHz, 479 MHz, 1900 MHz and 3.5 GHz bands. WLL licenses were distinguished from mobile cellular licenses through geographical and mobility restriction; regional licenses with single-cell mobility. A total of 93 WLL licenses were issued to 18 companies in 2004 for various regions of Pakistan in frequency bands of 450, 479, 1900 and 3500 MHz. Some of the operators failed to complete initial mandatory roll-out obligations despite grant of extension in timelines and hence their respective licenses were cancelled/terminated. PTCL, Telecard and WorldCall had a combined subscriber base of around 2.4 million in 2008-09 which kept on improving till 2012-13. Wi-Tribe, Wateen and Sharp also made some impact during this time frame. However, since 2012-13 – since the emergence of 3G and 4G services – there has been a constant decline due to extensive roll out by the mobile operators. Some of the operators have multiple frequencies assignment in their licensed regions. After termination of several licenses and Telecard becoming FLL operator, there are still ten (10) operators with eighty (80) licenses. However, the subscriber base is on a constant decline. Since the introduction of WLL regime in Pakistan in 2004, there have been enormous technological developments aimed at efficient utilization of the scarce resource i.e. frequency spectrum. Some of the spectrum bands assigned to WLL operators have already been identified for higher value mobile broadband services like 2100/1900 MHz and also for 5G i.e. 3.5 GHz. The most important being 3.5 GHz band wherein 5G network is deployed in many countries. MoIT&T in one of its Policy Directive for “Test and Development of Future Technologies Particularly for

Fifth Generation (5G) Wireless Networks in Pakistan” identified 2.6 GHz and 3.5 GHz as best suited spectrum for 5G networks. PTA accordingly published a “Framework for Test and Development of Future Technologies Particularly for Fifth Generation (5G) Wireless Networks in Pakistan, in line with GoP Policy Directive. CMPak (Zong), PMCL (Jazz) and Telenor have conducted 5G trials in 2.6 GHz and 3.5 GHz spectrum while PTCL & Ufone joint trial is under process. As per sources, an in-depth analysis of the performance of WLLOs over the years, challenges and opportunities, best regulatory practices for efficient utilization of frequency spectrum, etc will be performed. And to obtain that, PTA has sought comments from all stakeholders. The stakeholders will be required to respond on a set pattern including the regulatory, technical and financial impediments that affected WLL business adversely, how can the WLL operators sustain their business up to 2024 and does it make a business case for WLL operators to continue operations beyond 2024 if the circumstances remain the same? Further stakeholders would be required to suggest a regulatory regime beyond 2024 to safeguard WLL business while ensuring efficient spectrum utilization as well as maintaining distinction from cellular mobile/NGMS services and what could be the best utilization of existing WLL frequency bands i.e. 450, 479, 1900 and 3500 MHz? PTA will analyze stakeholders’ comments while preparing recommendations for the future of WLL regime.



## US Taps Industry for Input on Spectrum Sharing

The US Department of Defence (DoD) called for innovative ideas from the telecoms industry about shared spectrum models, as it moved ahead with a plan to open some of its mid-band airwaves to commercial users. In a request for information (RFI), the DoD asked mobile players for views on how 5G can share spectrum with high-powered radar operations; potential national security concerns related to such portioning; and whether it should consider leasing rather than reallocating its holding. The DoD in August announced plans to make spectrum between 3.45GHz and 3.55GHz available for shared use with commercial operators.

The Federal Communications Commission is set to vote on new rules for the band to enable the scheme on 30 September. However, the scope of the RFI appears to go well beyond the planned spectrum, covering the “broad range” the DoD uses and one question specifically addressing blocks between 3.1GHz and 3.55GHz. DoD chief information officer Dana Deasy stated partnering with industry players is “imperative in this extremely technical and competitive field”, adding “what we learn in this effort has potential to benefit the entire nation” and help maintain US leadership on 5G. Responses are due by 19 October.



## Movistar to Launch Tender for Sale of 10MHz of 1900MHz Airwaves

Chilean cellco Movistar is set to begin a private tender process for the sale of a 10MHz block of spectrum in the 1900MHz band



on 25 September, *Diario Financiero* reports. The development follows a decision from the Supreme Court in 2018 which ruled that Movistar – along with rival mobile providers Claro and Entel – had violated rules on spectrum limits by bidding for additional airwaves in the 700MHz band in 2014, ordering the companies to comply with the regulations at the time of the auction, the rules on spectrum holding limitations having since been updated. Following a series of protests from the companies, in October 2019 the court gave the trio a series of options to bring themselves into compliance with the order, one of which was to sell a portion of excess spectrum. The current tender is Movistar's third attempt at a sale, its previous efforts having run afoul of the Department of Telecommunications (Subsecretaria de Telecomunicaciones, Subtel), which had found that the bidding rules for the company's first two attempts did not comply with sector regulations.

## CMA Asks EC to Refer Proposed O2 UK-Virgin Media Merger to It for Investigation

A formal request has been made by the UK's Competition and Markets Authority (CMA) to the EC requesting that the latter transfers the review of the proposed merger of O2 UK and Virgin Media to it. In a press release regarding the development, the CMA noted that, while the planned tie-up falls under the remit of the EC to review, it can be transferred to the UK authority – subject to the agreement of the European body. In requesting the transfer, the CMA has argued for this on the basis that of case's 'potential impact on competition in several retail and wholesale telecommunication markets in the UK'.

Further, the CMA claimed that the legal requirements for the case to be transferred to it have been met, while highlighting that any impact on competition 'will be limited solely to UK consumers'. Lastly, the competition body noted that, while the EC has previously highlighted its strong interest in ensuring consistency across different merger cases in the telecoms sector, the CMA believes that this is not relevant in this case given the imminent end of the transition period following the UK's exit from the EU. Commenting, Andrea Coscelli, Chief Executive at the CMA, said: 'We've sent a formal request

to the European Commission to review the proposed deal between Virgin and O2. Ultimately, this is a decision for the EC, but as the merger will only impact UK consumers – and any effects would only be felt after the end of the transition period – it is only right for the CMA to request it back.' With the CMA said to have liaised closely with the EC on its investigation to date, it has said it will continue to do so in the event that the EC decides jurisdiction should not be transferred. Meanwhile, the initial deadline for the EC to respond to the British watchdog's request is 19 November 2020.

## FCC Reveals 3.5GHz Winners in US Territories

The US Federal Communications Commission (FCC) has revealed that a number of operators representing the unincorporated US territories have won 5G-suitable 3.5GHz licenses in the recently concluded Auction 105 spectrum sale. In Puerto Rico Claro, bidding as Puerto Rico Telephone Company, committed to pay USD18.888 million for a total of 231 licenses, while fixed-wireless operator Aeronet Wireless

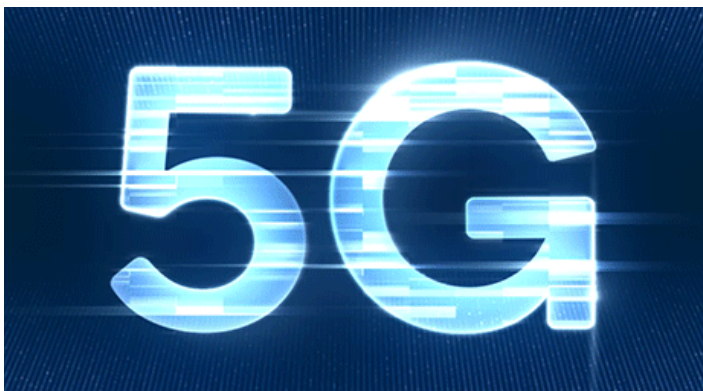
Broadband offered USD11.213 million for 224 concessions. Over in Guam and the Northern Mariana Islands GTA (bidding as TeleGuam Holdings) paid USD644,000 for four licenses, while IT&E (bidding as PTI Pacifica) agreed to pay USD529,400 for 15 licenses. Interestingly, DOCOMO Pacific, which launched 5G mobile services in both Guam and Saipan (on the Northern Mariana Islands) in August, came away empty-handed, despite registering to participate

in the auction. Finally, in American Samoa, AST Telecom (BlueSky) offered USD47,600 for twelve licenses. As previously reported by TeleGeography's CommsUpdate, gross proceeds from Auction 105 reached USD4.586 billion, with the winning bidders securing 20,625 (91.1%) of the 22,631 available licenses. The 3550MHz-3650MHz concessions represented the 'greatest number of spectrum licenses ever in a single FCC auction'.

## European Commission Pushes for Action on 5G

The European Commission (EC) pressed for collaboration among member countries to accelerate and ease 5G deployments, including cutting red tape, improving access to spectrum, and cross-border coordination on frequency assignment. In a document outlining recommendations for the development of high speed fiber and 5G services across the economic bloc, it called on European Union countries to work on a common approach to address hurdles currently hampering deployments. Included in the issues it aims to tackle are a reduction in 5G deployment costs, removal of unnecessary administrative hurdles, and support of

cross-border services in the transport and industrial sectors. It added it was essential to “avoid or minimize any delays in granting access to radio spectrum to ensure timely deployment of 5G”. Among the suggested policies, the EC said a deadline of four months should be imposed for granting or declining permission for civil works associated with high-speed network deployment. It also called for “timely and investment-friendly access to 5G radio spectrum”. EC Commissioner for the Internal Market Thierry Breton added: “At a time when access to broadband internet represents both a fundamental commodity for Europeans and a geostrategic stake for companies, we must, together with member states, enable and accelerate the rollout of secure fiber and 5G networks.” The EC wants its members to identify and share best practices to achieve its aims by 20 December, with guidelines then agreed by 30 March 2021. Following the release of the EC’s latest document, GSMA head of public policy in Europe Laszlo Toth said: “These are boldest steps yet to get the European Commission’s 5G action plan back on track. They targeted the tightest bottlenecks: best practices for spectrum auctions and faster site permits.” The state of Europe’s 5G rollouts has been criticized by a wide number of parties, including business groups and industry associations warning the continent is severely lagging other industrial powerhouses.



## Department of Space Doesn't Want To Free Up Spectrum in 26 GHz Mmwave

The Department of Space (DoS) has objected to any airwaves allocation in the coveted 26GHz millimeter wave band for 5G services, saying it can cause interference between satellite and 5G mobile networks and impact quality of satellite coverage. At a time when telcos want the Department of Telecommunications (DoT) and the sector regulator to ensure both millimeter-wave spectrum and other 5G bands like 3.5 GHz are auctioned in India’s first 5G spectrum sale (likely in 2021), unavailability of 26 GHz spectrum could spoil the 5G business case in India. Experts say without 26 GHz spectrum -- widely considered among the most efficient for 5G services -- 5G network deployment costs would rise several-fold for telcos, making the ultra-fast wireless broadband service unaffordable in the country. They warned that India also won’t be able to leverage the 5G global devices ecosystem rapidly developing around the 26 GHz band, especially with US, China, South Korea and Japan backing 5G global deployments in this super-efficient spectrum. The DoS voiced its reservations

at a recent meeting of the Asia-Pacific Telecommunity’s wireless group (AWG), and is believed to have also rejected a proposal of India participating in a global study on the potential co-existence of 5G mobile broadband and satellite operations on the 26 GHz band. Phone companies though want India to participate in the AWG global study to establish the criticality of deploying 5G services on 26 GHz band, and also want the government to coordinate matters with concerned ministries. This is since a high-powered DoT panel on 5G had earlier told the government to coordinate with the relevant ministries to boost spectrum availability for industry. “We are keen that interference and compatibility studies for co-existence of satellite and 5G services in India be undertaken, and request the government to coordinate this effort with the concerned ministries,” Dr S P Kochhar, director general of the Cellular Operators Association of India, told ET. The association represents Airtel, Reliance Jio and Vodafone Idea. Kochhar added that COAI is pleased that the AWG is developing

reports to understand and collect technical conditions for 5G deployments in millimeter wave bands - 26 GHz and 28 GHz -- where many APT countries as well as others in other regions have started commercial offerings. At press time, the DoS and Indian Space Research Organization (Isro) did not reply to ET’s queries. Another senior telco executive said “blocking 5G deployments in the 26 GHz band would be in direct conflict with the goals of the National Digital Communications Policy-2018”. This, he said, is since NDCP-2018 has recognized that airwaves in the 3 GHz to 43 GHz range are central to India’s 5G strategy, and 26 GHz is seen as the super-efficient 5G band in that range. The DoT is tipped to auction 5G spectrum next year, and has earmarked spectrum only in the 3.3-3.6 Hz band for 5G. It is reckoned to be preparing a draft Cabinet note for a next 4G spectrum sale. Among the 4G bands on offer, airwaves in the 700 MHz and 800 MHz, can also be used for 5G.

## EC Investigates Poland's 800 MHz License Award to Sferia In 2013

EC competition authorities have opened a retroactive investigation into the Polish government's award of 800MHz spectrum to fixed-wireless operator Sferia, which formed part of the Cyfrowy Polsat/Polkomtel group of companies. An EC statement says the probe is to assess whether the allocation of frequencies was in line with EU state aid rules. The Commission says it received complaints from a number of rival telcos, alleging that in 2013 the Polish authorities allocated a 2x5MHz frequency block from the 800MHz digital dividend band to Sferia without a selection procedure, at no additional cost and without coverage obligations. Other operators – including Orange, T-Mobile and Play – had to wait until a 2015 auction to acquire spectrum in the same band to support their 4G LTE networks. They paid a total of PLN9.23 billion (equivalent to USD2.5 billion at that time) for 800MHz and 2.6GHz frequencies, including PLN8.61 billion just for the 800MHz spectrum alone, with their licenses also subject to minimum coverage targets. The EU regulatory framework for electronic communications requires that member states treat all operators equally. The EC statement reads: 'At this stage and based on the information available, the Commission's preliminary view is that Sferia may have been awarded by the Polish authorities 800MHz frequencies on more favorable terms than other operators and that, hence, the allocation may have amounted to state aid.' Sferia was granted its

800MHz allocation prior to the full auction in return for handing back its existing license in the same band which it had used for CDMA-based fixed-wireless services. The firm had previously taken legal action with the International Arbitration Court but agreed to drop the case and accept the new 800MHz concession. Sferia's license expired in 2018 when it refused to pay the PLN1.73 billion renewal fee and the firm stopped offering retail services at the end of that year.



## Incumbents All Launch Official Challenges To Czech 5G Auction

Czech mobile network operators (MNOs) Vodafone and T-Mobile have reportedly filed legal complaints against the regulator, the Czech Telecommunications Office (CTU's) planned auction of 5G-suitable spectrum in the Prague courts, joining rival O2 Czech Republic which lodged its own complaint with the European Commission (EC) over the terms and conditions of the process in July. In an article dated 10 September, CTK News Agency

claimed it had 'found out from individual companies' that the complaints had been submitted – specifically challenging such things as plans on national roaming and the low cap on 3400MHz–3600MHz frequency allocations (which they say will preclude gigabit speeds) – and that the watchdog is aware of the situation. As previously reported by CommsUpdate, on 7 August 2020 the CTU launched the tender to award radio frequencies in the

700MHz and 3400MHz–3600MHz bands, and confirmed its intention to boost competition by licensing a new player in a market that has long faced vocal criticism from politicians and consumers for the high cost of mobile services. Following its public consultation on its proposals, the regulator has highlighted a number of key aims of the tender. Whilst interested bidders have until 30 September 2020 to submit applications to take part in the auction, the proposals met with immediate skepticism and criticism from the incumbents. In a statement issued after the watchdog's update, Vodafone criticized the CTU saying: 'Given the mistakes and problems in the conditions, it can be expected that the auction will result in clashes at courts and also the European Commission'. Rival T-Mobile also raised concerns over the plan, which is seen as not well prepared, with spokesman Jiri Janecek saying: 'We have to study the conditions and ponder our next steps, including possible charges'. O2 Czech Republic, meanwhile, had already filed its complaint with the EC by that date.

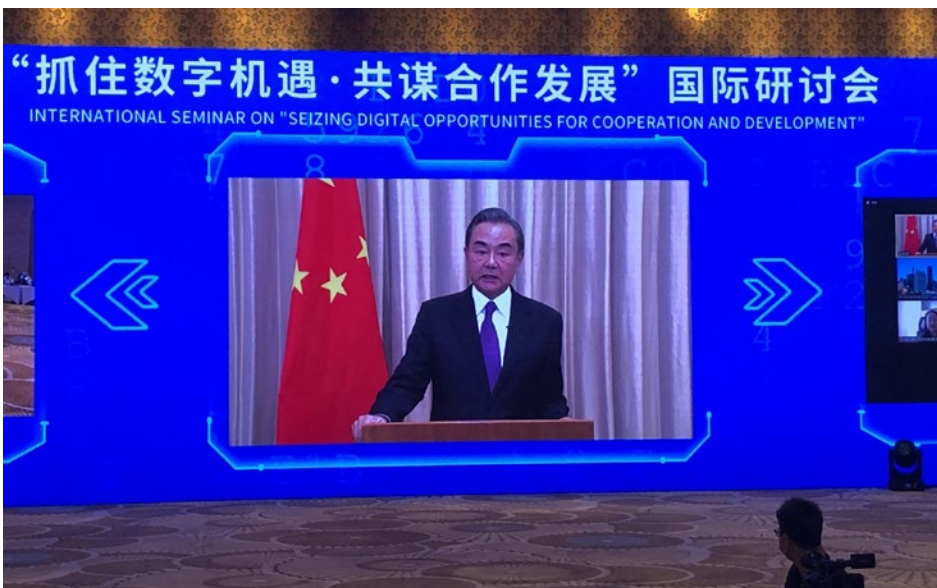


## China Unveils Global Data Security Initiative

China announced an initiative on Tuesday (Sep 8) to establish global standards on data security, saying it wanted to promote multilateralism in the area at a time when "individual countries" were "bullying" others and "hunting" companies. The announcement, by State Councilor Wang Yi, comes a month after the United States said it was purging "untrusted" Chinese apps under a program dubbed "Clean Network". China's initiative calls

for technology firms to prevent the creation of so-called backdoors in their products and services that could allow data to be obtained illegally, as well as for participants to respect the sovereignty, jurisdiction and data management rights of other countries. It also calls for participants to not engage in large-scale surveillance of other countries or illegally acquire information of foreign citizens through information technology. It did not

detail the nature of the initiative or say whether any other country had joined. "Global data security rules that reflect the wishes of all countries and respect the interests of all parties should be reached on the basis of universal participation by all parties," Wang said. "Some individual countries are aggressively pursuing unilateralism, throwing dirty water on other countries under the pretext of 'cleanliness', and conducting global hunts on leading companies of other countries under the pretext of security. This is naked bullying and should be opposed and rejected." China tightly controls and censors its own cyberspace through the popularly dubbed "Great Firewall", which has for years restricted access to firms such as US majors Twitter, Facebook and Google owner Alphabet. The administration of US President Donald Trump has taken aim at Chinese giants such as Huawei Technologies, Tencent and TikTok owner ByteDance, citing concerns over national security and the collection of personal data, which the companies have rejected. It has blocked US exports to Huawei and plans to ban TikTok in the United States this month unless ByteDance sells TikTok's US operations.



## DCMS Confirms Completion of Program to Clear 700MHz Band for 5G

A major program to vacate the 700MHz band for 5G and rural mobile coverage has been completed, according to the UK's Department for Digital, Culture, Media & Sport (DCMS). In a press release regarding the matter, the body said that Digital Infrastructure Minister Matt Warman is expected to confirm the milestone completion of the four-year GBP350 million (USD467 million) infrastructure program when speaking later today (3 September) at 5G World, as part of London Tech Week. Until now, the 700MHz spectrum band has been mainly used for digital terrestrial TV broadcast, as well as for professional radio microphones used in music studios, theatres and outdoor events. Following the clearance program, however, it will be exclusively available for mobile use. The development will enable mobile opera-

tors and other 'innovative companies' to use 5G to develop new high data usage technologies and services to boost sectors such as manufacturing, transport and healthcare. Further, it has suggested that the low frequency of the 700MHz spectrum band is ideal for carrying wireless signals into buildings and over long distances – including the countryside. As such, it said the spectrum band clearance will increase capacity in 4G networks, bringing greater mobile coverage and improved reliability to rural communities. Releasing the 700MHz airwaves is expected to increase the total amount of the radio spectrum available for mobile services in the UK by nearly 20%. Around 1,000 workers from organizations including local telecoms regulator Ofcom, Arqiva, Digital UK, Digital Mobile Spectrum Limited (DMSL) and the multiplex opera-

tors were said to have spent more than two million hours clearing the spectrum. Under the programme, changes were made to more than 1,200 television transmitter sites 'in some of the farthest flung reaches and on top of some of the tallest structures in the country'. The last part of the infrastructure works is understood to have taken place in Kendal, Cumbria and on the Isle of Man on 19 August, where channels were switched to the new frequencies in the last of 57 'clearance events'. Commenting on the matter, Philip Marnick, Spectrum Group Director at Ofcom, said: 'This is a major milestone for improving mobile services across the UK ... The airwaves will now be available to use immediately after our upcoming spectrum auction, bringing better mobile and innovative new services a significant step closer.'

## Ministry Warns Of Continued Sale of Pre-Registered Sims

Myanmar's Ministry of Transport and Communications (MOTC) has issued a fresh warning to customers not to purchase SIM cards that have been pre-registered, less than three months after the authority blocked 'millions' of SIMs. In a statement from the MOTC, the regulator noted that pre-registered SIMs were still being sold illegally by vendors. As noted by TeleGeography's GlobalComms Database, the MOTC tightened restrictions

on the sale and registration of SIMs in early 2019 by limiting the number of SIMs that could be linked to a National Registration Card (NRC) to just two in an attempt to close a loophole created by previous legislation. In February 2020 it launched a re-registration drive, giving users until 30 June 2020 to correctly register their SIMs with their provider, following which the unregistered SIMs were disconnected.



## Supreme Court Allows Ten Years to Pay AGR Dues; Passes Spectrum Sale Issue to NCLT

India's Supreme Court has set a ten-year time limit for major telecoms operators to pay back their Adjusted Gross Revenue (AGR)-related dues to the Department of Telecommunications (DoT), with an initial 10% instalment to be paid by 31 March 2021 followed by annual February payments up to 2031. Vodafone Idea (which owes INR504 billion [USD6.9 billion]) and Bharti

Airtel (owing INR260 billion) had lobbied for 15-year payment schedules, while the DoT itself had previously suggested a 20-year timeframe. Tata Teleservices – which has already exited India's cellular sector – is liable for INR148 billion in AGR dues after the apex court refused to allow any debt recalculation, the Indian Express reported. In a related matter, the Supreme

Court also ruled that the National Company Law Tribunal (NCLT) will decide whether or not wireless spectrum held by bankrupt telcos can be sold under the Insolvency and Bankruptcy Code. Insolvent operators Reliance Communications (RCOM) and Airtel have found buyers for their spectrum, but the DoT has refused to approve the sales unless AGR dues are cleared.

## High Court Dismisses MTN's Appeal against SMP Designation

The Commercial High Court in Accra has dismissed MTN Ghana's case challenging the decision announced by the National Communications Authority (NCA) in June to declare the mobile network operator (MNO) as having significant market power (SMP). According to the NCA, MTN had argued the declaration was in breach of its right to be heard and a violation of procedural fairness. In response the

NCA provided documentary evidence that it had held consultations since 2015, which culminated in research conducted by Analysys Mason in 2016 that found MTN to have market share of around 46%. The NCA further argued that MTN has since increased its market share to approximately 58% of the voice market and 68% of the data market. While dismissing the suit, the court held that there was

sufficient evidence of consultation for the NCA to act as it did, and that the opportunity offered to MTN to make inputs by way of data fulfilled the requirement of due process and procedural fairness. The court, however, added that MTN is still permitted by law to engage the NCA on implementation.

## Third Omani MNO Expected To Launch In 2021

Oman Future Telecommunications (OFT) is now expected to launch as the Sultanate's third mobile network operator (MNO) next year, according to a report by Times of Oman, which cites a social media comment from the Ministry of Transport, Communications and Information Technology. The OFT consortium, which is

led by Itqan Tech Development, secured the third MNO License in October 2017 after the tender process was cancelled, and in September last year it signed a strategic partnership agreement with Vodafone Group. Under the 15-year non-equity agreement, Vodafone and OFT will work together to roll out a new mobile network

and develop a number of new services using the Vodafone brand in Oman. As well as Itqan Tech Development, the OFT consortium is said to include pension funds, government investment funds and investors from the private sector. 📍



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## ARTICLE

# The Sustainability Agenda: Lessons Learned From The Coronavirus



**Hans Lindeman**  
Senior Advisor  
Devoteam



*The corona crisis affects the sustainability agenda in several ways, and this pandemic has demonstrated that we, as a global society, need to step up to make the world safer and more sustainable. We must strive towards an inherently resilient society built on collaboration and a stable technological base.*

The coronavirus constitutes possibly the most impactful global event of our generation with immense loss of life and treasure, and we still do not know the full impact of the pandemic.

And in the midst of this, the world continues to struggle with another global existential threat, a climate that appears out of control, a global habitat that is under relentless pressure, and untenable resource use. The virus affects us personally and privately in ways that sustainability mostly has not but the sustainability agenda is equally urgent and we must not lose sight of that goal because we are dealing with this dangerous virus.

*The question is, how will the Corona crisis impact the all-important work of becoming more sustainable in everything that we do? Is it all just getting worse, or is there a silver lining where we can actually improve our efforts of saving our planet? What can we learn from the current crisis, about how we should run our societies and the role of technology?*

These are the questions I will explore in this article based on my research.

## **Common factors: 4 areas impacting both the virus and sustainability**

First, we must look at the common factors between the state of the earth and the corona crisis. My research has shown four main areas that have a significant impact on both sustainability and the virus:

**1. Continuing urbanization.** One of the most prominent global sustainability challenges, whether we are talking about climate change, ocean acidification, inequality, or lack of resources, . comes from the virtually exponential population growth we have seen in the last century. This increased urbanization has also had a significant impact on the spread of the corona virus, both in terms of number of cases and speed. The current level of population density is an almost perfect scene on which to spread the virus.

**2. Increased demand for food.** The rise in global population and thus growing demand for food has many negative impacts on the environment, including over-farming, consumption of energy, use of chemicals, etc. Our actions have significant ramifications in terms of biodiversity and natural habitats, driving animals closer and closer to humans, ultimately exacerbating the possibility for so-called zoonotic diseases. The most widely accepted theory about the origins of the pandemic is that the virus spread from animals to people through a large food market in China. These markets are very popular, but critically serve as an area for transmission of sickness from animals to humans.

*The crisis has led to an increase in remote communication and healthcare. Post corona, this acquired experience could make education and healthcare more accessible to those who are poor, less well off, or just difficult to reach.*

**3. Constant drive for growth and profit.** The global economic situation today is dominated by a war on costs and an all-consuming drive for increased profits by the business community. This incessant drive for wealth and growth is a massive strain on the environment and the fight for equality. Unfortunately, this reality also supports the virus, which has thrived in a globally connected and growth-fixated world. Large industrial cities like Wuhan, where the virus is believed to originate, are the engines for the industrialized and globalized world and have also become hot spots for the global spread of the virus.

**4. Destabilized global politics.** Lately, we have witnessed a destabilization on the global political scene, increased levels of tension, and less international cooperation, often as a result of conservative leadership in some of the world's largest countries. This development has dramatically impaired

our ability to save the planet as vital agreements like the Paris accord have lost their impetus at the behest of perceived domestic demands. The deteriorating political climate has had an equally detrimental effect on our ability to influence and control the coronavirus. The situation is evident on many levels, and between all countries, who are looking out for their own interests, while global organizations fighting on everyone's behalf, are being actively impaired.

Thus, on a number of significant global issues, the need for a robust sustainability agenda is closely linked to the situation that has caused and exacerbated the global corona crisis.

On top of that, the coronavirus has had several direct negative and positive effects on the sustainability agenda, which I will outline below.

**Negative effects: Fewer resources and good deeds**

**Fewer resources:** The heightened attention on health care and the economy has led to a de-prioritization of resources - medical, production, financial, etc. - that would otherwise have been used to drive sustainability.

**More non-recyclable products:** Due to the contagious nature of the virus, consumption of single-use plastics and non-recyclable products has shot through the roof,

*The use of technology to manage movement of people using IoT, image recognition and AI can be critical to help beat the virus spreading. Understanding the importance of technology and data is equally important for the sustainability agenda. On a global scale, complexities in interrelationships of all physical aspects of our globe, cannot be controlled and impacted, let alone understood, if we are not adept at gathering and using data.*

**Less recycling:** Many municipalities and cities have stopped waste recycling programs and sorting due to the risk of spreading the virus.

**Short cuts to growth:** Because companies are desperate to get back on track financially, they will choose the most profitable, but less sustainable options. The same effect was seen after the financial crisis in 2008.





**Weakened political collaboration:** Sustainability is dependent on strong global cooperation, but during the corona crisis, we have seen many examples of deep rifts in the relationship between countries.

**More inequality:** In many geographies, it is the poor, uneducated, and those in most need, who are the hardest hit by the pandemic. The poor have in effect become poorer, and indications are that it will take them longer to recover from the effects of the virus.

**Positive effects: Conscience and collaboration**

However, there are also some instances where fighting the Corona crisis and working on a more sustainable world go hand in hand.

**Drop in pollution.** The decrease in human activity has resulted in cleaner air and water, albeit for the time being.

**Uptake in remote services:** The crisis has led to an increase in remote communication and healthcare. Post corona, this acquired experience could make education and healthcare more accessible to those who are poor, less well off, or just difficult to reach.

**Stronger scientific collaboration.** Whereas many partnerships between countries have been disrupted, scientists have done the opposite. Some reports point to an entirely new level of cooperation in the global scientific community, which will also greatly benefit the sustainability agenda.

**More conscious consumers.** Indications show, that consumer buying behavior and brand expectations will become more focused on matters of health and safety, including recycling principles and smart resource use.

**Technology to the rescue.** One of the overriding medical principles that the current virus crisis has exposed is the need for testing. This helps us understand levels of viral spread and the data can be used to manage intervention, movement of medical equipment, and hospital capacity. Similarly, the use of technology to manage movement of people using IoT, image recognition and AI can be critical to help beat the virus spreading. Understanding the importance of technology and data is equally important for the sustainability agenda. On a global scale, complexities in interrelationships of all physical aspects of our globe, cannot be controlled and impacted, let alone understood, if we are not adept at gathering and using data. I believe the Corona experience will have a significant impact on the use of digitalization and technology to enable and accelerate sustainability.

**Conclusion: Without technology, we will fail**

The virus affects us personally and privately in ways that sustainability mostly has not, yet. But as I have outlined above, there are

*Technology helps us manage the intricacies of global processes, and enables communications, collaboration and visualization across distance and time. Data and AI are critical to understand the complex interrelationships of our planet and to digitize core systems along with reliable security solutions.*

many similarities and correlations when dealing with such an existential threat. To me, there are two overriding lessons to be learned.

**1. To beat a global challenge, we must act as one**

The pandemic and our sustainability challenges share the characteristic that they are borderless and indifferent to skin color, religion or background. Governmental efforts to treat them as such by conservative, isolationist, and uncooperative policies are not likely to be particularly fruitful. Global challenges must be fought on the global arena, through collaboration, sharing, by partnering and through trust, both geopolitically and within international businesses.

**2. Resilience through technology**

A sustainable society is an inherently resilient society with a stable economy based on strong collaboration between private, public, and educational partners. A resilient society is also agile, and able to change and to adapt. Fully embracing technology and digitalization, will allow us to achieve these attributes. Technology helps us manage the intricacies of global processes, and enables communications, collaboration and visualization across distance and time. Data and AI are critical to understand the complex interrelationships of our planet and to digitize core systems along with reliable security solutions. My prediction is that technology will be the foundation of what allows us to beat the pandemic, and it will be the foundation of what will enable us to continue our work with the UN Sustainable Development Goals. Without resilience and without a robust technology platform, we will fail; with the correct use and application of it, we stand a good chance of winning, and of making our planet a better place to live. 🌱

If you are interested in a collaboration with Devoteam, you are welcome to contact me at [hans.lindeman@devoteam.com](mailto:hans.lindeman@devoteam.com)  
(This article is an edited and abridged version of Hans Lindeman's Devotalk on April 22. [Go here to watch the entire keynote](#)).



## A SNAPSHOT OF REGULATORY ACTIVITIES IN THE SAMENA REGION



### Afghanistan

Technology, local contents and innovation programs are important needs for internet development and reasonable prices, thus, Ministry of Higher Education focuses more on the aforesaid for telecom development. A meeting was organized between ATRA leadership and Acting Minister of Higher Education and the ministry deputies in regard to ATRA cooperation on the ministry electronic and technical needs. Congratulating new position to the Acting Minister, Abbas Baseerat, "ATRA is interested to aid Higher Education Ministry in respect with scientific and technologic inventions besides the financial and technical cooperation and would like to pave the ground for the Afghan youth's efforts through providing technical cooperation to the Ministry of Higher Education, ( technology, local contents and innovation programs are important requirements for developing internet and lowering

the prices, and thus Ministry of Higher Education focuses more on the aforementioned for telecom development)", explained Mr. Ansari, ATRA Acting Chairman. Ministry of Higher Education leadership thanked ATRA for equipping governmental universities with optical fiber and technical needs, operating local networks within universities, installing WiMax system for a number of students and as well creating computer labs and WiFi zones in the IT sections. It is worth mentioning that ATRA has so far connected 29 universities of the ministry with optical fiber and other 10 universities with WiMax where fiber optic connectivity was difficult through TDF. It has also created computer labs for other 10 accredited universities of the country and WiFi zone for two other universities and has installed local network for other three universities. (September 28, 2020) [atra.gov.af](http://atra.gov.af)



### Algeria

Algerian Minister of Post and Telecommunications Brahim Boumzar announced the country will soon be connected to a fourth submarine optical fiber cable. This was on the sidelines of the signing ceremony of an agreement between Algérie Poste and the Tourism sector, on the generalization of the interbank payment card and the deployment of electronic payment terminals (EPT) within tourist establishments. The 4th cable "will reinforce the country's data capacities supported by the existing three cables, namely the Sea-Me-We 4, the Medex linking - from

Annaba- the Algerian Internet network of optical fiber to the international network linking the United States of America to Asia, and the Orval/Alval linking Algiers, Oran, and Valencia in Spain," said Brahim Boumzar. Brahim Boumzar's announcement comes a few weeks after major disruptions to Internet connectivity in Algeria. A situation that is not new in the country, but which has prompted this time a swifter response from the Minister of Telecommunications.

(September 9, 2020) [ecofinagency.com](http://ecofinagency.com)



### Bahrain

Bahrain's Information & eGovernment Authority (iGA) held a key meeting to discuss the implementation of the National Frequency Plan. The National Frequency Plan allocates land, air, and maritime satellite spectrums locally in line with radio regulations issued by the International Telecommunications Union (ITU). It supports modern technologies and applications, meeting the requirements of the Bahrain's telecommunications sector, including government, security, and private organizations, as well

as individuals. The kingdom was among the first Arab countries to adopt the Plan, which reflects the outcome of the World Radiocommunication Conference (WRC) held in Sharm el-Sheikh, Egypt in November 2019. The plan was reissued following the conclusion of the WRC, a part of the ITU Radiocommunications and is held every four years. Since 2015, the National Frequency Plan has been increasingly flexible, lifting restrictions relating to all frequency spectrums and providing them in a comprehensive

way to users. They are distributed as per strategic plans adopted by the government which serve Information and Communication Technology (ICT) sector requirements. Mohammed Ali Al Qaed, the iGA CEO chaired the third Spectrum Strategy and Coordination Committee meeting, which was held remotely and attended by representatives of nine government organizations. Al Qaed emphasized that the committee is working to provide for the spectrum requirements of various sectors in support of the Government Action Plan. The updated National Frequency Plan, which is to be issued as a digital booklet, will allow for more effective use of the spectrum and resources. This, in turn, will help improve the quality of mobile and satellite communications and other radio services. He said the plan served as a technical guide for radiocommunications users in Bahrain, including global manufacturers and developers of communications systems noting that since its plan announcement in July. The digital booklet plan being issued by the kingdom will serve as a reference for other countries, providing important information in a convenient and transparent manner. This may help attract investment by showcasing Bahrain's clear and flexible radiocommunications plans and regulations, said Al Qaed. An outline for the national dissemination of frequencies has been adopted and will be provided via the iGA corporate website and the National Portal, [bahrain.bh](http://bahrain.bh). The plan will serve a range of sectors in Bahrain, enabling them to access information quickly and easily, he stated. The committee discussed a number of other items, including a report by the Chairman of the Subcommittee for International Planning and the results of an Internet of Things (IoT) study conducted by the Telecommunications Regulatory Authority (TRA), he added. According to him, the National Frequency Plan's objectives include the introduction of more efficient technologies for users of the radio spectrum, meeting the requirements of the implemented national communications plan, and supporting the latest mobile and private communications technology advancements. This will help attract investment to the ICT sector, supporting economic growth. The plan also takes into account unified frequencies allocated regionally and globally for Public Protection and Disaster Relief (PPDR), which help local and international rescue and emergency teams communicate with each other, he added. (October 4, 2020) [tradarabia.com](http://tradarabia.com)

More than 800,000 government transactions were processed between April and August this year, with online payments exceeding BD57 million. Digital transformation efforts are proceeding at breakneck speed, as reflected by the quarterly eServices statistics report, which recorded a 20-fold surge in government mobile application usage available in the eGovernment App, compared with the same five-month period last year. Information & eGovernment Authority (iGA) Deputy Chief Executive of Electronic Transformation Dr. Zakareya Ahmed Al Khajah said digital transformation projects across government entities were among the iGA's highest priorities." The iGA deploys all available resources towards achieving digital transformation goals and equipping government organizations with technologies that help better serve the public," he said. The BeAware Bahrain app has been a huge hit with one million downloads recorded since its launch in March. "The public's general experience with technology

also played a role in the success of the applications, which allow transactions to be completed easily and conveniently, without the need to visit service centers. A host of new services were recently added, contributing to the increased usage," Dr. Al Khajah said. The report revealed that services offered through mobile apps were used nearly 60 million times, including more than 134,000 financial transactions valued at more than BD6m. The app which saw the highest usage 'Islamiyat', which witnessed a 257 per cent spike due to the Zakat Service and the addition of 'Fa'el Khair' charity service. The 'Wejhaty' app, which provides Foreign Affairs Ministry notifications to Bahrainis abroad, recorded a 227pc growth over the pandemic period. Meanwhile, the 'Sehati' app recorded a 179pc jump in usage due to the addition of a medicine delivery service by Salmaniya Medical Complex. A total of 31 eServices were developed and launched from February. Statistics extracted from the National Portal, [bahrain.bh](http://bahrain.bh) showed strong demand for the 'Corona Affected Registration service' launched last May in co-operation with the Royal Humanitarian Foundation (RHF) which received 37,000 visits in just three months. The 'VAT Bill Payment service', launched in co-operation with the National Bureau for Revenue last June, processed more than 1,400 financial transactions. Demand also increased for services offered by the Justice, Islamic Affairs and Endowments Ministry and the Education Ministry. Lease Contract services recorded a 666pc surge in payments and a 330pc jump in Payment of Court Execution Ruling during the same period. Dr. Al Khajah also announced that a suite of new eServices for ministerial departments were on the way. (September 15, 2020) [zawya.com/mena/en](http://zawya.com/mena/en)

The Telecommunications Regulatory Authority of Bahrain announced that it had received the European Foundation for Quality Management (EFQM) Award "Recognized for Excellence 4 star level", The first organization to receive the award in the Kingdom of Bahrain. The TRA began the work towards meeting the EFQM's requirements in 2013 where an assessment team from their headquarters in Belgium set forth recommendations that would help the TRA qualify for recognition which lead to the first milestone, receiving the certificate for "commitment to excellence", and becoming members of EFQM. TRA set a work plan based on EFQM's recommendations that target areas of focus such as leadership, strategy, people, and stakeholders. Between 2013 and 2017, TRA began a number of strategic projects that would bridge the gap towards excellence including the development of a strategy system, leadership program, career development program, succession planning, performance management system, reward system, and a number of other major projects that impacted their results to a point where the TRA was ready to submit its outcomes to the EFQM. "This prestigious award is a testament to the vision of our Kingdom's wise leadership and their continuous support towards the pursuit of excellence." Says Acting General Director of TRA, Shaikh Nasser Bin Mohamed Al Khalifa. "It's an honor for the TRA to be the first organization to receive this award for all its directorates in Bahrain, and we welcome the opportunity to share our experience with any organization seeking to achieve the same." He continued. Also commenting in the ceremony, EFQM CEO, Russel Longmuir stated that "Normally it would take an organization 3 years to increase

by a star, and in a very short journey the TRA managed to get 4 stars, which is a pretty amazing achievement." He further added that "I have to say how important this is. In 31 years we have assessed more than 50,000 organizations and TRA is the first to have a remote site visit. They are world leaders in that sense and I have to congratulate them for their agility, and their response to this massive challenge we are facing. To accept that challenge

and move forward with a remote site visit, and still deliver 4 stars is a phenomenal achievement". Founded in 1989, EFQM is the world's foremost leader in management frameworks, fusing data-driven insights, curated learning and development and networking opportunities for the benefit of organizations worldwide.

(September 1, 2020) tra.org.bh/en



## Bangladesh

The total number of Bangladesh's mobile phone subscribers hit over 166 million at the end of August, with the addition of nearly half a million new users in the first 8 months of the year, statistics of the country's telecom regulator showed recently. According to data from the Bangladesh Telecommunication Regulatory Commission (BTRC), the number of subscribers in the country reached 166.028 million in August 2020. Bangladesh currently has four mobile companies, three of which are foreign-backed cellphone operators. The number of subscribers of mobile operators, Grameenphone, Robi Axiata, Banglalink and Teletalk stood at 77.011 million, 49.784 million, 34.578 million and 4.655 million respectively at the end of August, the BTRC data showed. According to statistics of the country's telecom regulator, the number of Bangladesh's mobile phone subscribers stood at 165.572 million at the end of December 2019. BTRC's Senior Assistant Director Md. Zakir Hossain Khan told Xinhua earlier that the operators reported loss of millions of subscriptions in March to May as the virus spread widely during that period in the country. He attributed the decline in subscriber numbers in those past months to people with multiple phone numbers canceling some service during the outbreak. Mobile phone subscribers in Bangladesh declined to nearly 161.506 million by the end of May -- down over 4.5 million from February, the BTRC data showed.

(October 10, 2020) xinhuanet.com

The total number of internet subscribers in Bangladesh nearly doubled in the last five years thanks to the government's commitment and push to digitize the country. Bangladesh Telecommunication Regulatory Commission's (BTRC) statistics revealed that the number of internet subscribers in the country stood at 106.410 million as of July 2020 whereas the number was 54.120 million at the end of December 2015. Of the total subscribers, according to the telecom regulator data, there were 97.840 million mobile internet users and 8.571 million broadband internet users in the country until July 2020. On the other hand, upto December 2015, the number of mobile internet users in the country stood at 51.453 million while 2.667 million internet users were using broadband during the period. The term 'internet subscriber' means subscribers/subscriptions who have accessed the internet at least once in the preceding 90 days. Prior to this, total internet subscribers in the country were 99.428 million until December 2019, according to the BTRC data. Of the subscribers,

there were 93.681 million mobile internet users and 5.742 million broadband internet users until December 2019 and the rest were WiMAX users. The number of internet users was 91.421 million at the end of January 2019, the BTRC data revealed. The telecom regulator data further unveiled that the country's internet subscribers reached 80.483 million until December 2017. There were 80.483 million internet users at the end of December 2017 while the figure stood at 66.623 million as of December 2016. The BTRC has calculated the ISP subscriber information through intense market analysis, consultation and data.

(September 18, 2020) thefinancialexpress.com.bd

The number of subscribers of the country's three private mobile phone operators — Grameenphone, Robi and Banglalink — increased by 30.63 lakh in July this year while state-owned Teletalk lost 75,000 subscribers in the month. So, the total number of mobile phone subscribers in the country rose by 29.87 lakh to 16.43 crore at the end of July this year from 16.13 crore a month ago. Officials of the telecom operators said that the improvement was a reflection of the gradual restoration of normalcy in public movement even though the coronavirus outbreak was yet to be brought under control. As per the Bangladesh Telecommunication Regulatory Commission data released, the total subscribers of leading mobile phone Grameenphone increased by 15.53 lakh to 7.61 crore at the end of July from 7.45 crore in the previous month. The number of subscribers of Robi increased by 11.23 lakh and that of Banglalink by 3.87 lakh in July this year. With the increase in July, Robi's subscriber base increased to 4.91 crore at the end of July from 4.8 crore a month earlier. The number of customers of Banglalink increased to 3.44 crore from 3.4 crore, the BTRC data showed. However, Teletalk's customer base dropped to 46.81 lakh from 47.57 lakh. The growth in July came after witnessing three disappointing months amid the coronavirus outbreak. The number of mobile phone subscribers dropped by 40 lakh to 16.12 crore at the end of June this year from 16.53 crore at the end of March. Along with the improved number of subscriber base, the number of active mobile internet subscribers in the country also increased in July. The number of mobile internet subscribers increased by 29.35 lakh to 9.78 crore at the end of July from 9.49 crore a month ago. The BTRC data also showed that the number of broadband internet subscribers remained unchanged at 85.71 lakh as of July this year. (September 14, 2020) newagebd.net



## Egypt

Telecom Egypt announced on its website that it has submitted a financial and technical offer to the National Telecommunications Regulatory Authority (NTRA) to apply for additional mobile spectrum in the 2600MHz TDD band with ten-year usage rights. The operator stated that the move is aimed at improving service quality, modernizing infrastructure and increasing its reliance on its own network by investing in additional spectrum. Telecom Egypt noted that it is awaiting the NTRA's decision on the frequency application. The previous day, Egyptian news site Youm7 reported that Vodafone Egypt and Telecom Egypt had both applied for new frequencies being offered by the NTRA. A regulatory official confirmed to Youm7 that Telecom and Vodafone were bidding on a total of 60MHz of 2600MHz TDD frequencies, while the country's other two cellcos Orange and Etisalat had not applied. Results of the bids will be announced 'as soon as they are approved', the official added. Earlier in the week, Daily News Egypt quoted an NTRA source stating that the regulator was offering new frequencies priced at USD150 million per 10MHz, aiming to sell one 40MHz block alongside a 20MHz allocation, with a competitive auction to be held in the event of multiple bids for a block. Reportedly, a further 20MHz block is earmarked for auction at a later date. TeleGeography's GlobalComms Database notes that all four Egyptian mobile operators launched 4G LTE

networks in September 2017, and are currently using spectrum in the following bands for their respective 4G services: 2100MHz (Vodafone); 900MHz/1800MHz (Orange and Etisalat); and 700MHz/1800MHz (Telecom Egypt). (September 21, 2020) [commsupdate.com](#)

An official telecommunications sector source said that the National Telecom Regulatory Authority (NTRA) will introduce new frequencies to Egypt's four mobile operators. The source added that the new frequencies will be offered to Vodafone, Orange, Etisalat, and We in the form of an auction. This will occur over two packages, the first of which will see 40 MHz of frequencies offered for \$600m, and another package of 20 MHz of frequencies offered for \$300m. The source also said that the 10 MHz of frequencies were valued at \$150m. In 2016, Egypt's mobile companies obtained a package of new frequencies in addition to obtaining the required licenses to provide 4G services. Orange obtained the 4G license in addition to 10 MHz of frequencies for \$495m, half of which was paid in Egyptian pounds. TE obtained the 4G license in addition to 10 MHz of frequencies, for \$546.7m, half of which was paid in local currency. Vodafone Egypt obtained the 4G license and 5 MHz of frequencies for \$346m, half of which were paid in US dollar.

(September 19, 2020) [dailynewsegypt.com](#)



## Iran

The Deputy Minister Communications and Information Technology Hamid Fattahi and Russian Deputy Minister of Digital Development, Communications and Mass Media Maxim Parshin met and held talks online about cooperation on artificial intelligence, Trend reports citing IRNA. The second meeting of Iran-Russia Cooperation Group on Communications and Information Technology was held online. During the online meeting, Iran's official expressed Iran's interest in cooperation in the fields of artificial intelligence, e-government, smart city, and the development of modern businesses with Russia. Referring to the COVID-19 pandemic in the world, Fattahi said that this pandemic has made the cooperation of countries in the field of communications and information technology a necessity

more than before. Pointing to Iran-Russia's growing relations, he reiterated that the ministries of both sides and the Ministers of Iran and Russia had several meetings in this area that the most important consequences of these meetings were held of the quadrilateral meeting among Iran, Russia, Azerbaijan, and Turkey. He noted that two documents related to the field of communications and information and space technology were signed by the parties in the first meeting. Referring to Russia's capacities and capabilities in the field of communications and information technology, Parshin said that Russia can share these experiences with Iran in the fields of electronic governance and smart cities.

(September 3, 2020) [en.irna.ir](#)



## Iraq

France's Orange Group has launched legal proceedings against the Iraqi government over what it describes as 'the expropriation

of its investment in Korek Telecom'. The Financial Times writes that the telco has started arbitration proceedings with the World

Bank's telecom International Centre for Settlement of Investment Disputes (ICSID) against Baghdad, on the basis that the Iraqi state breached international trade agreements by refusing Orange and its Kuwaiti partner Agility the ability to challenge the ruling of the sector regulator the Communications and Media Commission (CMC). As noted by TeleGeography's GlobalComms Database, Orange and Agility acquired a 44% stake in Korek Telecom via joint venture Iraq Telecom in 2011, with a call option that would allow the JV to acquire a 51% stake in July 2014. Shortly before that date, however, the CMC ordered that the company's shareholding structure revert to its pre-2011 form, arguing that obligations imposed by the regulator related to investment and

network construction had not been met. Despite legal action from the two partners, full control of Korek was handed to local investors in March 2019. As part of the legal proceedings the partners accused Korek's directors of mismanagement and misappropriation of millions of dollars of the company's funds, including using funnelled funds out of Korek to bribe CMC officials. For example, Iraq Telecom claimed that two properties in London were purchased by an associate of one of the local shareholders and then occupied by senior CMC officials and their families. For their part, Korek accused Orange and Agility of running a 'scorched earth' campaign, whilst the CMC has rejected all accusations of impropriety. (October 15, 2020) [commsupdate.com](https://www.commsupdate.com)



## Jordan

The Telecommunication Regulatory Commission (TRC) has published decisions on market reviews of the fixed telecommunications, mobile telecommunications and dedicated capacity markets. Regarding the mobile sector, the TRC splits the market into four relevant segments: retail mobile; wholesale mobile voice call termination, wholesale mobile SMS termination; and wholesale market for mobile access and voice call origination (MACO). Following its review of the market the TRC ruled that neither the retail or MACO segments fulfilled the criteria for the imposition of ex ante regulation. As each mobile network operator (MNO) is responsible for terminating calls and SMS on their own networks and hold monopolies on such operations, all three were designated as being dominant licensees, as were future MNOs and MVNOs. As such, all licensees are subject to regulatory obligations including the provision of access upon reasonable request, transparency, non-discrimination and accounting separation. The TRC's review of designated capacity markets found that none of the segments required ex ante regulation. However, Orange Jordan was designated as a dominant licensee in several segments, and is required to comply with price controls

related to the provision of 'traditional interface (TI) leased lines'. Similarly, Orange was designated a dominated licensee in several more markets – including the wholesale local access, wholesale broadband access, wholesale fixed voice termination and retail fixed segments – and was subject to regulation.

(October 8, 2020) [commsupdate.com](https://www.commsupdate.com)

The Telecom Regulatory Commission (TRC) has issued a statement confirming that it has received a request from an unnamed Jordanian company for permission to obtain the necessary licenses to establish and operate a mobile network using 4G technologies. The watchdog notes that the initial request lacked certain technical details and, as such, the TRC has requested that the company submit an integrated technical study that includes: details of the network to be established and operated, any potential contracts with any manufacturers or operators and the services. This will help the authority determine the necessary regulatory requirements in a manner that does not conflict with the maintenance of the competitive process in the market. (September 21, 2020) [commsupdate.com](https://www.commsupdate.com)



## Lebanon

Lebanon's National News Agency reports that management responsibility for state-owned mobile operator Touch Lebanon – currently managed by Zain Group – will be handed over to the government on 30 October 2020. In early September, Lebanon's other state-owned cellco, Alfa (registered as Mobile Interim Company 1 [MIC 1]), became officially managed by the government via the Ministry of Telecommunications (MoT) in accordance with a Cabinet resolution in May. The management transfer of Touch ('MIC 2') had been expected to follow later in September but was delayed by a month. TeleGeography's GlobalComms Database notes that since June 2004 Touch

has been managed on behalf of the government by Kuwait-based Zain (which owns 100% of local management firm Mobile Telecommunications Company Lebanon), while Alfa had been managed by Egyptian-owned Orascom Telecom Lebanon (OTL) since February 2009. Naguib Sawiris' Orascom Investment Holding (OIH, formerly Orascom Telecom Media & Technology Holding) is the parent of OTL. A reformed Lebanese government will aim to launch a new tender for mobile operator management contracts, hoping to attract interest from other major international mobile companies. Zain and OIH/OTL will potentially bid in the tender, although unconfirmed. The National News Agency writes

that caretaker telecoms minister Talal Hawat is in discussions this week with the Media and Telecommunications Committee on the handover of mobile networks to the state. Caretaker Minister of Industry Hussein al-Hajj Hassan was quoted as saying: 'The next government is the one that will decide on the management process of the sector, but we must benefit from the experience of past years and the mistakes that were made in order to prevent corruption and waste.'

(October 20, 2020) [commsupdate.com](https://commsupdate.com)

One of Lebanon's two state-owned mobile network operators, Alfa (registered as Mobile Interim Company 1 [MIC 1]), is now officially managed by the government via the Ministry of Telecommunications (MoT) in accordance with the Lebanese Cabinet's resolution of 5 May 2020, reports news site The961.com. Alfa's existing Egyptian private sector management team confirmed the changeover. Telecoms minister Talal Hawat noted that the handover was supposed to take place earlier this year but was delayed, firstly due to the COVID-19 crisis and then as a result of the devastating Beirut Port explosion. The management of rival cellco Touch Lebanon (MIC 2) – currently managed by

Kuwait's Zain Group – is expected to be transferred to the MoT by the end of September, with Hawat stating yesterday (7 September 2020): 'With the management of Alfa fully returning to the custody of the telecommunications ministry, we have accomplished an important step that will be entirely complete with the return of the management of Touch, which is expected very soon.' TeleGeography's GlobalComms Database notes that Egyptian-owned Orascom Telecom Lebanon (OTL) has managed Alfa (MIC 1) on behalf of its sole owner the Lebanese government since February 2009. Egyptian billionaire Naguib Sawiris' Orascom Investment Holding (OIH, formerly Orascom Telecom Media & Technology Holding) is the owner of OTL. Touch Lebanon (MIC 2) is also wholly state-owned, but since June 2004 has been managed on behalf of the government by Zain Group, which owns 100% of the local management firm Mobile Telecommunications Company Lebanon. OIH also confirmed the resignation of Alfa's current board of directors and 'the election of a new board of directors named by the Ministry of Telecommunications'.

(September 8, 2020) [commsupdate.com](https://commsupdate.com)



## Morocco

Morocco has developed one of the most advanced telecommunications markets in Africa, supported by the government's Maroc Digital 2020 strategy to encourage the development of a digital economy and on the National Broadband Plan which aims to provide fixed or mobile broadband access to the entire population by 2022. The country had the fastest mobile broadband data rates in Africa as of June 2020, a testament to investments made by the MNOs over the years. The part-privatized incumbent telco Maroc Telecom remains the dominant player in the fixed-line sector though it has effective competition in the mobile sector. The fixed-line broadband market remains dominated by Maroc Telecom. In February 2020 the company was heavily fined for failing to enable competitor access to its DSL infrastructure, but despite these regulatory efforts to enforce LLU and wholesale pricing there is little in the way of access to its networks and as a result the fixed-line broadband market has not developed to its potential. The introduction and extension of mobile broadband services has gone far to improving access nationally. Mobile internet by early 2020 accounted for 93.3% of all internet connections, leaving Maroc Telecom's DSL service with most of the remainder. The dominance of mobile internet access is likely to continue given the improvements in LTE

reach and capabilities, and the preference among consumers to adopt mobile solutions for both voice and data. This report analyses Morocco's fixed-line, broadband and mobile telephony sectors, including statistics, assessments of recent regulatory measures, details on licensing regimes and spectrum auctions, and profiles of the major players. The report also includes a range of subscriber forecasts to 2025. BuddeComm notes that the outbreak of the Coronavirus in 2020 is having a significant impact on production and supply chains globally. During the coming year the telecoms sector to various degrees is likely to experience a downturn in mobile device production, while it may also be difficult for network operators to manage workflows when maintaining and upgrading existing infrastructure. Overall progress towards 5G may be postponed or slowed down in some countries. On the consumer side, spending on telecoms services and devices is under pressure from the financial effect of large-scale job losses and the consequent restriction on disposable incomes. However, the crucial nature of telecom services, both for general communication as well as a tool for home-working, will offset such pressures. In many markets the net effect should be a steady though reduced increased in subscriber growth.

(September 26, 2020) [developingtelecoms.com](https://developingtelecoms.com)



## Nepal

Ministry of Education, Science, and Technology has announced that it will provide free internet to students from Ashoj, 2077. Ministry has also started making necessary arrangements for free internet to students and schools to facilitate e-learning/online classes. Since the COVID-19 situation has made e-learning a mandatory obligation to everyone, it has made receiving alternative education and joining classes difficult for a lot of students. This is because not everyone can afford the internet in every part of the country. So, to ease the situation, the Ministry of Education, Science and Technology announced to provide free internet to the students for the operation of the academic session. It is provisioned in the "Student Learning Facilitation Guideline" that was passed on 19 Bhadra by the ministerial decision. This also includes free downloads of educational material from the Ministry sites (like Shikayi Chautari, Curriculum center, DoE) and provide free internet to the students to assist the e-learning process. Moreover, the guideline also clearly mentions the role of the Ministry to provide free or subsidized data packages to schools and students. The data package would be from Nepal Telecom and other internet service providers for educational purposes only. As known, the Ministry of Education has instructed the federal, state, and local level bodies and stakeholders for the mandatory implementation of this directive from Ashoj 1, 2077. The information on the implementation of the directive issued by the Ministry states that the government at all three levels should implement the directive in order to achieve an alternative way of learning in this COVID-19 pandemic. These e-learning achievements are specified in the National Curriculum Draft to create a favorable environment for students to learn online. (September 12, 2020) nepalitelecom.com

Nepal Telecommunications Authority (NTA), the Telecommunication regulatory body of Nepal, has implemented Cyber Security Bylaw 2077 (2020) recently. It is a mandatory Cybersecurity regulation for Telcos and ISPs to implement security standards and best practices in a systematic way. About a month ago, NTA directed the telcos, ISPs to mandatorily conduct security audit regularly. Now, all licensed telecommunication service providers operating in Nepal need to fulfil the clauses of the Cyber Security Regulation 2077. As Cybersecurity has become increasingly sensitive in recent times, the authorities have come up with regulations targeting telecom service providers. Not long ago, the Nepal Telecom server got hacked, sprouting fear of data hack and data breach among us. Similarly, Vianet, one of the popular ISP in Nepal had to suffer from the customer data leak. So considering the weak Cybersecurity system of the telecom service providers in Nepal, NTA framed the Cybersecurity Bylaw 2077. NTA Board passed the Bylaw with a meeting held last Friday. The Bylaw is a 12-page long list of rules that covers the following topics:

- General Security Standards and Practices,
- Infrastructure/Network Security
- Core System Security
- Application Security

- Data Security/Privacy
- Information System (IS) audit
- Cloud Security
- CERT/Incident Response
- Security Operation Center (SOC)
- Cybersecurity awareness and capacity building

According to the Bylaw, the company shall specify the handling of social media/official emails in the office by their employees. Similarly, there is a policy for a password that the service provider shall enforce in the organization. The service provider shall also manage the privileges in a user account with the admin access for authorized individuals only. The service providers also need to make the password change for admin and users in ninety days. They should also adopt an internationally recognized security system, the default login given in any application should be blocked. They also need to spread public awareness about Cybersecurity among the users. The bylaw also binds the service providers to only use the commercially licensed operating system and applications in their computers, laptops and mobile devices. Similarly, there is a provision to implement a DDoS (Distinguishing Distributed Denial of Service) detection system for the security of the network. The providers shall use a secured virtual private network (VPN) with IPSec or SSL while accessing the system from remote places. The server provider shall use an updated firewall for the security of the core system. Similarly, there is a provision for OTP (One Time Password) for mobile-based application security. The sharing of data has also become stringent such that the service providers have to sign NDA (Non-Disclosure Agreement) with employees, vendors, third parties to copy, distribute, and sell data without consent. Similarly, the service provider shall set up a separate security unit within their organization, with 24X7 alert, monitoring and implement all preventive measures. Likewise, there shall be an incident response team to coordinate with the NTA task force to handle the attacks and minimize loss. The Telecommunication service providers should mandatorily conduct a security audit of information systems every three months. The service providers are required to conduct internal security audits as well as external security audits. Moreover, the auditing needs to be conducted by the security auditors as specified by the authorities or the government. The regulation stipulates that telecom service providers shall submit such security audit reports to the authority every six months. They shall also perform penetration testing and vulnerability assessment in 3 months and rectify the problems identified. The auditor shall perform the audit according to the criteria prescribed in the regulations for areas like a web application, network architecture, wireless communication etc. Please find the details of the Cyber Security bylaw 2020. Director of the Nepal Telecommunication Authority, Vijay Kumar Roy, said that the Bylaw is put forward after a long discussion and preparation with all stakeholders. So he opines that the service providers shall follow the regulations strictly. According to him, it will help to strengthen the Cybersecurity of all the service providers. To strengthen the Cybersecurity of the



service providers, NTA has enforced Cyber Security By-law 2077. It mentions a list of rules that the Telecom service providers should strictly follow and prepare a security audit report to submit it to the authority for analysis. As the Cyber Security Bylaw 2020 is based on international standards, we can expect it to reduce the risk of cybercrimes. The authority will make sure that the license holders (Basic Telephony/Landline, Mobile service, Network

service, Internet service) implement the rules mandatorily. Incompetence in implementing any rule mentioned in the Bylaw will be liable of consequence. As known, NTA will analyze the bylaw continuously and make a revision if required, so that no one needs to compromise on their Cybersecurity.

(September 1, 2020) nepalitelecom.com



## Oman

The Telecommunications Regulatory Authority (TRA) has invited comments from telecoms licensees, other stakeholders and the general public on its draft Market Definition and Dominance (MDD) Report 2020, which was last updated in 2013. Taking into consideration recent and expected future developments in the telecoms sector, the TRA has completed its analysis of all retail and wholesale markets to assess their competition status and to determine the ex-ante obligations that dominant service providers in those relevant markets are subject to. Interested parties have until 20 September 2020 to submit their comments on the MDD Report 2020. The draft states that Oman Telecommunications Company (Omantel) retains its dominant position in the retail fixed telephony market and the retail broadband market and will be subject to obligations of tariff approvals, accounting separation, non-discrimination and publication of information, while Ooredoo is no longer found to be dominant in the retail broadband market. Both operators remain dominant in the retail mobile sector, although the TRA will reassess this market two years after the launch of commercial services by the third mobile network operator. Omantel and Oman Broadband Company (OBC) have been designated dominant operators in the wholesale broadband market, although only Omantel will be subject to obligations of supply of service, publication of reference offer, wholesale price control and accounting separation. (September 7, 2020) commsupdate.com

As part of its efforts to diversify its economy and promote research and innovation in the country, Oman plans to set up a national space program, which will be complemented by space research and technology initiatives. The plans for Oman's expansion into space were listed by Dr. Ali Al Shidhani, the Undersecretary of the Ministry of Transport, Communications and Information Technology for Communications and Information Technology, who said that developments in this direction were part of the objectives for expansion stated by His Majesty Sultan Haitham Bin Tarik. "The ministry's competencies in relation to advanced technologies came as a translation of His Majesty's vision of moving forward to grasp the science and skills of the future, and enhancing the use of advanced technologies and employing them to improve the competitive capabilities of the national economy," said Al Shidhani. "This comes in line with

Oman's 2040 vision, which considered this sector a supporter and enabler of economic sectors," he added. "The ministry was entrusted with unprecedented and new competencies such as setting up the national space program, supporting programmes for developing uses and applications of space science and technology, establishing infrastructure for the development and manufacturing of space systems and satellites, and transferring and adopting advanced technology in the information technology industry." The Ministry of Transport, Communications and Information Technology has set up a work plan to bring these projects to reality. It will involve close cooperation between the government and private sector in the country, as well as many researchers and scientists involved in the relevant fields. "These competencies were translated through the ministry's structure, there being a center for space, advanced technology and artificial intelligence, and directorates for infrastructure and digital platforms, thereby stimulating the sector, building future skills and empowering other sectors," he said. "We will also benefit from all ideas and opinions that contribute to improve the ministry's work and projects. Al Shidhani went on to add: "Accordingly, we are working in the ministry to set work paths within all these competencies under specific indicators that measure performance and achievement, and we will work to achieve these goals in partnership and cooperation with all government entities, the private sector, and Omani experts and specialists in the field of technology and communications." The undersecretary also praised another of His Majesty's initiatives: the donation of laptops to underprivileged and needy students in Oman. "The directives of His Majesty to provide computers to higher education students from the social security segment and those with low income, and the government's rapid endeavor to deliver communication and internet services to 598 villages and rural areas in the Sultanate during this year, confirm His Majesty's interest to empower all citizens of the nation with technical services and knowledge. "The Ministry of Transport, Communications and Information Technology will work side by side with all partners in the communications and information technology sector to improve the quality of the services to meet the needs of citizens and the strategic sectors," he added.

(September 1, 2020) timesofoman.com



## Pakistan

The Pakistan Telecommunication Authority (PTA) has issued a request for expressions of interest (EoIs) for consultancy services regarding the renewal of licenses and allocation of additional spectrum concessions in the Azad Jammu and Kashmir (AJK) and Gilgit-Baltistan (GB) regions. The eventual winning bidder would be required to assess the available and assigned spectrum in the 900MHz, 1800MHz, and 2100MHz bands in the two territories and develop policy recommendations for the license renewals and to help design and plan the auction of the available spectrum. The publication follows on the heels of a similar request for the assistance with an upcoming sale of 1800MHz and 2100MHz frequencies for the rest of Pakistan. (October 5, 2020) [commsupdate.com](http://commsupdate.com)

Federal Minister for IT and Telecommunication Syed Amin Ul Haque has said that Ministry of IT is committed for bridging digital divide between urban and rural areas of the country. He was addressing at a signing ceremony for award of Rs 1.28 billion contracts by Universal Service Fund (USF) to cellular companies for provision of voice and high speed mobile broadband data services in areas of Balochistan and Sindh. Prime Minister Imran Khan was chief guest at ceremony. The contract signed between USF and Jazz will cover the areas of Khairpur, Sukkur and Ghotki in Sindh, whereas the areas under the contract signed between USF and Ufone include Bolan, Jhal Magsi, Ziarat and Kalat in Baluchistan. The contracts were signed by Haaris Mahmood Chaudhary, CEO USF with Aamir Ibrahim, CEO Jazz and Rashid Khan, CEO Ufone. The Federal Minister for IT said through USF IT Ministry was committed to bridging the digital divide by development, deployment and uptake of Information Communications Technology (ICT) initiatives to make a real difference in people's lives. He informed that through the contracts, around 2.4 million people in 1146 mauzas of Bolan, Jhal Magsi, Ziarat, Kalat, Khairpur, Sukkur and Ghotki districts would be provided High Speed Mobile Broadband services, covering an unserved area of 34,660 sq.km. He said the projects had the potential to impact important areas such as healthcare, communications, agriculture and transportation. Syed Amin ul Haq said the Ministry of IT and Telecommunication would continue to undertake more challenging and productive programs in future including establishment of IT Parks, including the ones to be opened in Islamabad and Gilgit in near future. Launch of triple bundle in Gilgit Baltistan is also in completion phase, he said. Federal Secretary for IT and Telecommunication and senior officials of USF, Jazz and Ufone were present.

(October 2, 2020) [telecoalert.com](http://telecoalert.com)

Prime Minister stressed upon promotion of information technology, cyber connectivity and digitalization 'because Pakistan's future was linked with the adoption of these latest modes of science and technology'. He was addressing at a signing ceremony for awarding of Rs. 1.28 billion worth contracts by Universal Service Fund (USF) to cellular companies for provision of voice and high speed mobile broadband data services in areas of Balochistan

and Sindh. The contract signed between USF and telecom provider Jazz will cover the areas of Khairpur, Sukkur and Ghotki in Sindh, whereas the areas under the contract signed between USF and telecom provider Ufone include Bolan, Jhal Magsi, Ziarat and Kalat in Baluchistan. The contracts were signed by USF CEO Haaris Mahmood Chaudhary with Jazz CEO Aamir Ibrahim and Ufone CEO Rashid Khan. Terming the signing of contracts as 'good omen' for the country, the prime minister observed that it was in line with their government's vision of uplifting the most backward, poor and deprived areas of Sindh besides different impoverished areas of Baluchistan through a network of internet connectivity. The prime minister regretted that lopsided development in the country had affected these areas. He said the MoU would lead to wider connectivity in these remote areas, thus paving a way for development and prosperity. He cited construction of Karakoram highway in Gilgit Baltistan which had connected inaccessible areas and helped in improving the standards of living and educational facilities. The Prime Minister said the majority of the people in those areas also wanted the provision of e-learning and distance learning facilities through the use of mobile phone services. Adult literacy could be achieved through the spread of internet system. Such connectivity would be vital for the fifth industrial revolution, he opined. He said Pakistan had the second-largest young population in the world which possessed 'a vibrant potential', and stressed that IT ministry should work further in tapping the IT skills. The prime minister said setting up IT parks was also significant step by the ministry as it would have positive impacts upon the country's exports. Minister for Information Technology and Telecommunication Syed Amin ul Haq said his ministry through USF was committed to bridging the digital divide by development, deployment and uptake of Information Communications Technology (ICT) initiatives to make a real difference in people's lives. The Minister informed that through the contracts, around 2.4 million people in 1,146 mauzas of Bolan, Jhal Magsi, Ziarat, Kalat, Khairpur, Sukkur and Ghotki districts would be provided High Speed Mobile Broadband services, covering an unserved area of 34,660 sq.km. He said the projects had the potential to impact important areas such as healthcare, communications, agriculture and transportation, adding that the telecom ministry would continue to undertake more challenging and productive programmes in the future including the establishment of IT Parks, including the ones to be opened in Islamabad and Gilgit in near future. The project of manufacturing and assembling of 3G and 4G Mobile Phones in the county as approved by Cabinet and Economic Coordination Committee is also in the offing, while the launch of triple bundle in Gilgit Baltistan is in completion phase, he said.

(September 30, 2020) [propakistan.pk](http://propakistan.pk)

The number of 3G and 4G users in Pakistan reached 84.81 million by end-August, compared to 82.76 million by end-July, registering an increase of 2.05 million, said the Pakistan Telecommunication Authority (PTA). Number of mobile phone users in Pakistan

reached 168.97 million by end-August compared to 168.04 million by end-July, which registered an increase of 0.95 million, during the period under review. Monthly Next Generation Mobile Service (NGMS) penetration increased from 39.25 percent in July to 40.95 percent in August 2020. Jazz's total count for 3G users stood at 10.247 million by end August compared to 10.480 million by end July, registering a decrease of 0.233 million. Jazz 4G user numbers jumped from 19.982 million by end July 2020 to 21.068 million by end August 2020. Zong 3G subscribers decreased from 6.314 million by end-July 2020 to 6.118 million by the end-August, while the number of 4G users jumped from 18.131 million by end July 2020 to 18.777 million by end August. The number of 3G users of Telenor network decreased from 6.790 million by end-July to 6.665 million by end August. The number of 4G users jumped from 11.583 million by end July 2020 to 12.250 million by end August. Ufone 3G users decreased from 5.258 million by end July to 5.148 million by end August. The number of 4G users of Ufone increased from 4.221 million by end July 2020 to 4.534 million by end August. Teledensity for cellular mobile increased from 79.21 percent by end July to 79.65 by end August. The broadband subscribers increased from 83.17 million by end June 2020 to 84.82 million by end July 2020. The PTA received 8,961 complaints from telecom consumers against different telecom operators including (cellular operators, the PTCL, the LDIs, the WLL operators, and the ISPs) as of August 2020. The PTA said it was able to get 8,807 complaints resolved i.e. 98 percent. According to the PTA data, Jazz leads the chart with 2,949 complaints, and Zong at second position as the most complained telecom operator with 2,373. Cellular mobile subscribers constitute major part of overall telecom subscriber base, therefore, maximum number of complaints belong to this segment. Total number of complaints against CMOs by August stood at 8,086. In terms of the segregation of complaints on operator basis, a total of complaints were received against Jazz, which is 36.47 percent of the total CMO-related complaints. Zong stood second with 2,373 complaints i.e. 29.34 percent of the

total complaints. Telenor, which has the second largest number of consumers, was third with 1,554 i.e. 19.21 percent complaints were received against it. Ufone had 1,172 complaints against its various services, which make up 14.49 percent of the total CMO-related complaints. The PTA also received 186 complaints against basic telephony, where 176 were addressed during August 2020. Further 676 complaints were received against the ISPs, where 615 were addressed. (September 23, 2020) [brecorder.com](#)

Pakistan's Ministry of Information Technology and Telecommunication (MoITT) disclosed on its website that it has begun preparations for an upcoming auction of additional mobile broadband spectrum. The brief statement reads: 'On the direction of Federal Minister for IT and Telecommunication Syed Amin Ul Haque, [the MoITT] has started working to release/auction additional available frequency spectrum for improvement of mobile broadband services and network expansion in the country. The network expansion will facilitate better digital connectivity, online education, e-commerce etc. Additional spectrum release/auction will help enhancement of 4G services and subscriber base which is necessary for the successful launch of 5G technology in the country.' The announcement did not mention specific frequency bands or other details. TeleGeography notes that local operators Jazz, Telenor and Zong have all carried out 5G testing under temporary trial licenses but do not yet possess commercial 5G concessions. This trio alongside Ufone have all rolled out extensive 4G LTE network coverage using 1800MHz band frequencies and, in Telenor's case, 850MHz spectrum. 4G mobile subscribers overtook the number of 3G users in Pakistan in the second half of 2019, and the 4G base accounted for 30.6% of the nation's active mobile SIMs by end-June 2020 (up from 19.8% a year earlier), compared to 3G's 17.8% (down from 22.8%), according to TeleGeography's GlobalComms Database.

(September 8, 2020) [commsupdate.com](#)



The Communications and Information Technology Commission (CITC) announced a new brand identity as part of its strategy to benefit users, service providers and investors in Saudi Arabia's ICT and postal sectors. Under this new direction, Telco, IT, and emerging tech will all work together to create the essential digital ecosystem, which combined with postal services, will deliver an attractive communications infrastructure for the Kingdom. Driving innovation in regulation will help position Saudi Arabia as a global leader in the ICT sector. CITC is on track to be classed as a fifth-generation regulator by the International Telecommunication Union (ITU), which defines a harmonized and forward-looking approach to ICT regulatory frameworks. ITU's fifth generation is reserved for the world's most advanced and high-performing ICT regulators. Another of the Kingdom's ambitions is to break into the top 20 countries for the telecommunications and information technology sector by 2030, improving the sector's performance

and contribution to GDP. Dr. Mohammed Al Tamimi, Governor of CITC, stated, "The digitalization of the world's economy has significantly accelerated in 2020. Our new strategy aims to place Saudi Arabia among the world's best when it comes to implementing and regulating new digital technologies across all sectors. "We are one of the most tech-savvy and connected nations in the world and CITC, as the national regulator, must ensure that the digital infrastructure and regulatory framework reflects this. "Saudi Arabia has already received international recognition for our achievements in the ICT sector and, with this new direction, we will be able to accomplish even more." CITC's new strategy comes directly in line with the Vision 2030 ambitions and the ICT Sector Strategy 2023 set out by the Ministry of Communications and Information Technology (MCIT). Saudi Arabia is a digital nation, perfectly positioned to kick-start an exciting era of investment and innovation across a wide variety of sectors. CITC's move from

## Saudi Arabia

a telecom regulator to a digital regulator will further accelerate the growth of the Kingdom's digital economy. The Kingdom currently ranks fifth in the world for mobile Internet speed, with an average speed of 77.55 Mbps. A modern and pragmatic spectrum strategy puts Saudi Arabia second among the G20 countries for spectrum allocation and fourth in the world for 5G networks deployment.

(October 19, 2020) [saudigazette.com.sa](http://saudigazette.com.sa)

The Communications and Information Technology Commission (CITC) organized a virtual workshop on enabling connected car services in the Kingdom of Saudi Arabia, which is an emerging technology CITC is keen on adopting, in accordance with the latest and best international practices. The workshop was attended by participant from governmental entities, car manufacturers and dealerships, in addition to ICT service providers from all over the Kingdom. During the workshop, CITC discussed the readiness of networks and systems of mobile telecommunications service providers to provide connected car services, and the regulations related to this type of services. The workshop's agenda also included underlining challenges each stakeholder faces, in addition to discussing service aspects with car manufacturers around the world. This workshop comes within CITC's framework to regulate IOT technologies in the Kingdom, while stimulating and adopting all emerging technologies and providing the appropriate environment for launching connected car service. Which requires opening communication channels with car manufacturers and service providers, and working to make the most of communications and information technology services in the automotive industry, including self-driving car services, which contributes to making the Kingdom among the top leading countries in developing and using technology to improve the quality of life and achieve the goals of Saudi Vision 2030.

(September 14, 2020) [citic.gov.sa/en](http://citic.gov.sa/en)

The Governor of the Communications and Information Technology Commission, Dr. Mohammad bin Saud Al-Tamimi,

participated in the virtual opening ceremony of the World Summit on the Information Society (WSIS 2020). During his speech, His Excellency the Governor referred to the importance of digital transformation, which has become the new backbone of life and a tool for achieving growth and prosperity, especially with all vital sectors such as health, education and trade adopting technology as a basis for business continuity and mitigating the effects of the COVID-19 pandemic. He also affirmed that the Kingdom's commitment to continue its international efforts related to communications and information technology, and supporting the digital trends that contribute in enhancing the use of technology, and maximizing its role in supporting development and the well-being of people around the globe. The Kingdom, represented by a number of government and private entities, won an award and 7 certificates within the competition held by WSIS, to honor the best projects that harness communication and information technology in implementing the outputs of the World Summit on the Information Society. This brings the Kingdom's score to a total of (10) awards and (22) certificates of excellence obtained in the previous summit sessions since its launch in 2012. The Digital Giving Initiative 'Attaa', launched by the Ministry of Communications and Information Technology with the aim of localizing digital knowledge, won the award for the 'The Cultural Diversity and Identity, Linguistic Diversity, and Local Content' category, while the projects of the Ministry of Justice, the Ministry of Environment, Water and Agriculture, the Ministry of Tourism, the Qassim University, King Khalid University, Saudi Aramco, and the Saudi Telecom Company, received certificates in various categories in education, employment, agriculture, and communication infrastructure. The Communications and Information Technology Commission (CITC) is the Kingdom's focal point with the International Telecommunication Union, and is keen to highlight the Kingdom's efforts and achievements internationally related to the Union's work, including participating in the World Summit on the Information Society each year.

(September 7, 2020) [citic.gov.sa/en](http://citic.gov.sa/en)



Bharti Airtel Lanka has been awarded 4G-suitable spectrum in the 850MHz band by the Telecommunications Regulatory Commission of Sri Lanka (TRCSL) and says it will 'soon' launch its high speed mobile broadband services across the country. The DailyFT newspaper reports the Bharti Airtel Limited subsidiary as saying that in using 850MHz spectrum, its 4G service will offer end users 'superior indoor coverage' due to its higher signal propagation. Commenting on the spectrum allocation, Airtel Lanka CEO and managing director Ashish Chandra said: 'We are thankful to the government of Sri Lanka and the TRCSL for allotting us the 4G spectrum. We look forward to delighting customers across Sri Lanka with world-class 4G services. The 850MHz band will enable us to deliver a truly differentiated high speed network experience to our customers with superior indoor coverage, which is a must in today's scenario of work from home and online education.' (October 22, 2020) [commsupdate.com](http://commsupdate.com)

The Minister of Energy Udaya Gammanpila said the Telecommunications Regulatory Commission (TRC) has taken note of the complaints received continually by the Commission regarding the payment for data that is not used at night and steps will be taken to find a practical solution for the issue. The Minister was responding to a question raised by a journalist at a media briefing at the Government Information Department on whether there was a formal solution to the issue of people paying extra for services that are not used at night. He further said that the amount of data provided at night and during the day has been changed to motivate the consumer to reduce the internet congestion during the day. However, he added that the Telecommunications Regulatory Commission (TRC) is focusing on providing a practical solution to the issue of paying for night data that is not used by many.

(September 12, 2020) [colombopage.com](http://colombopage.com)

## Sri Lanka



## Tunisia

Tunisia has one of the most sophisticated telecom infrastructures in North Africa. Penetration rates for mobile and internet services are among the highest in the region. Stimulated by the Digital Tunisia 2020 program, a number of regulatory measures and infrastructure projects have been instituted aimed at improving internet connectivity to underserved areas. The MNOs have built extensive LTE infrastructure, while operators such as Ooredoo are working with vendors to develop 5G networks and services though the regulator does not expect to offer 5G licenses until 2021. Other investment has been earmarked for vectoring VDSL and fiber to deliver improved fixed-line broadband services. The events of the 'Arab Spring' revolution in 2011 drove the country into a brief recession, but GDP growth soon returned to pre-crisis levels. While GDP growth has been modest yet sufficient to encourage confidence in economic recovery, the government's measures in response to the COVID-19 pandemic are likely to result in a significant decline in GDP for 2020. The MNOs Ooredoo and Orange Tunisie are also licensed as fixed-line operators and have launched DSL and FttP services. In addition, a dozen public and private ISPs compete in this sector, supported by a nationwide fiber optic backbone network and international access via submarine and terrestrial fiber. A reform of the country's Telecommunications Act was initiated in 2013, and government internet censorship was abolished. In addition, laws supporting e-commerce and digital signatures have been

passed, which has led to one of the most active e-government and e-commerce sectors in Africa. BuddeComm notes that the outbreak of the Coronavirus in 2020 is having a significant impact on production and supply chains globally. During the coming year the telecoms sector to various degrees is likely to experience a downturn in mobile device production, while it may also be difficult for network operators to manage workflows when maintaining and upgrading existing infrastructure. Overall progress towards 5G may be postponed or slowed down in some countries. On the consumer side, spending on telecoms services and devices is under pressure from the financial effect of large-scale job losses and the consequent restriction on disposable incomes. However, the crucial nature of telecom services, both for general communication as well as a tool for home-working, will offset such pressures. In many markets the net effect should be a steady though reduced increased in subscriber growth. Although it is challenging to predict and interpret the long-term impacts of the crisis as it develops, these have been acknowledged in the industry forecasts contained in this report. The report also covers the responses of the telecom operators as well as government agencies and regulators as they react to the crisis to ensure that citizens can continue to make optimum use of telecom services. This can be reflected in subsidy schemes and the promotion of tele-health and tele-education, among other solutions.

(October 10, 2020) [developingtelecoms.com](http://developingtelecoms.com)



## Turkey

The state-backed Turkey Wealth Fund (TWF) has obtained all necessary regulatory clearances for its agreed share transactions to become the controlling shareholder of mobile and fixed network operator Turkcell. Turkcell has meanwhile informed its shareholders that its Annual General Assembly meeting will be held on 21 October 2020, at which Turkcell shareholders will be asked to approve the revised Articles of Association enabling the transaction agreements involving TWF, Telia Company, LetterOne, Cukurova Holding and Ziraat Bank. In June 2020 TWF agreed to take a 26.2% stake in Turkcell by purchasing Telia Company's

entire 24.0% indirect stake and a 2.2% tranche from Cukurova, with the latter agreeing to sell its other remaining 11.6% to existing shareholder LetterOne (making LetterOne the second largest Turkcell parent with 24.8% of equity). TWF has acquired public shares of 22 companies in eight strategic sectors, including Turkish Airlines, Ziraat Bank, Halkbank, VakifBank, Borsa Istanbul, Turkey's Petroleum Pipeline Company (BOTAS), Turkish Petroleum Corporation (TPAO) and satellite/telecoms group Turksat.

(September 28, 2020) [The Daily Sabah](http://TheDailySabah.com)



## United Arab Emirates

The Telecommunications Regulatory Authority (TRA) has received the BSI Flex 45005. 3.0 certificate, issued by the British Standards Institute (BSI), as a distinct entity in applying best practices and work guidelines in response to COVID-19 pandemic, making TRA the first government entity in the region to obtain this certificate. Hamad Obaid Al Mansoori, TRA Director General, received the

certificate from Patrick Moody, British Ambassador to the United Arab Emirates, in a virtual meeting. BSI awards this certificate to entities that were able to meet business continuity and quality standards during the current pandemic. Achieving this international certificate confirms TRA's success in applying the best international standards to provide a safe workplace for its

employees, which were stipulated in BSI guidelines. The guidelines included a set of directives related to business continuity during a global emergency, developed by experts from various sectors. The guidelines provide a general framework for safe working, represent a comprehensive source of globally agreed best practices, support comprehensive risk assessment and provide practical examples of risk management methods. It helps organizations manage infectious disease risks. In his speech at the opening of the virtual meeting, Hamad Obaid Al Mansoori, TRA Director General and Head of the UAE Digital Government, welcomed the British Ambassador and the attendees, and added: "Due to COVID-19 pandemic, we found ourselves as a global community facing a critical test that requires quick adaptation and flexibility in order to continue life in all aspects. In the UAE, we are proud to be among the few countries that have been able to continue working, learning, and purchasing remotely since the early days of the pandemic. TRA has been at the forefront of government entities that have worked to support this trend. In terms of its responsibility for one of the most important sectors, which is the ICT sector, we are proud to obtain this international certificate as the first in the region to meet the standards of BSI for Safe Working during COVID-19." TRA has taken many measures to ensure a safe workplace during the last period, as it was one of the first entities to implement remote work on March 26, 2020, as part of its efforts to enhance precautionary measures in the ICT sector and avoid physical interaction between its employees. TRA also developed plans for the process of gradually returning to work, and took all effective measures to protect employees during work. It reorganized office space for employees to ensure social distancing, provided transparent protection barriers, and maintained remote meetings. TRA issued a guide to return to work in light of emergency conditions, which stipulated the gradual return to work in TRA offices in successive stages. The first phase included the return of 30% of employees, excluding pregnant women, people of determination, senior citizens and residents, in addition to those with chronic diseases, mothers who care for children from the ninth grade and below. The guide includes the procedures that the employees must follow from the moment they leave home until reaching TRA building, arriving at their office and ending with leaving TRA office. TRA has also implemented all health protection measures, starting from the moment of entering TRA offices until leaving, by placing health check devices at the entrances to examine the employees upon entry, and distributing the necessary sterilizers and sanitary tools in the corridors, offices and bathrooms. TRA has implemented a set of sterilization procedures outside working hours, such as the employees' adherence to leaving work on time in order to sterilize the place, sterilizing TRA's buildings on a daily basis using disinfectants and sterilizers, as well as ultraviolet rays. Furthermore, TRA organized virtual awareness workshops for its employees, in cooperation with the Ministry of Health and Prevention, on the best ways to protect against COVID-19, during which the lecturers provided advice on prevention measures and protection from the risk of infection. TRA implemented the Federal Authority for Government Human Resources decision on the return of federal government employees to the workplace at a rate of 100% as of July 5, 2020, with adherence to all necessary preventive measures.

(October 24, 2020) tra.gov.ae

The Telecommunications Regulatory Authority (TRA) announced the allocation of a new frequency band that allows UAE telecom operators to expand the application of 5G, in line with the decisions of the World Radio communication Conference 2019 (WRC-19), which was a pivotal stage in the transition towards 5G, as it allocated frequency bands for countries to be used in implementing the new technology. With this development, the UAE has taken a new step towards comprehensive implementation of 5G, which is a key enabler of smart cities and the applications of the Fourth Industrial Revolution. Frequencies in the millimeter wave range between 24.25 - 27.5 GHz have been allocated to the development of 5G networks, which strengthens the UAE's leading position in the region, as the first in the Middle East and North Africa to allocate this range. This will help the deploy and use of 5G, which will support various sectors and institutions in their endeavor to use emerging technologies and their various applications such as self-driving cars, robots, smart industry, big data, and the Internet of things. The band will be allocated in two phases based on the equipment availability. The first phase is scheduled to start on the first of September 2020, in which the frequency band 26.5-27.5 GHz will be allocated to the operators. The second phase will start in the third quarter of 2021, through which 1 GHz will be allocated per operator in the (25.5 - 27.5 GHz) range. The new 1 GHz bandwidth will provide each of the mobile operators with an opportunity to enhance and develop wireless broadband services using 5G technologies in terms of speed and data volume compared to 4G. It will also provide other additional features such as higher rates to transfer data per second and enhanced communications capacity per square kilometer, while ensuring the quality of services and increasing performance efficiency compared to previous generations. TRA also confirmed that 5G deployment in the UAE by the licensees complies with Guidelines on Limiting Exposure to Electromagnetic Fields approved by recognized international organizations such as the World Health Organization (WHO), the International Commission on Non-Ionizing Radiation Protection (ICNIRP), and the Institute of Electrical and Electronics Engineers (IEEE), and in line with TRA's framework for Non-Ionizing Radiation Limits for Telecommunication Networks. Commenting on this decision, H.E. Hamad Obaid Al Mansoori, TRA Director General, said: "5G technologies play a vital role in developing smart cities and societies, as they accelerate access to a more digitally connected world. These technologies have enormous capacity that can be combined with other technologies such as artificial intelligence and big data, in order to enhance the digitalization process and enrich the digital economy and infrastructure in the UAE." H.E. Al Mansoori added: "This decision comes in line with the UAE Strategy for 5G and beyond (2020-2025), as the provision of frequency spectrum for 5G contributes to building a high-standard global communication platform, and enabling the UAE to use and apply the latest ICT, to provide global standards services, achieve long-term social and economic benefits in various areas such as manufacturing, transportation, healthcare, and education. Moreover, this initiative comes as a result of international coordination and technical studies that have lasted more than 4 years, which highlights the importance of international coordination and harmony in providing access to this important part of the spectrum." Al Mansoori stressed that the UAE is always striving to strengthen the telecommunications

infrastructure and raise the efficiency of its national resources. He added, "We spare no effort to develop the telecommunications sector and achieve equitable access to the required resources of the frequency spectrum, to promote the deployment of 5G in the UAE, and thus develop smart services, accelerate the process of digital transformation and achieve sustainable development goals." The UAE strategy for 5G and beyond (2020-2025) focuses on 5G deployment and coverage, as well as the establishment of leading partnerships to support a diverse ecosystem. It also enhances cooperation between telecom service providers and vertical sectors in the UAE that wish to benefit from 5G.

(September 25, 2020) tra.gov.ae

The Telecommunications Regulatory Authority, TRA, announced the allocation of a new frequency band that allows UAE telecom operators to expand the application of 5G, in line with the decisions of the World Radiocommunication Conference 2019, WRC-19. Frequencies in the millimeter wave range between 24.25 - 27.5 GHz have been allocated to the development of 5G networks, which strengthens the UAE's leading position in the region, as the first in the Middle East and North Africa to allocate this range. The band will be allocated in two phases based on the equipment availability. The first phase has already started on 1st September 2020, in which the frequency band 26.5-27.5 GHz was allocated to the operators. The second phase will start in the third quarter of 2021, through which 1 GHz will be allocated per operator in the (25.5 - 27.5 GHz) range. The new 1 GHz bandwidth will provide each of the mobile operators with an opportunity to enhance and develop wireless broadband services using 5G technologies in terms of speed and data volume compared to 4G. It will also provide other additional features such as higher rates to transfer data per second and enhanced communications capacity per square kilometer, while ensuring the quality of services and increasing performance efficiency compared to previous generations. TRA also confirmed that 5G deployment in the UAE by the licensees complies with Guidelines on Limiting Exposure to Electromagnetic Fields approved by recognized international organizations such as the World Health Organization, WHO, the International Commission on Non-Ionizing Radiation Protection, ICNIRP, and the Institute of Electrical and Electronics Engineers, IEEE, and in line with TRA's framework for Non-Ionizing Radiation Limits for Telecommunication Networks. Commenting on this decision, Hamad Obaid Al Mansoori, TRA Director-General, said, "This decision comes in line with the UAE Strategy for 5G and beyond (2020-2025), as the provision of the frequency spectrum for 5G contributes to building a high-standard global communication platform and enabling the UAE to use and apply the latest ICT, to provide global standards services, achieve long-term social and economic benefits in various areas such as manufacturing, transportation, healthcare, and education. Moreover, this initiative comes as a result of international coordination and technical studies that have lasted more than 4 years, which highlights the importance of international coordination and harmony in providing access to this important part of the spectrum." He added, "We spare no effort to develop the telecommunications sector and achieve equitable access to the required resources of the frequency spectrum, to promote the deployment of 5G in the UAE, and thus develop smart services, accelerate the process of digital transformation and achieve sustainable development

goals." (September 15, 2020) wam.ae

The UAE maintained its Arab and regional leadership in a number of ICT related indicators, according to the Global Innovation Index Report 2020, which included results related to Global Competitiveness indicators for ICT sector. According to the report, the UAE ranked first on the Arab and regional level in Information & communication technologies (ICTs) Pillar, ICT Access indicator, and ICT Use Indicator. These indicators measure the progress and development of the Telecommunications infrastructure globally as a main enabler for innovation and a major element in creating an innovative environment. The UAE also ranked first in the Arab region in Generic top-level domains (gTLDs), and in Country-code top-level domains (ccTLDs) (.ae). These indicators measure the percentage of domain registration globally, and show the volume of movement and technological interaction in the countries, which enhance online creativity. Hamad Obaid Al Mansoori, TRA Director General, said: "The UAE continues its global leadership in the ICT sector by achieving advanced positions in competitiveness indicators that measure the progress and development of the sector's infrastructure. "Recently, we have witnessed the results of many years of cumulative work to develop the sector and raise its readiness for the future, in cooperation with our strategic partners. The UAE experience in overcoming the current situation has been a clear evidence of its leadership and excellence represented by a smooth transition to virtual activities such as remote work, distance learning, e-commerce and digital government services, thus the continuation of the work of many vital sectors in the country." Al Mansoori affirmed that TRA, under the guidance of the wise leadership, has worked to develop plans and strategies for the development of the ICT sector and to achieve leadership in this key sector. "Our wise leadership and its insightful vision realized the importance of ICTs, and therefore its directives were clear to develop and support this sector, so the UAE was a pioneer in all stages of work across successive generations from communications systems to 5G that are being deployed to be an entry point to the era of the smart city and the Fourth Industrial Revolution. TRA has been keen on extending Internet networks to all regions of the UAE, to ensure that everyone has access to communication services, Internet, and electronic and smart services," he added. These results are a continuation of a series of positive results achieved by the telecommunications sector in the UAE, confirming the UAE global leadership in the pursuit of digital transformation and entering the era of the Fourth Industrial Revolution, artificial intelligence and the Internet of things. The UAE ranked first in the Arab region and fourth globally in launching and using 5G networks, according to the Global Connectivity Index. TRA began implementing and using IMT2020 technology, known as 5G, at the end of 2017. The UAE has also ranked first in the Middle East region in transitioning to IPv6, according to the statistics issued by Ripe NCC, Akamai Technologies, and Google. The transition to IPv6 supports Internet service providers in providing services, in addition to its significant positive impact on the implementation of 5G, and the digital transformation in the country. The importance of implementing IPv6 comes as a result of the great scarcity of Internet protocols, and the inability of IPv4 to meet the increasing demand in light of the rapid growth of the Internet. 🟢 (September 13, 2020) tradearabia.com

## RPA: BEST PRACTICE ADOPTION FOR TELGOS

‘Creating memorable digital experiences everyday’ for our customers.

Catering to every **Digital Transformation** need of the Enterprise Business.

Technology-Led Front Office Transformation | Leading Multi-Vertical BPO Service Provider |  
Platform-Led Middle & Back Office Transformation

### CAPABILITIES



RPA



Voice/Chat Bots  
Conversation AI



Predictive  
Analytics



Artificial  
Intelligence



Machine  
Learning



Digital  
Marketing

### SOLUTIONS

Order Management

Contact Center Operations

Account Management

Truck Roll Management & Prediction

Billing & Invoicing

Churn Analytics

Network Fault Prediction

Customer Loyalty

**\$5.2 Bn Revenue**

**Digital Experiences**  
Will transform the way  
individuals and enterprises live

**90 Countries**

**Convergent Experiences**  
Intelligent symphony of technology platforms  
& solutions for enhanced experience

**124,000+ Associates**

**Design Experiences**  
Designing the Future for  
humans



## ARTICLE

## RPA: Best Practice Adoption for Telcos



### Salma Kiran

Principal Consultant - RPA & Intelligent Automation, UAE  
Tech Mahindra

**Tech**  
**Mahindra**

*It is imperative for Telcos to adopt RPA into their digital strategy and to stay ahead of its use in order to achieve savings through operational efficiencies and retention through improved customer value while continuing to reduce costs along with providing ultrafast access.*

**Robotics Process Automation (RPA) boosts the capacity of existing workforces by augmenting human abilities.**

Top industry Analysts and Experts have recognized Robotics Process Automation (RPA) as one of the major technology trends driving 60%+ vendor revenue growth in 2020 owing to widespread business adoption.

After a period of steady growth Business Service Operators now find it challenging to grow their profits although the demand for their services continues to grow. RPA is estimated to drive huge savings in businesses, especially in back-office functions such as finance, human resources, and supply-chain, contact-center and customer services improving the bottom line of your business.

According to a recent survey(Source: IQPC - Middle East RPA & Intelligent Automation Forum), about 79% of senior leaders from top firms in the region ranging across a variety of industries are planning to invest into RPA solutions in the coming months, about 15% of the companies have already budgeted their RPA and Intelligent Automation spends up to ~2Mn dollars and just about 20% said they have selected a solutions provider.

In just a few weeks of the COVID-19 outbreak, Telcos faced the new reality of increased demand for communications, connectivity and faster, more reliable network for remote operations and overall better experience for the customers staying at home adopting to the new normal. Digital Infrastructure is now a basic necessity for essential human interaction.

It is imperative for Telcos to adopt RPA into their digital strategy and to stay ahead of its use in order to achieve savings through operational efficiencies and retention through improved customer value while continuing to reduce costs along with providing ultrafast access. Rising cost of labor, declining cost of technology and the need for business continuity in unforeseen circumstances like a pandemic pushes the growing case of automation even further.

**RPA can help reduce your costs while improving the quality of many repetitive, high-volume tasks.**

Robotics Process Automation (or RPA) is an enterprise grade software technology that executes rule based & repetitive tasks through replicating the process steps performed by a human on the application's user interface. This programmed software is often referred to as a "Robot", "Digital Worker" or simply a "Bot".

evaluation of \$1.4 Billion.

Adoption of RPA in your industry will help you achieve:

- 24x7 operational availability through digital deflection combined with conversational AI.
- Faster turn-around time, improved accuracy and options of straight through processing in case of back office processes such as Order

- Consistency in operations by streamlining processes to provide desired more accurate outputs.
- Scalability to match organizational demands.
- An opportunity to scale towards Intelligence to further enhance operational benefits balancing short term goals with a long-term vision.

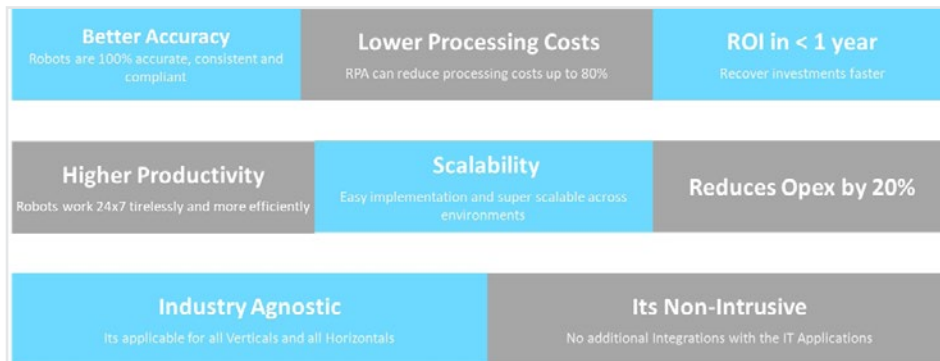


Figure 1: RPA Solution Benefits

The ease of implementation of RPA solutions and a laundry list of benefits has driven the RPA adoption across industries since its inception. The RPA market is the fastest growing in the enterprise category with over 63% growth in 2018 (Source: EGHAM, U.K. Gartner Newsroom Press Release June, 2019) to reach a current

Management, Order Fulfilment, Billing operations and Field Operations etc.

- Empower L1 & L2 troubleshooting combined with AI to deliver strategic results. Automation RCA for SLA breaches and order delays.
- Freed up human workforce to be aligned with strategic work.

**Telecom Sector is well placed for adoption of next generation technologies, especially RPA**

As the telecommunications industry gears up for the advent of 5G, Communication Service Providers (CSPs) are presented with significant opportunities to provide innovative new services for their customers. RPA is integral to the Digital Transformation Journey for CSPs to harness full potential of 5G which may not be possible with legacy IT platforms, Processes running in siloes and sheer lack of digital skills to meet the demands that the 5G era will herald.

For Telcos looking to cater their 5G customer base, An RPA solution could help them automate bulk of their manual repetitive high-volume tasks. RPA combined with Cognitive Intelligent Solutions viz AI, ML, DL could further analyze your data, make use of the

**A 5-Step guide to kick starting your Enterprise RPA Program**

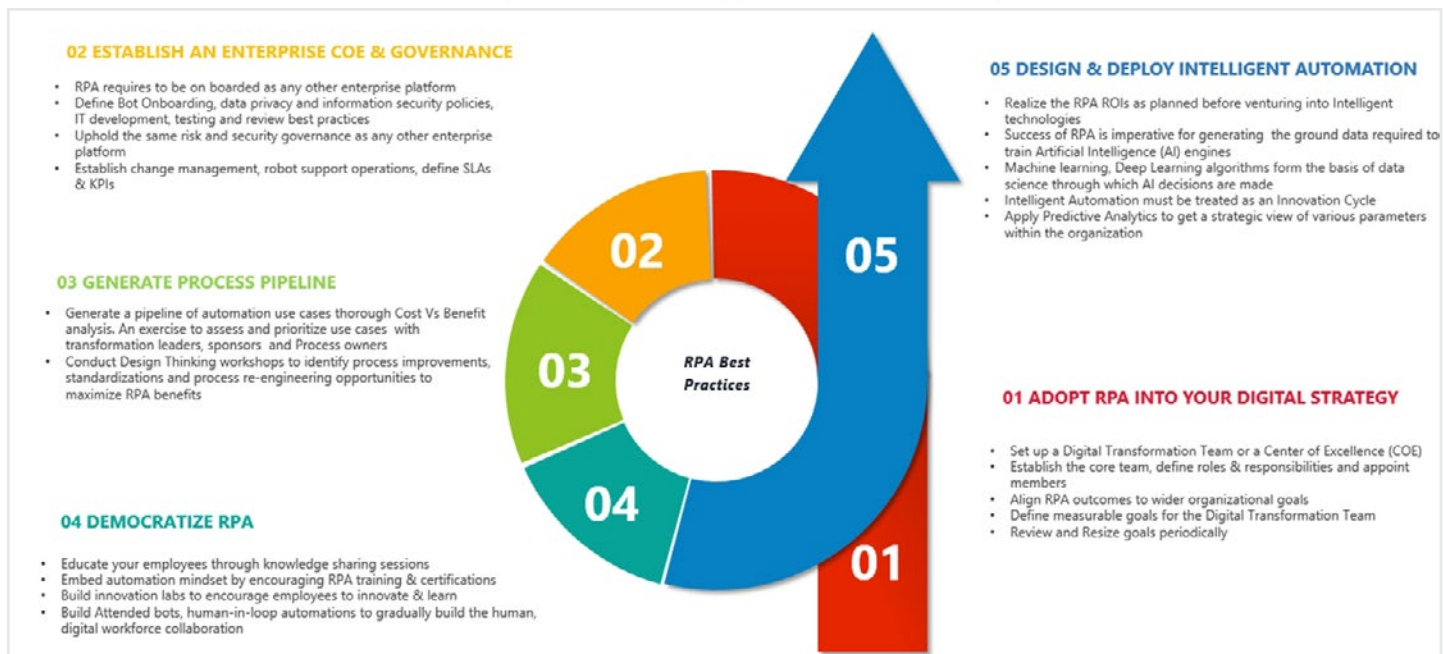


Figure 2: A Five-Step Guide to Setting Up an Enterprise RPA Program

Illustration of TechM's implementation capability as below for Order to Cash & Transform to Resolve workflows.

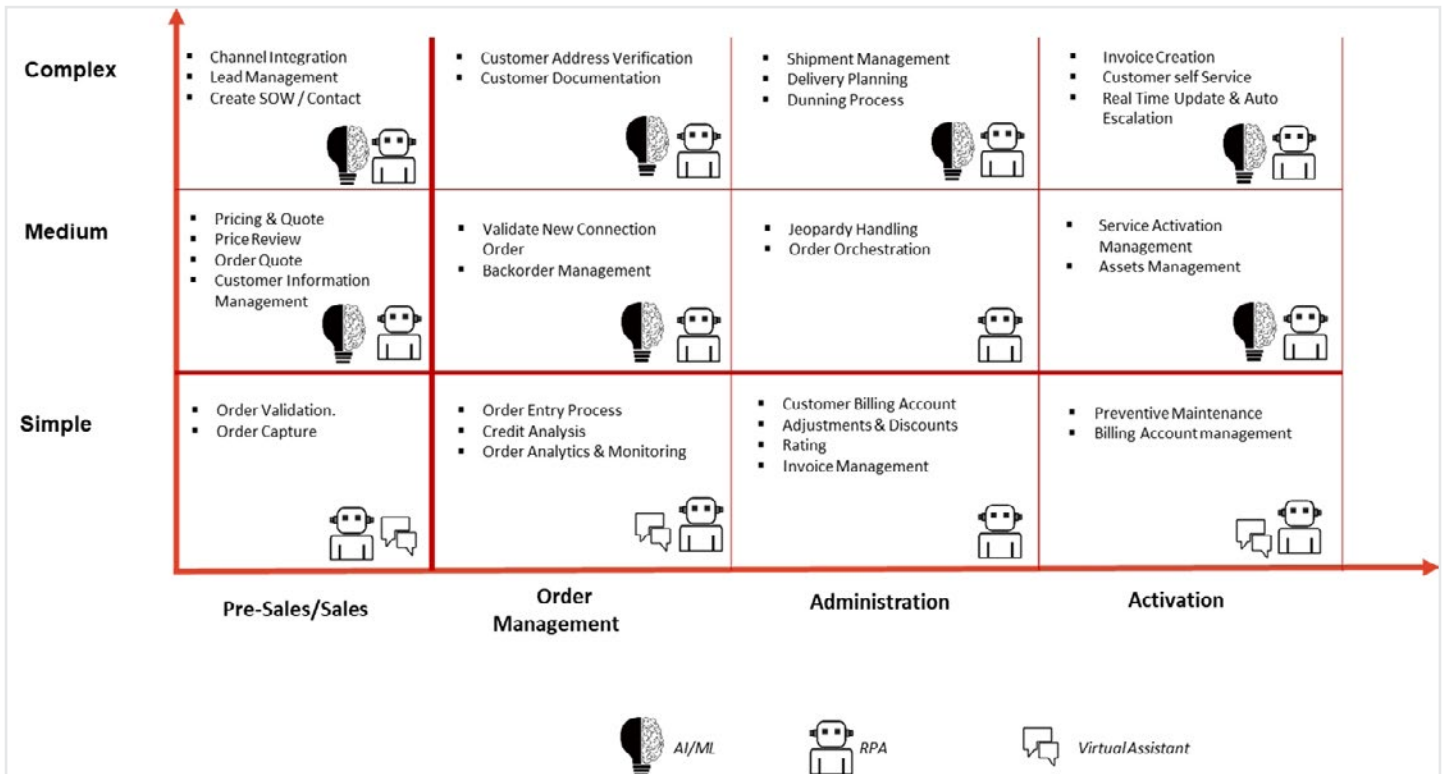


Figure 3: Possible Transformation Levers for Order to Cash/Transform to Resolve workflows.

integrated platforms to lower operational costs, drive higher efficiencies ultimately assisting you to cater the demographic better with higher customer satisfaction.

With SAMENA being the epicenter of modern innovation, the region has heavily invested in Technological innovations specifically in Artificial Intelligence. The key to scaling RPA to match the demands of the 5G era lie in the organization's ability to map the journey from successfully setting up an Enterprise RPA program to driving strategic benefits through Intelligent Automation. As per the "The State of the AI in the Middle East" report, 60% of the C-Suite executives in the Middle East believe AI will be key for their business success, and we at TechM know firsthand that RPA is the stepping stone.

At Tech Mahindra, we help customers gain cost leadership in their enterprise and business operations, enable digital transformation by laying out a cognitive roadmap, and enhance stakeholder experience to drive growth through Intelligent Automation. We bring it all together with our strong Domain expertise, Design Thinking led process re-imagination, platform led technology implementation, and empathy led change management.

With over 220+ implementations across the industries globally, our Intelligent Automation practice manages 8500+ bots in operations and over 7Mn transactions/month. We also have our own innovation labs investing into research & development which has led to the birth of its own suite of Intellectual Properties & Accelerators.

With plug and play industry use cases and widespread global experience Tech Mahindra's Telecom Automation Practice in one the most mature portfolio of Solutions (IPs) including credentials with the biggest names in the Telco World.

**In Summary:** RPA is a major disruptive technology trend of 2020, its low risk non-invasive technology sits as a layer on top of your existing technology stack. It can be coupled with intelligent technologies and machine learning algorithms to drive higher ROIs and meet strategic demands of an organization to cater to the 5G disruption in Telcos. Tech Mahindra's curated service offerings across the board are designed to cater requirements at every stage of the organization's digital transformation journey.



Figure 4: TechM's Digital Transformation Experience Profile

## REGULATORY ACTIVITIES BEYOND THE SAMENA REGION



### Angola

Leonel Augusto, Chairman of the Angolan Institute of Communications (Instituto Angolano das Comunicacoes, INACOM), has indicated that new mobile market entrant Africell should launch commercial services in the second half of 2021, Mobile World Live wrote, citing a report from Jornal de Angola. Augusto stated that Africell is following the procedures required to exercise its right to operate, including completing negotiations and establishing final terms with the state authorities, with 'the majority' of the stages now complete and INACOM currently in the process of finalizing details of the concession contract. As previously reported by CommsUpdate, in July Africell said it hoped to conclude final negotiations with Angola's government on licensing terms by

end-September, and aimed to launch services 'in mid-2021'. Earlier in July, Africell received official confirmation of its selection as Angola's fourth Unified Global operating licensee, enabling infrastructure-based mobile, internet, fixed line and pay-TV services. Angola's mobile market is currently a duopoly of Unitel and Movicel, while state-backed fixed line operator Angola Telecom holds the third Unified Global license and is planning to share infrastructure with Africell, having scrapped a proposed mobile partnership with Egyptian-backed Angorascom, TeleGeography notes. The Lebanese-backed, UK-headquartered Africell group operates mobile networks in Gambia, Sierra Leone, Democratic Republic of Congo and Uganda. (September 29, 2020) [commsupdate.com](https://commsupdate.com)



### Australia

According to the Australian Communications and Media Authority (ACMA), the deployment of 5G technology in Australia 'is a step closer' as it prepares to begin accepting applications for millimeter wave (mmWave) spectrum in the 26GHz and 28GHz bands. The ACMA is facilitating a mix of license types in the 26GHz and 28GHz bands, including area-wide apparatus licenses (AWLs), spectrum licensing in the 26GHz band for dense deployment of networks in high population areas, and class licenses for so-called 'ubiquitous' low power devices. According to the regulator, AWLs will provide users with a more flexible license type that can be scalable to a licensee's needs, and the ACMA has now confirmed that the allocation and issuing of AWLs will occur in the 26GHz and 28GHz bands (24.7GHz-25.1GHz and 27.5GHz-30GHz, Australia-wide) in November 2020 ('Round 1'). Applications for Round 1 open on 4 November 2020 and close at 5 PM on 17 November 2020. Meanwhile, a further AWL allocation is to be carried out after a spectrum auction, which is scheduled for H1 2021 ('Round 2'), for AWLs in the frequency range 25.1GHz-27.5GHz in all areas other than those designated for spectrum licensing. In separate but related news, the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) has confirmed that successful bidders in next year's 26GHz spectrum auction will be able to pay their spectrum access charges in five instalments, to support the rollout of 5G infrastructure. In a press release, the DITRDC said that the communications minister has directed the ACMA to implement this decision in its preparations for the auction, which is expected to get underway in

April 2021. It has been claimed that offering instalment payments will give bidders greater flexibility in light of the challenging circumstances created by the COVID-19 pandemic. Further, it will also reportedly allow greater upfront investment in 5G technology and the additional infrastructure that will be required to use the 26GHz band. (October 60, 2020) [commsupdate.com](https://commsupdate.com)

The Australian Communications and Media Authority (ACMA) has confirmed enhancements to National Broadband Network (NBN) consumer experience rules, with a view to protecting Australians during the final phase of the NBN migration. According to the regulator the improvements, which follow its recent review, will benefit both consumers and telco providers, and the enhancements will expand the number of businesses protected by the rules. Specifically, the ACMA has confirmed that from 14 December 2020, businesses with an estimated annual telco spend of up to AUD40,000 (USD28,351) will now be covered, up from AUD20,000 previously. Meanwhile, it has been suggested that the changes will also make the rules clearer and more flexible for telco providers, without sacrificing important consumer safeguards. Rules covering the NBN migration continue to be considered 'essential' by the ACMA, which notes that 1.5 million premises are predicted to move to the NBN over the current and the next two financial years. As such, it said that enhancements have been made to the following rules: Service Continuity Standard; Service Migration Determination; Consumer Information Standard; and Complaints Handling Standard. With the enhancements to the Service Continuity Standard and Service

Migration Determination to start on 14 December 2020, 'most' enhancements to the Complaints Handling Standard and Consumer Information Standard will start on 1 April 2021. (October 20, 2020) [commsupdate.com](#)

With spectrum in the 3.4GHz (3400MHz-3575MHz) band in Australia currently subject to a mix of spectrum and apparatus licensing arrangements, the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) has begun consulting on a plan to optimize and free up spectrum to support the rollout of 5G and in the process, improve regional access to broadband while still supporting current uses of the band. In its consultation document regarding the matter, the DITRDC noted that the country's communications minister is considering exercising powers to designate parts of the spectrum in the 3.4GHz band 'for allocation by spectrum licenses with respect to specified areas'. As per the draft designation notice, spectrum licensing has been proposed as follows: the 3400MHz-3425MHz and 3492.5MHz-3542.5MHz portions of the band to be designated for licensing in metropolitan areas (i.e. the regional capitals of Adelaide, Brisbane, Canberra, Melbourne, Perth and Sydney); 3400MHz-3425MHz for the major regional centers Albury, Ballarat and Bendigo, Cairns, Hobart, Launceston, Rockhampton,

Toowoomba and Townsville; 3492.5MHz-3510MHz for Ballarat, Bendigo and Toowoomba; and 3400MHz-3475MHz and 3510MHz-3542.5MHz for 'specified regional areas'. Meanwhile, the minister is said to be considering making the designation notice at the conclusion of the 'restack' of regional apparatus licenses in the band, as per proposals put forward by the Australian Communications and Media Authority (ACMA) in November 2019. For its part, the ACMA has said that designating the frequencies and areas as proposed would align with the approach it had previously proposed, which it noted would include: the conversion of NBN Co's apparatus licenses to spectrum licenses in metropolitan and defined regional areas to facilitate the defragmenting of Optus and NBN Co's 3.4GHz spectrum holdings; excising urban areas of NBN Co's 3.4GHz license holdings and investigating options to make them available for use by other wireless broadband operators; and allocating more of the band for spectrum licensing in regional areas, optimized for use by wide-area broadband deployments such as those by NBN Co and mobile network operators. With the DITRDC now seeking stakeholder views on its proposed approach the licensing and on the designation notice, it has said any feedback received will 'inform advice to the Minister on how to proceed'.

(September 28, 2020) [commsupdate.com](#)



## Austria

Austria's Regulatory Authority for Broadcasting & Telecoms (RTR) has completed its delayed 5G auction of spectrum in the 700MHz, 1500MHz and 2100MHz bands, raising a total of EUR201.9 million (USD239.1 million). The allocation of licenses was originally expected to take place in April but was postponed in March due to the COVID-19 pandemic. A total of 27 blocks were up for sale, including six blocks in the 700MHz band, twelve in the 2100MHz range and nine in the 1500MHz band. T-Mobile Austria (Magenta Telekom) was the highest bidder, paying a total of EUR86.7 million for 2x20MHz of 700MHz spectrum, 20MHz in the 1500MHz band (plus 10MHz which was assigned to the cellco but has 'restricted usage') and 2x15MHz of 2100MHz spectrum. A1 Telekom Austria did not secure 700MHz spectrum, but will pay EUR65.6

million for 30MHz of frequencies in the 1500MHz band and 2x25MHz in the 2100MHz range. Finally, Hutchison Drei Austria won 2x10MHz of 700MHz spectrum, 30MHz in the 1500MHz band and 2x20MHz of 2100MHz frequencies for a total of EUR49.6 million. In total 1,702 out of 2,100 underserved or unserved communities will receive mobile broadband coverage by 2027, under commitments attached to the 700MHz spectrum licenses. Hutchison Drei will supply 738 communities, followed by T-Mobile Austria (Magenta Telekom) with 615, and A1 with 349. Through the RTR's 'bonus system' – whereby operators were able to secure a reduction in the spectrum price if they agreed to cover additional underserved areas – a further 802 communities will also be supplied.

(September 14, 2020) [commsupdate.com](#)



## Belgium

Belgian telecoms regulator the Belgian Institute for Postal Services and Telecommunications (BIPT) has redistributed temporary licences in the 3.6GHz-3.8GHz band following Entropia Investments BVBA's failure to pay for its requested permit. Most of released 40MHz block of frequencies will now be divided between Orange Belgium, Proximus and Telenet. The regulator granted short-term user rights in the 3.6GHz-3.8GHz

band in July to enable operators to proceed with 5G deployments following delays to a planned multiband spectrum auction. Orange Belgium, Proximus and Telenet Group, which were originally assigned 40MHz of frequencies each, will now receive a 50MHz block. The fourth eligible operator Cegeka did not request an increase to its 40MHz allocation. As a result of these changes, the BIPT has assigned the frequencies as

follows: Telenet Group, 3600MHz-3650MHz; Orange Belgium, 3650MHz-3700MHz; Cegeka, 3700MHz-3740MHz; and Proximus, 3750MHz-3800MHz.

(October 19, 2020) [commsupdate.com](https://commsupdate.com)

Telecoms regulator the Belgian Institute for Postal Services and Telecommunications (BIPT) has awarded the remaining 4G frequencies in the 2.6GHz band to Citymesh, which was the only applicant to submit a bid. The operator paid the minimum price of EUR15.01

million (USD17.62 million) for a 15-year nationwide license comprising 2x15MHz of spectrum (2520MHz-2535MHz/2640MHz-2655MHz). Citymesh, which already possesses management rights in the 3.4GHz-3.6GHz band, is mainly active in the B2B sector, some industrial areas in Flanders and windfarms in the North Sea. A spectrum cap of 2x20MHz in the band meant Orange Belgium, Proximus and Telenet were excluded from the auction.

(October 2, 2020) [commsupdate.com](https://commsupdate.com)



## Brazil

The President Jair Bolsonaro has recreated the Ministry of Communications (Ministerio das Comunicacoes, MiniCom) with the signing of Law 14,074/20 on 15 October. The regulatory switch has been on the cards since June, when a 'provisional measure' was approved. Communications has been part of the Ministry of Science, Technology, Innovation, and Communications (Ministerio da Ciencia, Tecnologia, Inovacoes e Comunicacoes, MCTIC) since 2016, when then-President Michel Temer merged the Ministries as part of an effort to reduce the number of government departments, as well as cutting public spending.

(October 20, 2020) [commsupdate.com](https://commsupdate.com)

The regulator ANATEL has cleared operators with spectrum holdings in the 850MHz band to extend their rights up until 29th November 2028. As reported in TeleTime, the move appears to be geared towards expanding coverage into less inhabited regions. Reportedly, license fees on the spectrum will be slashed

by as much as 90%, with operators instead having to fulfil coverage obligations. Under these conditions, operators will be encouraged to focus on delivering 4G access to settlements of under 30,000, according to TeleGeography. Brazil's 850MHz concession holders include Algar Telecom, Claro Brasil, Oi, Sercomtel and TIM Brasil.

(October 3, 2020) [developingtelecoms.com](https://developingtelecoms.com)

The National Telecommunications Agency (Agencia Nacional de Telecomunicacoes, Anatel) has reportedly authorized cellcos with spectrum in the 850MHz band (806MHz-902MHz) to extend their concessions until 29 November 2028. According to TeleTime, around 90% of the respective license fees will be converted into coverage obligations, with an emphasis on delivering 4G access to locations that are home to fewer than 30,000 inhabitants. The decision will impact Algar Telecom, Claro Brasil, Oi, Sercomtel and TIM Brasil.

(September 30, 2020) [commsupdate.com](https://commsupdate.com)



## Canada

The Canadian Radio-television and Telecommunications Commission (CRTC) issued Space Exploration Technologies Corp (SpaceX) a Basic International Telecommunications Services (BITS) license on 15 October 2020, which the US-based company had applied for five months earlier. SpaceX's Starlink project aims to offer high speed internet access across parts of the US, Canada and other

countries via a network of thousands of low-Earth orbit (LEO) satellites, with around 770 satellites already in orbit. Starlink is currently testing a 100Mbps-capable internet service with selected users in several US states, and SpaceX head Elon Musk indicated earlier this month that a wider Starlink public beta test in the US and southern Canada is lined up in the short term.

(October 21, 2020) [commsupdate.com](https://commsupdate.com)



## Chad

Chadian telecoms watchdog the Regulatory Authority for Electronic Communications and Post (L'Autorite de Regulation des Communications Electroniques et des Postes, ARCEP) has issued a decision to align tariffs for off-net and on-net communications. The decision – the text of which was posted to the regulator's Facebook page – requires providers to set off-net tariffs to match their on-net tariffs. Providers were also instructed to take all measures to ensure that any increase in traffic resulting from the order does

not impact service quality. Meanwhile, President Idriss Deby has issued a decree ordering the implementation of number portability (NP). The decree requires ARCEP to define the terms and conditions for the portability service, and to work with providers to establish a system for porting numbers. The cost of setting up and maintaining the system is to be covered by operators via licenses for numbering resources.

(October 21, 2020) [commsupdate.com](https://commsupdate.com)



## Chile

The Senate's Transportation and Telecommunications Committee have restarted discussions regarding the potential establishment of a Superintendency of Telecommunications (Superintendencia de Telecomunicaciones, SUPERTEL). The outlet notes that such measures had been proposed previously in 2011 and 2014 without being put into effect. Under the new proposals SUPERTEL's functions would include: supervising telecommunications services, ensuring the protection of user data, dictating administrative measures, initiating sanctions for infractions and reporting on the granting and modification of licenses. For its part, meanwhile, the existing telecoms watchdog

the Department of Telecommunications (Subsecretaria de Telecomunicaciones, SUBTEL) would continue to be responsible for defining regulatory policies, spectrum administration and managing subsidies, as well as publishing statistics for the sector. The proposal was reportedly met with general approval, including a nod from Minister of Transport and Telecommunications Gloria Hutt. Undersecretary of Telecommunications Pamela Gidi also approved of the measures, but noted that there were some areas that needed to be clarified, such as how the new organization's budget would be defined.

(October 2, 2020) TeleSemana



## China

Chinese state-backed firm China Broadcasting Network Corporation Ltd (CBN, also known as China Radio and Television Network or China Radio and TV) has established a new joint venture company to operate as the country's fourth national telco. The new firm, China Broadcasting Network Co Ltd, was established in Beijing on 12 October 2020 with a registered capital of CNY101.2 billion (USD15 billion) and is 51% owned by CBN, whilst its other shareholders include State Grid Information and Telecommunication Group, Alibaba Venture Capital Management, Guangdong Radio Television Network and Beijing All Media Culture Group. In a statement, the National Radio and Television Administration (NRTA) – the government agency with control and oversight of CBN – noted that the new company had a total of 46 sponsors including strategic investors and shareholders which collectively hold 51% of non-listed provincial cable TV network companies. China Broadcasting Network Co Ltd is tasked with the development of an integrated national cable TV network, and the construction of a 'radio and TV 5G network'. On the 5G front, CBN was allocated a 5G license in June 2019 and already held the rights for spectrum in the 700MHz and 4.9GHz bands. In early 2020 the company signed a 5G co-

construction and sharing agreement with China Mobile that would see both firms invest equal amounts in the construction of a 700MHz 5G network, with the pair jointly owning the network and sharing rights to use the system. As noted by TeleGeography's GlobalComms Database, the company has stated that its intention is to primarily utilize 5G technology for a converged media communications network, although it will also provide mobile communications services. Elsewhere, meanwhile, NRTA noted that CBN has already made 'important progress' towards national cable TV network integration, and that the new company will 'establish a unified operation and management system for cable TV network integration and radio and television 5G construction in accordance with the requirements of "unified construction, unified management, unified standards, and unified branding"'. Further, the operator will implement a so-called 'Smart Broadcasting' strategy that will see the firm utilize 'mobile internet, smart operating systems and other new technologies to carry diversified applications, develop smart products that meet the needs of digital life, and provide users with ultra-high definition (4K/8K) and virtual reality (VR) [and] IoT [services]'.

(October 14, 2020) commsupdate.com



## Cambodia

The Ministry of Posts and Telecommunications (MPTC) has revoked or suspended the licenses of 17 telecoms companies, following an audit to assess the status of their business operations, technical capacity and financial situation. The MPTC determined that 17 telecoms companies were either inactive, employee-less, non-compliant in the payment of their financial obligations or failed to provide the required technical documentation. Two companies have had their mobile licenses revoked, namely CadComms and Emaxx Telecom, while CN Xinyuan Interconnect, XNET, Saturn Holdings, ATA Telecom, PPIN Internet, HT Networks, DG

Communications, DTV Star and Cambodia Broadband Technologies have all been stripped of their ISP licenses. Three companies – Aerospace Information Cambodia, Lim Heng Group and TPLC Holdings – have had their ISP and VoIP licenses revoked, and Kingtel Communications is no longer permitted to provide VoIP, although its ISP license is still valid. Finally, the MPTC says that the ISP license of BDKtel has been suspended (rather than revoked) and the 'position and navigation license' of Asia Star Resources Investment Holding has been revoked.

(October 23, 2020) commsupdate.com



## Congo

The President Felix Tshisekedi has announced plans to directly manage the development of Democratic Republic of Congo's (DRC's) digital economy himself, via a new instrument referred to as 'Presidential Digital Coordination'. The president informed the Council of Ministers that due to the importance of the country's transformation into a digital economy he intends to establish the new system 'in the coming days'. Through the new President-led structure, he would collaborate with other government agencies to prepare and define strategy with regards to the management of information and the development of the digital economy, and would

identify priority areas. Local news portal Actualite.cd notes that it remains to be seen how the new powers will interact with the National Digital Council (Conseil National du Numerique, CNN), the creation of which was announced by President Tshisekedi in September last year to serve a similar function. At the time of that announcement, the president stated that the CNN would combine sector regulators as well as government ministers and the Prime Minister, would fall under the authority of the President and would be responsible for implementing the national digital strategy.

(October 20, 2020) [commsupdate.com](https://commsupdate.com)



## Croatia

The telecom regulator Hakom has launched a public consultation on the allocation plans for the 800 MHz, 900 MHz, 1800 MHz, 2100 MHz and 2600 MHz frequency bands. According to Hakom, the frequency bands currently used for 2G, 3G and 4G technology

have been harmonized at the European level and the public consultation is necessary to fully implement the decisions of the European Commission and enable the introduction of 5G in the frequency bands already allocated. (September 20, 2020) [telecompaper.com](https://telecompaper.com)



## Czech Republic

The telecoms regulator Czech Telecommunication Office (CTU) has announced that it has received applications from seven groups seeking to participate in the upcoming auction of 5G spectrum in the 700MHz and 3400MHz-3600MHz bands. In a press release dated 1 October 2020, the CTU confirmed that in accordance with the Electronic Communications Act and the conditions of the tender, it 'will not publish the names of specific candidates at this stage'. It also noted that, in respect of the legal challenges brought by the three incumbents (O2, Vodafone and T-Mobile), the Prague courts had rejected attempts to stop the auction. 'The Office informs that all requests for the issuance of interim measures filed with the court in order to stop the selection process have already been rejected, and none of the operators has succeeded in its application at the Municipal Court in Prague,' it confirmed. According to TeleGeography's

GlobalComms Database, in August this year the CTU launched a tender to award radio frequencies in the 700MHz and 3400MHz-3600MHz bands and confirmed its intention to boost competition in a market that has long faced vocal criticism from politicians and consumers for the high cost of mobile services. Following its public consultation on its proposals, the regulator highlighted a specific proposed measure to reserve a comprehensive section of 2x10MHz in the 700MHz band for new applicants for entry into the mobile market. Reuters speculates that Czech groups Nordic Telecom and Sazka (which operates the Czech MVNO SAZKAmobil), may be looking to participate – having expressed interest in the past in the auction – while another potential bidder, central Europe's largest listed utility CEZ, has apparently ruled itself out.

(October 2, 2020) [commsupdate.com](https://commsupdate.com)



## Dominican Republic

President Luis Abinader has instructed the Dominican Telecommunications Institute (Instituto Dominicano de las Telecomunicaciones, INDOTEL) to initiate a 5G tender, as the country seeks to steal a march on its regional rivals. Speaking at a press conference at the Presidential Palace, the head of state commented: 'We want to develop a deployment plan for 5G technology and broadband unprecedented in our history, a level leap towards hyperconnectivity that will change the

future of our country.' While details of spectrum and licensing have not been disclosed, the regulator's website asserts that 'the implementation of 5G ... technology is estimated to come into effect in January 2021.' Running in parallel, the president issued Decree 539-20, declaring the right to universal access to broadband technology. This measure is a response to connectivity challenges faced during the COVID-19 pandemic. (October 9, 2020) [commsupdate.com](https://commsupdate.com)





## Ethiopia

The Ethiopian Communications Authority (ECA) has launched a further round of stakeholder consultations as it prepares for the planned liberalization of the country's telecom markets. The regulator confirmed the publication of four documents, specifically: two draft directives, one related to mobile number portability (MNP) and one related to wholesale national roaming; a draft framework for universal access and service; and one piece of draft regulation relating to the universal access fund (UAF). As previously reported by CommsUpdate, in August 2020 the ECA published a number of telecom directive proposals, covering matters ranging from interconnection to SIM registration and SMP determinations. In releasing the most recent publications, the regulator said that it was grateful for the 'helpful feedback' it had received to date on previously-issued directives and noted that it is in the process of preparing its response. Meanwhile, with regards to the new consultations, the ECA has requested submissions be made by a 30 October 2020 deadline. (October 13, 2020) [commsupdate.com](#)

Ethiopia's authorities outlined plans to kick-off the process for the sale of a 40 per cent stake in Ethio Telecom next month and conclude it in early 2021, alongside issuing two new licenses. Citing comments made by the country's Ministry of Finance, the news agency said the 40 per cent stake would likely be sold to international investors. A further 5 per cent is set to be offered to Ethiopian nationals at a later date. The state will retain the rest. It plans to issue an investment prospectus and invitation to bid next month with the process expected to conclude in February 2021, matching the timeline for allocating two highly sought-after new mobile operator licenses. Privatization of Ethiopia's telecommunications market has been in the works since 2018 and had been slated for this year, before the process was delayed by issues related to the Covid-19 (coronavirus) pandemic. The Ethiopian Communications Authority announced it received 12

initial expressions of interest to acquire one of the two new mobile licenses. Contenders include MTN, Orange, Saudi Telecom Company, Etisalat and a consortium comprising Vodafone Group and its Africa-focused affiliates. (September 25, 2020) [Ethiopian News Agency](#)

Ethiopia has reportedly set a new deadline of February 2021 to complete the sale of two new mobile network operator (MNO) licenses that will open up the country's telecoms sector. Bloomberg reports that with the original timeline for the introduction of competition having been pushed back as a result of the COVID-19 pandemic, regulatory complexities and a delayed general election, the new timetable was confirmed by Eyob Tekalign, Ethiopia's state minister of finance. Commenting on the plans to license new players, as well as the plan to divest a stake in state-owned incumbent Ethio Telecom, the minister said: 'We have a February, January timeline for both processes ... The reform is fully on track.' Meanwhile, the report suggests that France's Orange Group is a strong candidate to secure one of the new concessions that will be offered, according to 'people familiar with the matter'. A spokesperson for Orange reiterated the company's interest in the license, and said it was working on its proposal in this regard. With MTN Group highlighted as another notable potential bidder, a spokesperson for the South Africa-based company said: 'The Ethiopian authorities have said that twelve directives will be issued that will enable us to put together a business case and an investment case ... This is still work in progress and we have not yet made any decision on the opportunity.' Finally, with regards to the sale of a stake in Ethio Telecom, this process is reportedly proving harder for the authorities, in part related to the size of the stake – 40% – that is to be offered to international investors. Deloitte LLP, which is advising the Ethiopian government on the partial privatization, had not responded to Bloomberg's request for comment on this matter, however. (September 11, 2020) [commsupdate.com](#)



## France

ARCEP has launched a public consultation on the terms and conditions for the allocation of 5G spectrum in the 700MHz and 3.4GHz-3.8GHz frequency bands in Guadeloupe, Guyana, Martinique, Saint Barthelemy, Saint-Martin and Saint Pierre and Miquelon. The regulator highlighted that it has identified the following ranges for 5G use:

- 703MHz-733MHz/758MHz/788MHz (FDD mode)
- 3.4GHz-3.8GHz (TDD mode)
- 24.25GHz-27.50GHz (TDD mode)

Regarding the 700MHz band, Arcep disclosed that it could award only 20MHz in the 700MHz band (703MHz-723MHz/758MHz-778MHz) in Saint-Martin and Saint Barthelemy due to interference issues.

Further, Arcep highlighted that parts of the 3.4GHz-3.8GHz band are currently used in the overseas territories for the provision of fixed broadband access: Guadeloupe and Martinique (Canal+ Telecom [expiring in December 2020] and Outremer Telecom [December 2021]); French Guiana (Guyacom [July 2026] and Canal+ Telecom [December 2020]); St Barthelemy (Collectivite de Saint Barthelemy [December 2020]); Saint-Martin (Dauphin Telecom [December 2021] and Orange Caraibe [December 2021]); and Saint-Pierre and Miquelon (Orange [February 2026]). All interested parties are invited to send their contributions before 18 December 2020.

(October 7, 2020) [commsupdate.com](#)

The telecoms watchdog ARCEP has revealed that the 5G auction for frequencies in the 3.4GHz-3.8GHz band has now concluded, with the successful bidders agreeing to pay a total of EUR2.786 billion (USD3.271 billion) for 310MHz of spectrum. In the last round of the auction (held on 1 October), the qualified candidates requested the following number of blocks: Orange (four), Altice France (SFR, three), and Bouygues and Free Mobile (two each); as the cumulative requests matched the number of available blocks, the auction was closed. In total, Orange secured 90MHz in the band for EUR854 million, followed by Altice (80MHz, EUR728 million), Bouygues Telecom (70MHz, EUR602 million) and Free Mobile (70MHz, EUR602 million). ARCEP is now planning to hold a 'positioning' auction in October, to determine the position of the secured blocks in the band. As previously reported by TeleGeography's CommsUpdate, ARCEP revealed in February 2020 that four companies submitted applications for the allocation of frequencies in the 3.4GHz-3.8GHz band in mainland France, namely Bouygues Telecom, Free Mobile, Orange France and Altice France. In March 2020, however, ARCEP postponed the 5G spectrum auction to an unspecified date due to the COVID-19 outbreak. A spokeswoman for the authority was quoted as saying that ARCEP 'won't be able to maintain the auction planned for mid-April', and plans to 'organize the frequency sale for a later date once more information is available'. (October 2, 2020) [commsupdate.com](#)

French regulator ARCEP launched the country's first 5G spectrum auction, covering frequencies in the 3.4GHz to 3.8GHz bands, with commercial services expected to go live by the year-end. In a statement, the authority noted operators will be able to bid for 11 lots of 10MHz blocks and they will be able to obtain no more than 100MHz in total. The reserve price is €70 million per 10MHz, with expectations the process will raise more than €2.2 billion in total. As part of the auction, operators will need to deploy 5G services across 10,500 sites in 2025. The nation is conducting a two-stage process, with blocks of 50MHz of the spectrum available being sold for a fixed price of €350 million each to the four main operators. This spectrum is due to be made available at the same time as the blocks

won in the auction. ARCEP originally aimed to conduct the auction in April, but was forced to delay due to Covid-19 (coronavirus). In an interview with France Info, ARCEP President Sebastien Soriano said there was no limit to the sum raised by the auction, but the authority hoped operators would "remain reasonable" and keep some money to invest in the networks. He referred to a deal struck in 2018 to close gaps in LTE coverage, which had already seen operators commit to invest €3 billion into their networks. Soriano told the outlet 5G will bring better opportunities for people and will modernize a lot of industries, while playing-down concerns over potential adverse health effects.

(September 29, 2020) [mobileworldlive.com](#)

French telecom authority Arcep published a new version of the industry code of conduct introduced in 2018 on Quality of Service (QoS) measurement, which adopts a data-driven 'crowdsourcing' approach to assess the broadband quality experienced by end-users. The code of conduct is targeted at testing tools from players such as nPerf and QoS, with the aim to increase transparency on data collection and enable any third party to analyze results. Among the main changes, the updated version requires that industry players provide mobile and fixed broadband end-users with information on the different elements that might impact QoS measurements and speed tests. This information includes, for example, how the use of Wi-Fi could affect the internet connection, and factors including the model/version of the operating system or the web browser installed on the equipment. Additionally, industry players that want to comply with the code are now asked to display median, rather than average values for certain indicators, notably latency. They are also required to introduce a minimum capacity for test servers to avoid hampering test results. Looking forward, the regulator said that a new revision of the code will be introduced to coincide with the implementation of the planned "access ID card" API, scheduled for 2022. QoS measurement tools complying with the code will be able to benefit from the features offered by this API, leading to increasingly accurate QoS tests.

(September 16, 2020) [telecompaper.com](#)



## Germany

The German government was tipped to tighten restrictions on equipment vendors supplying its mobile networks, but to stop short on following global counterparts in issuing a formal ban on Huawei. Reuters reported government sources said the nation planned to scrutinize vendors' 5G RAN and core equipment. The news outlet added authorities had developed a formula for dealing with so-called high risk vendors, after two years of wrangling. The mooted restrictions will now

be drafted into legal text, which is expected to be reviewed in November. Notably, Germany has not yet caved into US pressure to ban Huawei, unlike Australia and more recently the UK, which have restricted the Chinese vendor's involvement in their 5G networks due to security concerns. Deutsche Telekom, Vodafone Germany and Telefonica Deutschland are major customers for Huawei and a ban would represent a big blow to the company's foothold in the country, and

indeed the continent. A source, however, told Reuters that while a ban will not be formally issued, the German government will effectively strangle Huawei in red tape and “the final outcome is the same”. Deutsche Telekom

indicated in July it had already significantly cut down its business with Huawei since 2017, as it struck a deal with Ericsson to deploy its 5G RAN and spectrum sharing solutions. (September 30, 2020) mobileworldlive.com



## Ghana

The Ministry of Communications (MoC), the Ghana Investment Fund for Electronic Communications (GIFEC) and the Export-Import Bank of China officially signed a financing agreement on 29 September under which Huawei Technologies Ghana will deploy more than 2,000 Rural Star sites in rural areas of the country. The network project, which is scheduled for completion by September 2021, is expected to provide voice and data services to over 3.4 million people in underserved and unserved communities, thereby extending national mobile coverage from 83% to 95%. The initiative is being led by the MoC through GIFEC, a government agency mandated to facilitate the provision of universal access to basic telephony, and will be leased to mobile network operators (MNOs) which will be responsible for market expansion and user development after its completion. Whereas traditional rural network infrastructure employs microwave or satellite transmission, towers and diesel generators, Huawei’s Rural Star solution uses Relay Remote Node (RRN) wireless backhaul, simple poles and solar energy, reducing the cost by more than 50%. Mr. Abraham Kofi Asante, the Administrator of GIFEC, noted the agency has already deployed 400 Rural Star sites in over 2,000 rural communities through the Rural Telephony Project, providing mobile network coverage to more than 1.2 million people. ‘Partnering with Huawei on this project, therefore, will ensure that all persons in Ghana are part of government’s digitization agenda, and improve the socio-economic wellbeing of people living in Rural Ghana,’ he added. Commenting on the project, Communications Minister Ursula Owusu-Ekuful said: ‘ICT development plays a vital role in revitalizing the national economy, especially in promoting rural economic development. Accelerating the improvement of rural communications facilities is

one of our important agenda. We selected Huawei as a partner in this rural network project as we have seen Huawei’s unremitting efforts in bridging the digital divide.’ (September 30, 2020) commsupdate.com

The National Communications Authority (NCA) has initiated a public consultation on revised guidelines for the deployment of communication towers. The purpose of the review is to include emerging industry standards and procedures for the installation of communication towers, facilitate the development of infrastructure to enhance the delivery of quality services and address environmental issues. Interested parties are invited to submit their comments before 23 October. Aspects of the guidelines to be revised include a requirement for parties intending to construct a tower to demonstrate that all reasonable steps have been taken to investigate tower sharing before applying for a permit to construct a new tower within a specified radius of 300m in built-up areas and 200m elsewhere. Under the revised requirements for co-location, operators must, in consultation with the NCA and Environmental Protection Agency (EPA), cooperate to agree issues relating to site access, security, rates and compensation, while the tower owners shall provide information to the NCA, EPA and Metropolitan, Municipal and District Assemblies on an annual basis to maintain a database of towers available for co-location. A new clause also forbids any sanction being applied to a new tower that is compliant with the stipulated location requirements relating to proximity to high voltage transmission lines if these are subsequently compromised by electricity providers. Finally, the guidelines set out revised timelines for obtaining permits from the coordinating agencies and details of an applicant’s right to appeal. (September 25, 2020) commsupdate.com



## Greece

The telecommunications authority EETT has announced the extension of the application deadline for the 5G auction covering the 700 MHz, 2 GHz, 3400-3800 MHz and 26 GHz radio bands. The watchdog delayed the deadline to 30 October from 23 October. The bidders will be announced on 21 December.

(October 15, 2020) telecompaper.com

The Greek National Telecommunications & Post Commission (Ethniki Epitropi Tilepikoinonion kai Tachydromeion, EETT) has completed its investigation

into the proposed extension of a 4G network sharing agreement between local cellcos Wind and Vodafone. The regulator approved the extension after finding that the agreement does not contain ‘restrictive terms of competition’ and does not concern the sharing of spectrum or the backbone networks of the two companies. In addition, it was found that the geographical scope of the deal is mainly focused on rural and semi-rural areas and it therefore benefits the inhabitants of these areas to have access to improved 4G coverage. (September 29, 2020) commsupdate.com

Spectrum applications opened last week and the process should be concluded by 21 December. Vodafone Greece has already said it intends to launch commercial 5G services in the first quarter of next year. The operator's CEO, Haris Broumidis, told Capital.gr that services will initially be introduced in the main cities of Athens and Thessaloniki before expansion to other areas. Rivals Cosmote and Wind are also expected to launch 5G in Q1 2021. Greece began accepting applications last week for its auction of spectrum in the 700MHz, 2GHz, 3.4GHz-3.8GHz and 26GHz bands, with the frequencies have a combined total starting price of €367.3 million. Separately, the Plenary Session of the Hellenic Telecommunications and Post Commission (referred to in Greece as EETT) completed its investigation of the agreement between

the companies Vodafone and Wind to extend their 4G network sharing. EETT took into account the agreement between the two companies does not contain "objectively" restrictive terms of competition nor involve the sharing of spectrum or the companies' backbone networks. In addition, there are safeguards against the sharing of sensitive data, and also it is mainly confined to rural and semi-urban areas of the country. It assessed the impact of the agreement on the mobile telephony market, and the benefits arising from the agreement especially the population gaining upgraded 4G services faster than they would without the network sharing in the areas of the country that are the least commercially viable for operators.

(September 28, 2020) mobileeurope.co.uk



## Hong Kong

A public consultation on arrangements for the reassignment of the 90 MHz of spectrum in the 2.5/2.6 GHz band for the provision of public mobile services as well as the associated spectrum utilization fee was launched. The Secretary for Commerce & Economic Development and the Communications Authority jointly launched the consultation to seek views by October 20. A 90 MHz of spectrum in the 2.5/2.6 GHz band is currently assigned to three mobile network operators for the provision of fourth generation mobile (4G) services and they will expire in March 2024. Apart from the good radio propagation characteristics of the 2.5/2.6 GHz band in providing wide area coverage and its wide bandwidth in supporting high transmission capacity, the band can also be re-farmed to meet future demand for fifth generation mobile (5G) services. As there will likely be competing demands for the spectrum, the authority proposed to reassign

it through auction. Prospective spectrum assignees may deploy the acquired spectrum in a technology neutral manner, including for the provision of 4G and 5G services, it added. As for the related spectrum utilization fee, similar to other spectrums assigned for public mobile services where there are competing demands, it should reflect the full market value. The fee will be determined through auction with the reserve prices to be set by the Secretary for Commerce & Economic Development. The bureau said auctioning the spectrum will ensure that such a scarce public resource can be placed into the hands of those who value it most and will consequently put it to the most efficient use for the benefit of the public. After taking into account the views and comments received, the bureau and the authority aim to make their decisions in the first quarter of 2021.

(September 24, 2020) news.gov.hk



## Hungary

The National Media & Infocommunications Authority (Nemzeti Media- és Hírközlési Hatóság, NMHH) has published the draft documentation for auctioning 900MHz and 1800MHz mobile frequencies, including spectrum currently held by nationwide mobile network operators (MNOs) Magyar Telekom, Vodafone Hungary and Telenor Hungary which will expire in April 2022. Market participants may consult with the regulator on the auction plans until 29 September 2020, with the procedural details expected to be finalized in October and the spectrum sale scheduled for completion in Q1 2021. New licenses in the 900MHz (60MHz bandwidth) and 1800MHz (120MHz bandwidth) ranges will be valid for 15 years from April 2022, renewable for five years. DIGI Hungary – the country's newest and smallest MNO – issued a statement in response to the NMHH claiming that the draft documentation contains regulations that

'make it difficult' for DIGI to enter the auction, by setting criteria that could lead to DIGI's bidding application being rejected, based on previous experiences of Hungarian spectrum sales. DIGI added that the auction should be neutral, fair and in line with European law and practices, thus creating greater competition. In March 2020 the NMHH awarded Telekom, Telenor and Vodafone 15-year licenses including 5G spectrum in the 700MHz and 3600MHz bands despite a pending legal action from DIGI, which had its bid application rejected by the regulator in September 2019 for failing to meet eligibility criteria. DIGI argues that excluding it from the upcoming 900MHz/1800MHz tender would force it to continue limiting its mobile customer capacity, with the potential for expansion highly dependent on available frequencies. TeleGeography's GlobalComms Database shows that DIGI launched its 2G/4G cellular network

in May 2019 using its 2x5MHz spectrum allocation in the 1800MHz band (valid until 2029), offering mobile services exclusively for fixed internet, TV or telephony subscribers of the group, and to date the MNO service remains unavailable to non-bundling customers. By the beginning of 2020, DIGI's mobile population

coverage reached 78% (based on outdoor voice signal) and it has continued to expand the footprint, most recently disclosing that it covered 650 settlements by the start of September 2020, up from 549 settlements claimed in June.

(September 22, 2020) [commsupdate.com](#)



## India

The Indian government established a panel comprising the heads of its telecoms and defence ministries, among others, to streamline spectrum allocation and deliver a long-term roadmap designed to offer operators clarity on the specific bands to be made available, The Economic Times (ET) reported. A senior official told ET the committee's goal is to sort out conflicting interests between ministries, identify bands to be released and look to hold an auction annually. The group met for the first time on 12 October. The Department of Space and the Ministries of Information and Broadcasting; Railways; and Home Affairs are also on the panel. A source told the newspaper its remit may be expanded to cover spectrum pricing. Top of the agenda for the committee will be convincing the Department of Space to give up blocks of 26GHz spectrum, which the Department of Telecommunications wants for a 5G auction, ET stated. Operators have long called for a clear spectrum roadmap to enable them to plan their network strategies and capex budgets. A 4G auction involving as much as 2475MHz of spectrum planned for this year was pushed to early 2021, despite interest from Reliance Jio and Bharti Airtel. A 5G spectrum auction was also delayed until 2021, due to the poor financial health of the industry and worries the reserve price is too high to attract interest. The country's last spectrum sale was in October 2016, generating \$9.8 billion for the government. (October 14, 2020) [mobileworldlive.com](#)

The Telecom Regulatory Authority of India (TRAI) has agreed to abandon its inquiry into the premium 'RedX' tariff offered by Vodafone Idea – which now operates under the Vi brand – after the provider removed claims regarding priority 4G access from the plans. The regulator agreed to cease its investigation following a revision of the plans last week, which Vi said it hoped would address the TRAI's concerns. Following a complaint from rival provider Reliance Jio Infocomm (Jio), the TRAI began examining whether Vi's RedX plan negatively impacted quality of service for non-premium customers. Elsewhere, meanwhile, Vi is set to upgrade its 3G customers to 4G 'in a phased manner across all markets', but will continue to offer 2G services.

(September 28, 2020) [The Economic Times](#)

Executives from Indian cellcos Bharti Airtel and Vodafone Idea Limited (VIL) – now operating under the Vi brand – have urged regulators to release spectrum in the E band (71GHz-76GHz and 81GHz-86GHz) and V band (57GHz to 64GHz) to support backhaul infrastructure for 4G and 5G networks. The Economic Times quotes Airtel CTO Randeep Sekhon as saying that the frequencies would be key to 5G backhaul in India, adding: 'A robust transport network is needed. 5G will need backhaul, which will be much larger than the backhaul of a 4G site needs because of the sheer spectrum 5G brings in.' (September 21, 2020) [commsupdate.com](#)



## Ireland

The government is said to be considering fast-tracking the National Broadband Plan (NBP) in response to the coronavirus crisis, The Irish Times writes, citing Minister for Communications Eamon Ryan. Speaking in the Dail Eireann, the minister was reported to have said that the COVID-19 pandemic has highlighted the importance of reliable broadband in facilitating remote working, providing access to education and for essential online facilities. 'My department is engaging with National Broadband Ireland (NBI) to explore the feasibility of accelerating aspects of the planned rollout to establish the possibility of bringing forward premises which are currently scheduled in years six and seven of the plan to an earlier date'. Such discussions are reportedly 'ongoing', while Ryan noted that any changes proposed in relation to accelerating

the plan would require 'detailed technical, commercial and financial analyses'. (September 25, 2020) [commsupdate.com](#)

Irish telecoms watchdog the Commission for Communications Regulation (ComReg) has launched a consultation as part of a Universal Service Review on the provision of public payphones. Previously, in June 2020 the regulator outlined its plan to consult on the usage threshold and payment methods that would be in place until 31 December 2020 – the end of the current payphone designation period – as well as the need, if any, for a public payphone universal service after that. In keeping its word, ComReg is now undertaking the review and has invited submissions from members of the public, as well as interested stakeholders by a deadline of 19 October. (September 24, 2020) [commsupdate.com](#)



## Japan

Japan's Fair Trade Commission (FTC) plans to conduct an investigation into the pricing models and sales practices employed by the country's mobile network operators (MNOs) in a bid to foster market competition, as part of a plan by new prime minister, Yoshihide Suga, to drive down the cost of mobile services. The Nikkei daily newspaper cites the Commission's new chairman Kazuyuki Furuya as saying that it will intervene 'if consumer convenience is being undermined' and that his primary goal is to ensure that end user interests are 'not being harmed by high prices resulting from the lack of competition or by low quality services'. When Yoshihide Suga announced his candidacy to succeed Shinzo Abe following the latter's resignation on health grounds, he said: 'I want to create a framework that allows for greater competition in the [telecoms] field'. Suga is an old hand where it comes to telecoms policy and has long trumpeted the need for lower mobile service rates. As minister for internal affairs and communications in the 2000s he strove to make the

industry more open and competitive, while in the role of chief cabinet secretary, he backed the 2018 campaign calling for a 40% reduction in mobile fees. Although the big three MNOs – NTT DOCOMO, KDDI (au) and SoftBank Corp – responded with the launch of cheaper plans and compliance with the removal of handset subsidies, Suga apparently wants to go further and his subsequent selection as PM prompted the three cellcos to signal they plan to lower their rates. Furuya told the Nikkei that despite legal measures to separate handset sales from service fees and a crackdown on long-term contracts to level the playing field for newcomers, the 'market share held by discount carriers has not grown' and the current levels of competition are still not enough. 'Network access fees [charged to new market entrants] and the lack of the market for second-hand handsets might be hindering competition,' he said, seemingly confirming that the FTC will look into those areas. The FTC chairman did not say when the review will begin. (October 19, 2020) [commsupdate.com](https://www.commsupdate.com)



## Kyrgyzstan

The State Communications Agency (SCA) confirmed on its website that a series of auctions for wireless spectrum licenses in the 2300MHz-2400MHz TDD range have been declared invalid due to absence of bidders. As previously reported by TeleGeography's

CommsUpdate, the regulator had scheduled three auctions for 4/7/8 September, offering ten-year concessions for frequencies in all regions across the country except the capital Bishkek and second largest city Osh. (September 21, 2020) [commsupdate.com](https://www.commsupdate.com)



## Kosovo

Telecoms watchdog the Regulatory Authority for Post and Electronic Communications (Autoriteti Rregullator i Komunikimeve Elektronike dhe Postare, ARKEP) has briefed the Parliamentary Committee for the Economy on the progress of the sale of full-service provider IPKO by its parent, Telekom Slovenije. Local news outlets quote a senior ARKEP official as stating that the number of entities that had registered their interest in purchasing IPKO 'was two digits', but the Slovenian telco did not disclose the exact number, nor the names of the parties. The official added that the seller is not required to share such information at this stage of the sale, but will provide the relevant information to ARKEP once it completes the second phase of the process, currently scheduled to take place by mid-November. At that point, ARKEP will pass the information on to other

governmental bodies, such as the Kosovo Intelligence Agency (Agjencia Kosovare e Inteligjences, AKI) and the Financial Intelligence Unit (FIU) to investigate any potential risk to national security and to assess the suitability of the would-be purchaser. Much of the committee's discussion surrounded concerns regarding the potential takeover of IPKO by Serbian state-owned provider Telekom Srbija on national security grounds. Whilst the ARKEP members present confirmed that they would look to block the sale to the Serbian telco, MPs highlighted a potential barrier in that ARKEP's board lacks a quorum and its decision-making could therefore be considered illegitimate or illegal. The issue was dismissed by ARKEP officials, however.

(October 7, 2020) [commsupdate.com](https://www.commsupdate.com)



## Liberia

National regulator the Liberia Telecommunications Authority (LTA) has issued a mobile network services license to state-owned PTO Liberia Telecommunications Corporation (LIBTELCO), allowing it to offer GSM-based services. Front Page Africa notes a statement from the LTA as saying that 'Liberians would now have a wider choice in determining the network of their convenience'. LIBTELCO has been focusing on

the deployment of its fiber-optic network to homes, businesses and educational institutions, but will now be able to join incumbent operators Lonestar Cell-MTN and Orange Liberia in the domestic market, offering a range of voice and mobile data services. As previously reported by TeleGeography's CommsUpdate, in August this year the House of Representatives voted to amend the Telecommunications Act of 2007 to expand the

functions of LIBTELCO to become a GSM operator. The report noted that the amendment effectively expanded the telco's functions and role as a 'revenue operator, to contribute towards the national budget'. The committee had concluded: 'The amendment of those provisions of the Telecommunications Act of 2007 as cited herein will enable the Government-owned Corporation 'LIBTELCO' to provide world-class telecommunications products and services at cheaper, affordable prices for all Liberians that will enable growth of various sectors, such as education, healthcare, banking, energy and serving the masses, at large, for a sustainable economic growth of our society.' However, despite some heralding a 'new dawn of the telecommunications sector', others

note that LIBTELCO's prospects of making inroads in the domestic mobile market are slim at best. Whilst it is clear the government is making efforts to resuscitate LIBTELCO – largely neglected since its failed privatization bid back in 2005 – stepping into the mobile market as a direct competitor to Lonestar Cell-MTN and Orange Liberia could be ill-judged. A former executive at the state-owned telco, who asked to remain anonymous, was cited as saying that if it proceeds on this track 'it would be prudent ... to carve out a highly strategic and high-demand niche, where it can cultivate growth and not get slaughtered'.

(October 18, 2020) [commsupdate.com](#)



## Malta

The Malta Communications Authority (MCA) has opened consultations into the provision of universal services and the designation of broadband as a universal service. The regulator says the consultation aims to examine the scope of the universal service, in particular in relation to the obligations to be met by the designated undertaking. The current universal services commitments include the provision of connection at a fixed location and functional internet access, public payphones, comprehensive electronic directory

services, specific measures for vulnerable users, special tariffs for low income and people with social needs, and services to enable consumers to control their expenditure. The regulator intends to expand the universal service obligations to specify the 'minimum functional characteristics of an adequate broadband internet access service'. The MCA recently revealed that incumbent fixed line provider GO had claimed EUR66,438 (USD79,216) to cover the provision of universal services in 2016. (September 1, 2020) [commsupdate.com](#)



## Mauritania

The government has finally awarded three provisional 4G licenses following several failed attempts to offload concessions going back to 2018. Incumbent cellcos Mauritel, Chinguitel and Mattel have agreed to acquire nationwide licenses, with Mattel offering MRU501

million (USD13.2 million) plus 2.5% annual 4G turnover and its two rivals submitting bids of MRU500 million plus 2.5% of annual 4G turnover. The trio were given 15 days to pay the fixed part of the license cost.

(October 5, 2020) [commsupdate.com](#)



## Mexico

The Federal Telecommunications Institute (IFT) has initiated a public consultation regarding its planned auction of spectrum in the 800MHz, AWS (1700MHz/2100MHz), PCS (1900MHz) and 2.5GHz bands. In total, the watchdog intends to auction 41 spectrum blocks, although 37 of these are regional 800MHz concessions. During the consultation

process, the IFT is keen to gauge responses regarding coverage obligations and participation incentives, as it seeks to 'promote greater competition and encourage the existence of a greater number of service providers.' The consultation will run until 23 September.

(September 2, 2020) [commsupdate.com](#)



## Montenegro

Telecoms watchdog the Agency for Electronic Communications and Postal Services (EKIP) will call an auction in the fourth quarter of 2021 to allocate 5G-suitable mobile spectrum. According to information contained in the body's draft annual plan for 2021, which was submitted for parliamentary approval late last month, all resources from the 694MHz-790MHz and 3400MHz-3800MHz bands, as well as 1GHz of spectrum in the 24.25GHz-27.5GHz

block (26.5GHz-27.5GHz), are expected to be made available for auction in the fourth quarter of 2021, with appropriate approvals granted at the end of the year or the beginning of 2022. In response to public concerns surrounding electromagnetic radiation, EKIP will also determine the conditions under which the installation of a 5G base station at a planned location will not be possible. (October 6, 2020) [SeeNews](#)



## Mozambique

The government of Mozambique has launched a rural connectivity project which will bring internet access to 27 unserved districts. The project, to be implemented through the creation of 'digital squares', is funded by the Universal Access Service Fund (Fundo do Serviço de Acesso Universal, FSAU), affiliated to the National Communications Institute (Instituto Nacional de

Comunicacoes de Mocambique, INCM, also known as ARECOM). Minister of Transport and Communications Janfar Abdulai commented: 'We are working to guarantee that every municipality of Mozambique will have at least one digital square by the end of this five-year period.' 73 digital squares have already been deployed under the FSAU. (September 7, 2020) [commsupdate.com](#)



## New Zealand

New Zealand's Commerce Commission has released a paper detailing its proposed high-level approach and process for determining the information disclosure and price-quality regulations that will be applied to fiber access services providers Chorus, Enable Networks, Northpower and UltraFast Fiber from 1 January 2022. The price-quality and information disclosure regulations will give effect to and build on the input methodologies for fiber services, such as how the Commission must calculate the cost of capital, which are due to be finalized by late 2020. 'The purpose of this paper is to set out our early thinking on how we approach the major aspects the new regulations will cover. This includes the type of information providers should publicly disclose and how we would set the amount of revenue Chorus can recover and the quality standards it must meet,' commented Telecommunications Commissioner Tristan Gilbertson. Interested parties can submit their comments and opinions by 14 October. In other news, the Commerce Commission has urged New Zealand's three mobile network operators – Spark, Vodafone and 2degrees – to provide more meaningful comparison information and guard against overspending by customers. A study of nearly 80,000 consumer mobile bills conducted by the regulator found 64% of consumers did not change plans during the twelve-month review period. The study claims a quarter of post-paid consumers could save an estimated average of NZD11.60 a month (USD7.84) by moving to a cheaper plan that would still cover their usage. It also observed that 7% of all residential consumers spent a relatively high amount on mobile services, given their usage, and that these consumers could potentially save an average of NZD48.65 a month. 'Our work suggests that some consumers are significantly overspending on their mobile plans due to transparency and inertia problems in the market,' stated Tristan Gilbertson. The Commission has also encouraged the wider industry to initiate a program of work on a 'consumer data right' so consumers can choose to share their usage, spend and product

information with competitors and comparison services to help inform their decisions.

(September 21, 2020) [commsupdate.com](#)

The New Zealand Commerce Commission (ComCom) called on the country's three mobile network operators to make it easier for customers to compare price plans to avoid overspending, prompting them to catch up with sectors like electricity by offering comparison websites. It called for Spark, Vodafone New Zealand and 2degrees to "guard against overspending" after a review of nearly 80,000 consumer bills found a quarter of post-paid customers could save an average of NZD11.60 (\$7.77) a month by switching to a lower-price plan without amending their usage. The review also found 64 per cent of consumers didn't change their mobile plan over a 12-month period, while 7 per cent "spent a relatively high amount" on services "given their usage" and could save an average of NZD48.65 a month. "Our work suggests that some consumers are significantly overspending on their mobile plans due to transparency and inertia problems", Telecommunications Commissioner Tristan Gilbertson said. "We expect the operators to address these issues by increasing the usage information available to consumers and implementing measures to help keep consumers on plans that best reflect their actual requirements." Operator response Vodafone stated it will work with the Telecommunications Forum on a detailed response, but argued the report showed the country's mobile sector is one of the most competitive, with a majority of consumers already shopping around. ComCom's research showed more than a third of consumers which signed up to base plans switched during the 12-month period, significantly higher than the electricity sector, the operator added. It highlighted the report implies 93 per cent of consumers are paying a fair amount, and pointed to a recent GSMA survey in which New Zealand ranked third in the world in terms of mobile networks and services.

(September 17, 2020) [mobileworldlive.com](#)



## Nigeria

Nigerian Communication Commission (NCC) Chief Executive Umar Garba Danbatta, predicted Nigeria will see "significant improvement" in its telecoms industry over the next five years, backed by network

rollouts and fresh initiatives. Danbatta was speaking at a media briefing, where he stated there will be mass deployments of 4G networks across the country, deeper penetration of broadband, and pledged



proper implementation of a digital economy, and new strategies, Daily Post reported. The CEO also stated there will be a focus on boosting consumer confidence by investigating “unwholesome practices” from certain service providers to safeguard consumer rights, and plan to reduce the cost of mobile data steadily from the current rate of 800 Naira (\$2.07) per gigabit to 390 Naira (\$1.01). On the country's broadband, Danbatta said the regulator aimed for a 70 per cent broadband penetration rate, connecting 90 per cent of the population by 2025, putting it in line with new targets from the Nigerian National Broadband Plan.

The regulator created a new arm within itself called the Digital Economy Department, in a bid to spur Nigeria's digital economy with new initiatives, and better leverage connectivity in the country. “The Commission is placing emphasis on growing the digital economy in collaboration with sister agencies under the Federal Ministry of Communications and Digital Economy”, Daily Post reported. In May, the NCC denied reports claiming 5G networks were up and running in Nigeria, stating licenses for were yet to be issued then.

(September 7, 2020) [commsupdate.com](https://commsupdate.com)



## Norway

Norwegian communications regulator NKOM and water resources and energy directorate NVE are seeking comments by 20 November concerning guidelines for use of telecoms and wind power generation. NKOM said in some cases, wind turbines can affect and disrupt communication services. The guidelines will be finalized and published after the hearing. The two agencies propose that telecoms operators should be involved in the wind power infrastructure concession process as early as possible. The consultation also concerns measures to remedy any disruption or interference. The guidelines will apply to infrastructure that is already established, whose construction has begun, and which is still at the planning stage. They will safeguard telecoms networks that were already set up before there was a recognized, detailed plan for wind power. NKOM referred to safeguarding frequency permits. Telecom network development taking place after detailed plans for wind power have been approved, must adapt to the wind power, regardless of whether this is expansion of existing telecoms infrastructure or a new network.

(October 11, 2020) [telecompaper.com](https://telecompaper.com)

The National Communications Authority (Nasjonal kommunikasjonsmyndighet, NKOM) has published its latest annual broadband survey, reporting that 74% of households had access to fiber broadband as of 30 June 2020. In particular, the regulator highlighted improved access to fiber-based technology in sparsely populated areas, noting that 55% of residential households in rural regions can now access such connectivity, up from 45% at mid-2019. By comparison, it said that 78% of premises in more densely populated areas had access to fiber-to-the-home (FTTH) technology at mid-2020. In terms of speeds, meanwhile, the NKOM said that 89% of Norway's premises could access download speeds of 100Mbps or more as of end-June 2020, up from 85% a year earlier, citing the improved access to fiber as a

key reason for the increase. Moreover, the regulator also confirmed that 88% of premises had access to downlink rates of 500Mbps or more, compared to 83% at mid-2019. At the other end of the scale, in terms of lower-level speeds the NKOM said that 98% of households had access to a connection offering at least 30Mbps downstream by 30 June 2020, up from 89% twelve months previously. According to NKOM, the notable improvement in access for such speeds was due mainly to the introduction of new offers from both Telenor Norge and Telia Norge, both of which market fixed-wireless broadband services.

(October 7, 2020) [commsupdate.com](https://commsupdate.com)

The National Communications Authority (Nkom) has confirmed new obligations for Telenor Norge in the broadband market. Having sent two draft decisions related to the regulation of telcos to the EFTA Surveillance Authority (ESA) in July 2020, the regulator has now announced that the ESA raised no objections to its proposals. As such, under Nkom's newly published regulatory decisions, Telenor will be required to maintain wholesale access to its copper network for a further five years from the date of the final ruling (2 September), while it will also be compelled to offer wholesale customers access to its fixed-wireless broadband infrastructure. In line with its previous indications, meanwhile, the regulator has confirmed that its ruling does allow for a faster shutdown of Telenor's copper network. To that end, the Nkom notes that if the telco can offer its wholesale customers relevant replacement products for copper-based access, it may then draw up a plan for migration for copper to fibre/mobile infrastructure. Should it choose to do so, Telenor would need to accept input from its wholesale customers on any such plan, before then seeking final approval from the Nkom for this.

(September 4, 2020) [commsupdate.com](https://commsupdate.com)



## Peru

Peruvian watchdog the Supervisory Agency for Private Investment in Telecommunications (Organismo Supervisor de Inversión Privada en Telecomunicaciones, OSIPTEL) has ordered full-service provider Movistar Peru to introduce web and mobile applications that will allow subscribers to directly and easily manage procedures such as the migration, cancellation or suspension of their fixed internet plan. OSIPTEL has set a deadline of 60 calendar days for Movistar to implement the order. The timeline for the functions was also determined by the regulator, with the telco required to complete a customer's request for the termination or suspension of their account within one business day. As a provider with significant market power (SMP), Movistar is subject to greater scrutiny and OSIPTEL has additional powers to regulate the telco's activities to ensure a level playing field. To that end, OSIPTEL has sought to make it easier for customers to switch plans or migrate to alternative provider. As such, the regulator has also required Movistar inform customers of any price increases to a tariff 30 days in advance, with a follow-up reminder ten days before the new rate takes effect. As part of these notifications the company must also inform customers that they may move to a cheaper plan if they wish, switch provider or temporarily suspend their service. In a separate

development, meanwhile, OSIPTEL has announced that it has imposed fines totaling PEN59.26 million (USD16.2 million) on the nation's operators during the first seven months of 2020, just over double the amount it issued against the companies in the same period of 2019 (PEN29.10 million). Movistar accrued the lion's share of the fines with penalties of PEN41.77 million, for 115 infractions, including failing to comply with requirements to improve service quality. Claro was subject to the next largest fine with a penalty of PEN7.19 million for 23 infractions, whilst Entel's 22 fines totaled PEN5.92 million, with both having violated rules regarding number portability. Bitel was charged a total PEN1.91 million across eleven fines. OSIPTEL noted that nearly half of the fines (48.94% or 92 of the total of 188 fines issued) were related to failures to deliver on improvement commitments, whilst the next most common infractions were (in order): failure to deliver information on time or delivery of inaccurate information to OSIPTEL; activation of service without use of biometric systems; non-compliance with portability regulations; non-compliance with service quality regulations; failure to compensate users for service interruptions; failing to communicate on interruptions within a timely manner; and other infractions. (October 5, 2020) [commsupdate.com](https://commsupdate.com)



## Philippines

NOW Corp communications arm NOW Telecom has secured an extension to its provisional authority (PA) to install, operate, and maintain a nationwide mobile telecommunications system, The Philippine Star reports. The extension, issued by the National Telecommunications Commission (NTC), is not specific to 3G-based mobile technologies it said, and can be utilized for 4G or 5G. It is understood the PA comes with a number of conditions, however, including a stipulation that NOW Telecom secure an infusion of additional capital of PHP1.9 billion (USD39.2 million) – based on 'the first two years capital expenditure of PHP6.3 billion in the submitted rollout plan and approval by the Securities and Exchange Commission (SEC) of the increase in the authorized and paid-up capital'. In addition, NOW is tasked with accelerating the deployment of its mobile internet service in suburban and rural areas where, 'it shall strictly comply with the 70:30 ratio of urban to suburban and rural network rollout coverage in each of the phases of project implementation'. Further, the terms and conditions prohibit the carrier from sharing or co-using its frequencies with any of the country's other mobile operators – PLDT (Smart), Globe Telecom and DIT Telecommunity – or indeed, 'any other entity' without first securing approval from the NTC. In agreeing the PA extension, the regulator said it had based its decision on the strength of NOW's financial position

which reportedly 'complies with the 70-30 requirement of the commission'. With NOW Telecom setting out its stall to become the Philippines' fourth major telecommunications player, last month it announced it was considering plans to go public – either in the Philippines or overseas – and to that end had picked Unicapital as its financial advisor for the task at hand. (September 21, 2020) [commsupdate.com](https://commsupdate.com)

Filipino telecoms giant PLDT Inc. says the recent issuance of Anti-Red Tape Authority (ARTA) orders to reduce red tape associated with securing tower permits is already helping it to increase mobile coverage across the country. Introduced in August via a Memorandum Circular to shorten permit processing times, the ARTA measures have helped PLDT and mobile arm Smart Communications to secure 211 building and preconstruction permits to deploy towers in Metro Manila; and the provinces of Batangas, Rizal, Palawan, Bohol, Cebu, Iloilo, Negros Occidental, Guimaras, Leyte, Samar, Southern Leyte, Camiguin, Davao del Norte, Davao Oriental, Zamboanga del Sur, Zamboanga Sibugay, Misamis Oriental, North Cotabato, Lanao del Sur and Maguindanao. Additionally, the wireless unit tapped up a number of towercos last month to construct around 200 macro cell sites, it said. Alfredo Panlilio, Smart president and CEO, and PLDT chief revenue officer, said: 'The initiative of the government

to make it easier for us to build more towers quicker will be a big help in terms of improving coverage ... Towers are just one element in the mobile network infrastructure of PLDT, and we have both fixed and mobile infrastructures. We have about 10,000 macro

and micro cell sites and more than 20,000 LTE base stations scattered across the country.' Building out more towers is also deemed 'crucial' to the telco's 5G deployment strategy, he added.

(September 16, 2020) [commsupdate.com](https://commsupdate.com)



## Poland

Polish telcos say they do not see a need for 26GHz 5G frequencies arising before 2022 or 2023. Responding to a consultation run by the country's telecoms regulator UKE, cellcos Orange, Play, T-Mobile and Plus said that there would be no need to allocate millimeter wave (mmWave) spectrum any earlier as there would be no end-user equipment available prior to that. Telko.in reports that Orange and Play favor nationwide licensing, while T-Mobile and Netia (sister company of Plus) lean more towards licenses being allocated on a local basis, to help boost network capacity in high demand areas. The Polish government is expected to launch an auction for 3.7GHz spectrum by the end of this year. (October 15, 2020) [commsupdate.com](https://commsupdate.com)

The Ministry of Digitization aims to expand fiber-to-the-home (FTTH) network coverage to 100% of households by 2022. The government and state broadband fund will continue to subsidize FTTH broadband rollouts in rural areas where it is not economically viable for telcos. There are several developments from local telcos

aimed at achieving the target set by the government. In August 2020, Orange Poland established a fiber network unit named FiberCo and announced plans to offload a stake in the new company once it finds an interested investor. The operator targets to reach 5.0 million homes passed with FTTH by 2020, having already covered 4.4 million Polish households as of March 2020. Moreover, in October 2019, the operator acquired the fiber network of regional fiber operator Netspeed to expand its fiber footprint. In May 2020, telco Cyfrowy Polsat signed a fiber network access agreement with wholesale network operator Nexera. The wholesale operator is deploying fiber infrastructure under the Digital Poland 2020 agenda. T-Mobile Poland has also strengthened its fixed broadband footprint countrywide through a partnership deal with Nexera as well as rival telco Orange for its FTTH services. In line with Poland's fiber homes passed targets and telcos' network expansions, research firm GlobalData forecasts FTTH subscriptions to reach the 7.0m mark by the end of 2025. (September 30, 2020) [verdict.co.uk](https://verdict.co.uk)



## Romania

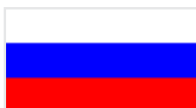
The National Authority for Management and Regulation in Communications (ANCOM) has launched a preliminary public consultation on whether to allocate spectrum in the 2300MHz-2335MHz range for mobile broadband services. The regulator notes that its preliminary analysis will consider the following issues: the degree of harmonization of the 2300MHz band at international and European level; the availability of equipment in the band; its technical characteristics; the situation regarding allocation of the 2300MHz band in Europe; and the availability of spectrum in the 2300MHz-2335MHz range in Romania, taking into account existing applications in this and adjacent sub-bands with which mobile/fixed communication networks must coexist. Interested parties are invited to submit their comments by 20 November.

(October 23, 2020) [commsupdate.com](https://commsupdate.com)

Romania saw a setback with its telecoms regulator stating it would be impossible to issue interested parties 5G licenses, at a scheduled auction in the fourth quarter of this year. Eduard Lovin, VP of the National Authority for Administration and Regulation

in Communications (ANCOM), said at an industry conference the planned auction could be pushed back until 2021, reported TeleGeography's CommsUpdate. Lovin explained the government had not yet finalized and publish the needed legislation in the official gazette, for which ANCOM must analyze and adjust auction terms if needed. Any changes will be subject to a public consultation which could take up to 30 days. The executive noted although commercial 5G services are available now in Romania, he labelled them as demonstrative services that do not fulfil the true reach of 5G, reported newspaper Bursa. Orange Romania was the first operator to launch 5G services in November 2019, initially connecting the country's main cities – Bucharest, Cluj-Napoca and Iasi. The network had since expanded to Timisoara, Brasov, Constanta and Mamaia. ANCOM previously indicated it would hold an auction in Q1 this year but this was postponed due to a memorandum signed by Romania and the US for the development of safe 5G technologies, to safeguard nations from high-risk suppliers.

(September 20, 2020) [developingtelecoms.com](https://developingtelecoms.com)



## Russia

At Russia's SatComRus-2020 conference, Andrei Zheglov, Deputy Director of the Department of State Policy in the Field of Communications of the Ministry of Digital Development, Communications and Mass Media, said that frequencies in the 4.8GHz band would be allocated to a single operator to create a 5G network, ComNews reports. The official highlighted that key 5G frequencies in the 3.4GHz-3.8GHz and 700MHz bands remained unavailable due to their continued usage by military/satellite and TV operators, respectively. ComNews quoted a representative of major Russian operator MegaFon commenting on the limitations of the 4.8GHz band for 5G: 'This range is not global,

it does not achieve the recoupment of networks and the ecosystem of 5G equipment is not developed. In addition, it has restrictions on the possibility of use in the corridor 300km from the state border line. The benefits of allocating the 4800-4990MHz range are not obvious for the country's economy.' Furthermore, a spokesperson for rival cellco Tele2 Russia noted that 'market participants have not yet come to a common understanding regarding the model of a single [5G] infrastructure operator.' In July 2020 Mobile TeleSystems (MTS) received Russia's first commercial license for 5G operations, in the 24.25GHz-24.65GHz mmWave band. (October 12, 2020) [commsupdate.com](https://commsupdate.com)



## Serbia

Serbian telecoms watchdog the Republic Agency for Electronic Communications (RATEL) has launched a public consultation on a frequency allocation plan for spectrum in the 694MHz-790MHz range. The draft plan would allow the frequencies to be used for Mobile/Fixed Communications Networks (MFCNs) – including wireless and fixed-wireless technologies – and would partition the range into 2x30MHz tranche of FDD frequencies and 1x15MHz of supplemental

downlink (SDL) spectrum, to be allocated in 2x5MHz and 1x5MHz blocks, respectively. In addition, the plan features protected frequency bands at 698MHz-703MHz/753MHz-758MHz and 733MHz-736MHz/788MHz-791MHz, which the regulator has earmarked for Public Protection and Disaster Relief (PPDR) services. Ratel has invited stakeholders to submit opinions on the draft plan by 6 November.

(October 19, 2020) [commsupdate.com](https://commsupdate.com)



## Slovakia

The government of Slovakia says it intends to launch its 5G spectrum auction process by the end of the year. A report cites Ivan Martak, the chairman of the country's telecoms regulator, as saying: 'The priority is to complete the 5G auction. We have suspended it since 18 June, which was three months ago. We have millions of euros deposited [by interested bidders] as a financial security. We definitely want to have it ready by the end of the year.' There was no official reason given for the suspension of the sale in June, though it is thought to have centered on 'unspecified security risks', according

to the report. The Office for Regulation of Electronic Communications & Postal Services (Regulacny urad, RU) intends to sell 5G-capable 700MHz frequencies, alongside 900MHz and 1800MHz spectrum. The 60MHz of sought-after 700MHz frequencies will be sold in six 2x5MHz blocks, with each carrying a reserve price of EUR16 million (USD18.7 million) with a validity of 20 years. A limit of 2x15MHz per operator will apply to ensure that there are at least two winners.

(September 25, 2020) [zive.sk](https://zive.sk)



## Slovenia

The Agency for Communications Networks & Services (Agencija za komunikacijska omrezja in storitve, AKOS) has responded to government plans to create a new regulator with a much wider remit. The new watchdog – to be called the Public Agency for Market and Consumers – will incorporate the operations of AKOS and the Agency for Financial Markets. As well as complaining that it was given just one day to respond to the government proposals, AKOS says that

an enlarged regulator will 'slow down the performance of statutory tasks and responsiveness to market conditions'. It says that its existing remit is already one of the widest among European regulators, covering electronic communications, radiocommunications, post, electronic media and railways, even though it is the fourth smallest regulatory body in Europe in terms of employees.

(October 7, 2020) [commsupdate.com](https://commsupdate.com)



## South Africa

Telecommunications regulator the Independent Communications Authority of SA (ICASA) said it is inviting applications from mobile operators to bid for high-speed broadband spectrum from October 2 and announced prices for 5G spectrum. "The authority will make available 406 MHz of spectrum for the provision of mobile broadband services in South Africa," Independent Communications Authority of South Africa (ICASA) chairperson Keabetswe Modimoeng told journalists. (September 30, 2020) [sowetanlive.co.za](https://www.sowetanlive.co.za)

Telecommunications regulator the Independent Communications Authority of SA (ICASA) says it has had to delay the issuing of new spectrum to March 2021. ICASA said the invitation to apply (ITA) for both the wireless open access network (WOAN) and the international mobile telecommunications (IMT) spectrum, also known as high-demand spectrum, would be published "no later than 30 September 2020." Spectrum refers to the radio frequencies on which data and information are carried. Mobile operators have long argued that access to spectrum will help reduce the cost of mobile data in SA because it will allow the companies to cover a wider geographic area with existing towers while carrying more data traffic. SA's last big set of spectrum was allocated in 2004 and 2005, enabling Vodacom and MTN to roll out their 3G networks. Cell C followed in 2011. New spectrum had been slated to be allocated in December 2020, but the ITA for the auction, expected to have been issued

back in July was delayed. ICASA said the delay was due, in part, to the emergency spectrum allocation given by the government to allow network operators to cope with increased communications demand due to Covid-19 and lockdowns. Additionally, the authority had been finalizing terms around how the WOAN would work, and the government had still been appointing new councilors – a process recently concluded. "In light of the time lost as a result of the delay in the issuing of the ITAs, the auction of the high-demand spectrum, which was originally contemplated to take place during December 2020, will be completed by no later than March 31 2021," said the authority. ICASA says it will issue an invitation to network operators to take part in the long awaited auction by the end of September. A glimmer of hope for new spectrum came about earlier in 2020 as the government issued additional temporary allocation to operators such as MTN, Telkom, Vodacom, Rain and Liquid Telecom in the hopes of coping with increased communications demand because of Covid-19. Vodacom and MTN have already used this to launch commercial 5G services. The ITA is also important because it would give industry players guidance on prices for the auction, which still remain unclear. A previous ITA was scrapped in 2018 after squabbles between the regulator and Minister of Telecommunications and Postal Services Siyabonga Cwele. That ITA did indicate that a minimum bidding price at auction would be about R3bn.

(September 6, 2020) [businesslive.co.za](https://www.businesslive.co.za)



## South Korea

South Korea's telecommunications regulator said that it will inspect the country's three major telecom operators on their handling of user location data over concerns of mismanagement. The Korea Communications Commission (KCC) said the planned inspections of SK Telecom Co., KT Corp. and LG Uplus Corp. are meant to check whether they properly manage location data to ensure user rights. Under local laws, telecom operators can collect and manage user location data for a certain period of time, only after receiving user consent, according to the KCC. The move comes amid growing privacy concerns after the telecom operators handed over location data of individuals who participated in a mass demonstration in central Seoul last month to health authorities as part of anti-infection measures against the pandemic. Under the country's infectious disease control and prevention law, health authorities can request information on potentially infected individuals to track them and prevent the spread of

disease.

(September 6, 2020) [koreaherald.com](https://www.koreaherald.com)

A new taskforce has been launched by South Korea's Ministry of Science and ICT (MSIT) and the country's three mobile network operators (MNOs) – SK Telecom, KT Corp and LG Uplus – with a view to helping expand 5G coverage into rural areas. The initiative aims to enable network sharing between the three cellcos in areas of low population density. Each MNO will reportedly roll out infrastructure in a designated area, with access to this then being opened up to the other two operators, once a final agreement regarding the terms of network sharing has been reached (expected within the next six months). Notably, the MSIT has claimed the development represents the first time that the three MNOs will work together on a national level to share network infrastructure.

(September 2, 2020) [Yonhap News Agency](https://www.yonhapnewsagency.com)



## Sweden

Four applicants have been approved to participate in Sweden's upcoming 5G spectrum auctions for 2.3GHz and 3.5GHz frequencies. Hi3G Access (Tre), Net4Mobility (Tele2 and Telenor), Telia Sweden and Teracom (Net1) are cleared to bid in the sale process which begins on 10 November. All of the approved firms currently operate mobile networks in Sweden. As previously announced, up to 15 nationwide licenses will be sold in the 3.5GHz band (3400MHz-3720MHz), incorporating a maximum 320MHz of frequencies (one license will include 40MHz of spectrum while the rest will offer 20MHz). The minimum bid for 3.5GHz frequencies is SEK100 million (USD10 million) per lot (SEK1.5 billion in total). Up to 80MHz will be on offer in the 2.3GHz range, split into eight nationwide concessions, with a reserve price of SEK20 million per license (SEK160 million in total). Meanwhile, the Post and Telecom Agency (PTS) has stipulated that equipment from Chinese vendors Huawei and ZTE must not be used in the construction of 5G networks due to national security concerns. (October 20, 2020) [commsupdate.com](#)

The Swedish Post and Telecom Agency (PTS) has selected the first 44 projects which will receive

support from the government's fund to promote the development of broadband infrastructure. Areas covered include parts of the counties of Blekinge, Varmland, Vasternorrland and Vastra Gotaland. The 44 schemes will be awarded subsidies totaling SEK106 million (USD11.9 million), from a fund of SEK136 million which has been made available for 2020. Further projects will be announced next month, the PTS says. The broadband fund is aimed at promoting rollouts in underserved rural areas where it is uneconomic for telcos to pursue commercial deployments. (October 8, 2020) [commsupdate.com](#)

The Post and Telecom Agency (Post & Telestyrelsen, PTS) is to provide an extra SEK1.4 billion (USD159 million) in broadband support in 2021 as part of the SEK2.85 billion investment expected by 2025. Dan Sjoblom, the regulator's CEO, says that state funding is still needed to cover the areas the market does not reach, offering subsidies for operators to deploy gigabit-capable networks in rural regions. A tender for the state-subsidized rollouts will be opened in June 2021 and this will be preceded by a public consultation process. (September 17, 2020) [commsupdate.com](#)



## Tanzania

The Tanzania Communications Regulatory Authority (TCRA) has fined ISP Raha, a subsidiary of Liquid Telecom, a total of TZS11.8 billion (USD5.1 million) for violating regulations. Local newspaper The Citizen cites the regulator's director general James Kilaba as saying that Raha had used spectrum in the 1452MHz-

1482MHz band without a valid license since March 2020, and had also failed to 'provide internet services and submit financial statements'. Raha is required to pay the fines within 90 days, or face further penalties. (September 1, 2020) [commsupdate.com](#)



## Trinidad and Tobago

The Telecommunications Authority of Trinidad and Tobago (TATT) reportedly awarded Digicel a 10MHz block of spectrum in the 700MHz band on 1 October 2020. In an interview with TechNewsTT.com, Chief Technical Officer Chandrika Samaroo admitted that the block is half of what it needs to support its future 4G use, but it will be used alongside its existing spectrum holdings in the 850MHz and 1900MHz bands. According to the CTO, 75% of the devices currently in use on its network should be able to access the 700MHz band and 86% of those devices are tri-band carrier aggregation (3C) compatible. The executive told the website that Digicel has already deployed 200 700MHz-capable cell

sites in areas of high demand. He commented: 'Those sites will be activated over the next two to three weeks. We have purchased a second phase of 30 sites that will be installed by February or March and we are planning for another 80 sites. The first 200 sites were based on demand, but the world has changed, and the next 80 sites will address gaps in rural coverage.' According to TeleGeography's GlobalComms Database, Digicel launched 4G services in Trinidad and Tobago in July 2018. A dual-band LTE-A launch followed in November 2019. The distribution of the 700MHz band has been anticipated since at least 2013.

(October 13, 2020) [commsupdate.com](#)



## Uganda

Another licensing row has broken out in Uganda, this time centered on number two cellco Airtel. Following a long-running series of negotiations concerning market leader MTN Uganda, which was settled in March this year when MTN agreed to pay USD100 million for a twelve-year license extension, a similar situation has

now developed at Airtel, Eagle Online reports. Airtel is currently operating via Public Service Provider (PSP) and Public Infrastructure Provider (PIP) concessions issued for USD100,000 in November 2018, but under the Uganda Communications Commission's (UCC's) revised licensing structure, Airtel is covered by the

National Telecom Operator (NTO) category, which applies to operators with more than 65% nationwide network coverage. Rival firms have complained that

Airtel has benefitted from reduced license fees for its PSP and PIP permits, when it should be paying the much higher NTO fee. (September 14, 2020) [commsupdate.com](#)



## Ukraine

The Cabinet of Ministers has approved an action plan for 2020-2022 to improve the quality of mobile communications, including preparations for the launch of 5G technology, reports Liga.net citing Prime Minister Denis Shmyhal's announcement via his Telegram channel. The PM wrote: 'We are talking about the implementation of European approaches to the quality of communication and electronic communication services. Part of this plan will include provisions that will make it possible to further introduce 5G technology in Ukraine.' The plan stipulates the adoption of national standards meeting European ETSI standards for the implementation of 5G technologies. Before the end of this year, the government intends to approve legal amendments supporting 5G via allocation of radio frequency resources including the technology-neutral usage of existing mobile spectrum bands.

(October 2, 2020) [commsupdate.com](#)

The National Commission for State Regulation of

Communications & Informatization (NCCIR) has issued a notice for local fixed telephony operators regarding the possibility of continuing services for subscribers of CST-Invest (NewTone), a subsidiary of Telesystems (PEOPLEnet), in Kharkiv, Zaporizhia and Melitopol, as the provider is ceasing its operations in those cities. CST-Invest holds allocations of 4,200 fixed numbers in Zaporizhia, 1,300 numbers in Melitopol and 1,000 numbers in Kharkiv. PEOPLEnet has been steadily reducing its coverage zones, most recently disclosing that it will stop providing fixed-wireless telephony and mobile CDMA services in the Kharkiv region (oblast) on 1 December 2020. The mobile shutdown in Kharkiv means that the company will serve mobile users in just one oblast, Dnipropetrovsk. TeleGeography's GlobalComms Database shows that PEOPLEnet offered CDMA mobile services in all 25 Ukrainian oblasts before beginning a phased shutdown in September 2015, reducing its footprint to two oblasts in May 2017.

(September 21, 2020) [commsupdate.com](#)



## United Kingdom

British telecoms regulator OFCOM has published a statement and consultation related to a proposed package of measures designed to implement the new customer protections provided for in the European Electronic Communications Code (EECC). Although the UK left the EU on 31 January 2020, there is a transition period until 31 December 2020 and under the terms of its Withdrawal Agreement the country remains under obligation to implement EU directives into domestic law. As such, the EECC – an EU directive that updates the regulations for communications – must be implemented by 21 December 2020 and in July this year, the UK government confirmed that OFCOM should proceed to implement the customer protections in the EECC in full, as planned. As part of OFCOM's latest publication regarding the matter, it highlighted a number of key elements of its plans including: a ban on mobile providers from selling locked devices, which will come into force in December 2021; measures designed to making broadband switching easier and more reliable (December 2022); better contract information and stronger rights to exit (June 2022); and measures to ensure that disabled customers have equivalent access to information about their communications services (December 2021). OFCOM is now consulting on aligning the definitions and terminology used across its regulatory rules, to make sure they are clear and consistent, and it has invited responses by

a 30 November deadline. Following this, it has said it expects to publish a decision statement and the final set of revised regulatory rules before 21 December 2020. (October 28, 2020) [commsupdate.com](#)

British telecoms regulator OFCOM has launched a supplementary consultation to its Wholesale Fixed Telecoms Market Review (WFTMR), putting forward plans to revise previous proposals which would allow for the withdrawal of remaining regulations on copper services where fiber services are available, and where certain conditions are met in exchanges where ultrafast coverage is complete. BT's network arm Openreach is understood to be planning to upgrade its copper network to fiber on an exchange-by-exchange basis, and as each exchange is upgraded the company plans to migrate customers to the new network and then withdraw copper services altogether. OFCOM set out a proposed policy on copper retirement as part of the WFTMR consultation it published in January this year; in this it said the aim of its copper retirement proposals was to promote fiber investment by shifting the focus of regulation from copper to fiber, to support the migration to fiber services. As per these initial proposals, OFCOM did not propose to allow Openreach to withdraw existing copper services during the market review period (2021-2026). However, the regulator now notes that since the January 2020 consultation

Openreach has identified 168 exchanges (in addition to a trial Salisbury exchange) where it expects to provide ultrafast services to 75% of premises in each exchange area. As such, OFCOM said in its latest consultation on the matter: 'Given the speed at which Openreach's fiber roll out is progressing, we now believe that where there are a limited number of customers remaining on copper services, and there are fiber services available to them, it may be reasonable to allow Openreach to withdraw copper services in some cases during the WFTMR market review period.' A deadline of 26 November 2020 has been set for the submission of comments to the consultation. (October 16, 2020) [commsupdate.com](https://www.commsupdate.com)

The regulator OFCOM advanced plans to open access to extremely high frequency (EHF) spectrum, a move it claimed would boost innovation by enabling high-speed wireless services. OFCOM began accepting applications for licenses covering the 116GHz to 122GHz; 174.8GHz to 182GHz; and 185GHz to 190GHz bands. The move is part of plans to allocate 18.2GHz of EHF spectrum and follows a consultation on the plan conducted earlier this year. The regulator stated it was considering further allocations of EHF spectrum in future. It explained frequencies in the 100GHz to 200GHz range are suitable for services requiring high data capacity over short distances. The regulator said its move "will create new opportunities to develop wireless services across a range of industries", including the health and manufacturing sectors. It cited potential applications around health screening; 3D imaging; holograms; IoT; and product assembly and quality assurance services.

(September 30, 2020) [mobileworldlive.com](https://www.mobileworldlive.com)

Telecoms regulator OFCOM has published the latest interim update to its annual Connected Nations report, in which it said that access to full fiber broadband connectivity has 'increased significantly', with more

than 4.2 million residential premises (14%) covered as of 31 May 2020, up from 3.5 million (12%) in January. According to OFCOM, the gains are the result of 'increased rollout both from the expansion of existing broadband NETWORKS as well as the inclusion in [its] analysis of companies building entirely new fiber networks'. The watchdog also reported that the availability of ultrafast broadband – which it classifies as a connection offering download speeds of at least 300Mbps – had also improved, with 57% of homes (16.6 million) now able to access such service by May 2020, up roughly 500,000 from January 2020. Superfast (download speeds of at least 30Mbps) broadband was reportedly available to 27.8 million premises (95%) at the same date, with an additional 100,000 premises having been covered since OFCOM's previous report. Meanwhile, 'decent' broadband (10Mbps/1Mbps down/up) was available to the vast majority of UK properties, with only 590,000 (2%), down from 680,000 at January 2020, unable to access such a service. In the mobile sector, OFCOM said that 4G coverage had 'not seen significant changes over the last reporting periods', with two-thirds of the UK's landmass – an area blanketing 97% of premises – having 'good' 4G coverage from all four mobile network operators (MNOs), EE, O2 UK, Three UK and Vodafone UK. In terms of 4G 'not-spots', which it described as 'areas where good 4G services are not available from any mobile operator', the regulator said that both geographic and road not-spots remained at 9% and 5% respectively, although it noted that picture in individual nations varied significantly, particularly in Scotland and Wales. Meanwhile, with OFCOM noting that the country remained in the early stages of 5G rollout, it did not offer up any information regarding current coverage levels, though did note that it is continuing to work with MNOs 'to establish how best to evaluate and report on 5G coverage'. (September 11, 2020) [commsupdate.com](https://www.commsupdate.com)



## United States

US regulator the Federal Communications Commission (FCC) advanced a proposal to establish a \$9 billion fund for rural 5G deployments, asking stakeholders to comment on how the pot should be distributed. First unveiled in December 2019, the draft plan approved in a vote yesterday (23 April) includes two distribution options: one would allocate a majority of funds through an auction in 2021 using existing mobile broadband coverage data to identify areas in need; the second would delay the auction until 2023 to allow collection of more accurate coverage details. Ahead of the vote, Commissioners Jessica Rosenworcel and Geoffrey Starks argued the proposal presented a false choice between distributing the money quickly or accurately. Rosenworcel said "we need to do both", with Starks

adding it would be "bad policy" to make long-term funding decisions without accurate maps. However, FCC chairman Ajit Pai contended "we cannot pretend there is no trade-off between precision and speed". On a call with journalists, he explained the agency needs additional funding from Congress before it can begin work on new maps. Even then, he noted agency staff estimated it would take 18-to-24 months to collect, analyze and verify the data needed for their development. The FCC opened a public consultation on the merits of each auction approach. In another high-profile decision, commissioners approved new rules opening the entire 6GHz band for unlicensed use, freeing up 1200MHz of spectrum for the next generation of Wi-Fi. While the move drew praise from



the likes of the Wi-Fi Alliance, Wireless Broadband Alliance, Microsoft and Broadcom; it sparked ire among operator groups including CTIA, which hoped to secure part of the band for licensed use.

(October 24, 2020) mobileworldlive.com

The US Federal Communications Commission (FCC) has confirmed that it has received a total of 74 short-form applications ahead of its planned auction of spectrum in the 3.7GHz-3.98GHz band. The spectrum sale, Auction 107, is scheduled to commence on 8 December 2020. Of the applications, 38 are said to be complete, while the remaining 36 are incomplete. Companies that have filed incomplete paperwork have until 2 November to rectify any issues and make the required upfront payment. Notable would-be bidders in the 'complete' category include AT&T Spectrum Frontiers, Cellco Partnership (Verizon Wireless), Cox Communications and US Cellular, while 'incomplete' applicants include Cellular South (C Spire) and T-Mobile US. Both lists are dominated by smaller, regional providers. In total, 5,684 licenses will be auctioned, divided into 14 sub-blocks in each of the 406 Partial Economic Areas (PEAs). The A-block will incorporate five 20MHz blocks in the 3.7GHz-3.8GHz range; the B-block will include five 20MHz blocks between 3.8GHz-3.9GHz; and the C-block will comprise four 20MHz sub-blocks between 3900MHz-3980MHz; spectrum in the 3980MHz-4000MHz range will be maintained as a guard band and is not available for auction. (October 21, 2020) commsupdate.com

The FCC said that almost 400 applicants have qualified to bid in the upcoming Rural Digital Opportunity Fund (RDOF) Phase 1 auction, which is scheduled to launch Oct. 29. The FCC also said that the 386 applicants are a 75% increase over the number of bidders in the 2018 Connect America Fund Phase II auction, which was the forerunner of RDOF. In the reverse auction, up to \$16 billion is available in subsidies for rural broadband buildouts over 10 years. The money will go to census tracts lacking the FCC's definition of minimum high-speed broadband service. The FCC has said those eligible areas have about 5.3 million unserved homes, or perhaps upwards of 10 million people, as well as businesses. While anything over the FCC's 25 mbps upstream/3 mbps downstream high speed definition is eligible for the money, the FCC will prioritize bids for higher speeds and lower latency. "The unprecedented interest in this auction is due in large part to key decisions by the FCC, including providing substantial funding and promoting technological neutrality toward potential bidding participants, as well as our staff's extensive work to spread awareness of the program and ensure the broadest participation in a competitive auction that will deliver real benefits to rural Americans across the country," said FCC Chairman Ajit Pai.

(October 13, 2020) nexttv.com

The Federal Communications Commission (FCC) Chairman Ajit Pai defended the regulator's 2017 order repealing net neutrality protections, arguing no changes to its policy are needed to address concerns raised by a court last year. A US appeals court upheld the majority of the FCC's order in an October 2019 ruling, but instructed it to tackle issues related to the move's impact on public safety communications, utility pole access and funding for the Lifeline broadband subsidy program, finding it failed to do so previously. Accordingly, the FCC opened a public consultation on the matter in February. Pai said in a blog after reviewing "the input received, the law and the facts", he is "confident" the regulator's existing framework already "appropriately and adequately addresses each issue". He added the commission will vote later this month on a proposal reaffirming its 2017 order and explaining how it applies to each of the points raised by the court. Commission Jessica Rosenworcel in a statement slammed Pai's proposal as "crazy", arguing "instead of taking this opportunity to right what this agency got wrong, we are going to double down on our mistake". The measure is likely to pass despite Rosenworcel's objection: Pai's political party holds a 3-2 majority on the five-member commission.

(October 6, 2020) mobileworldlive.com

The US Federal Communications Commission (FCC) has extended a number of wireless licenses held by DISH Network, also modifying certain 5G rollout obligations attached to the concessions. The watchdog's decision relates to licenses held by a number of DISH holding companies, namely: American H Block Wireless, DBSD Corporation, Gamma Acquisition, Manifest Wireless and ParkerB.com Wireless. For each of DISH's AWS-4, Lower 700 E Block, and AWS H Block licenses, the license term has been modified to 14 June 2023; DISH is obligated to provide 5G access to at least 70% of the population in each Economic Area (EA) by this date. Meanwhile, for each of DISH's 600MHz licenses, the license term is unchanged (i.e. 14 June 2029), but the interim build out deadline (14 June 2023) has been removed. Instead, the final build out deadline has been accelerated to 14 June 2025; DISH must offer 5G access to at least 75% of the population in each Partial Economic Area (PEA) by this date. As per FCC documentation, DISH is currently in possession of the following concessions: American H Block Wireless (176 AWS H block licenses in the 1915MHz-1920MHz/1995MHz-2000MHz band); DBSD Corporation (176 AWS-4 licenses in the 2010MHz-2020MHz/2190MHz-2200MHz band); Gamma Acquisition (176 AWS-4 licenses in the 2000MHz-2010MHz/2180MHz-2190MHz band); Manifest Wireless (168 licenses in the Lower 700MHz E block band); and ParkerB.com Wireless (486 licenses in the 600MHz band).

(September 17, 2020) commsupdate.com



## Uruguay

A committee has been established in Uruguay to prepare for the introduction of mobile number portability (MNP), which enables mobile users to retain their number if they switch service provider. The committee comprises representatives from a number of industry regulators, including the Regulatory Unit of Communications Services (Unidad Reguladora de Servicios de Comunicaciones, URSEC), as well as the country's three mobile network operators. It will be responsible for formulating a timetable for the

introduction of MNP, reviewing the numbering plan and determining the costs. The move follows the approval of Law 19,889/2020 in July, Article 472 of which states that operators will be obliged to offer MNP under the guidelines provided by the regulator and that they will also have to assume the costs of adapting their networks and systems to implement portability. These costs cannot be transferred to end-users.

(September 25, 2020) TeleSemana



## Zimbabwe

The Postal and Telecommunications Regulatory Authority of Zimbabwe (Potraz), has bemoaned poor quality service from telecoms network operators due to congestion, but says the industry is working to address the problem after being given additional bandwidth at no cost. POTRAZ Director General Dr. Gift Machengete, said in an interview that each of the operators were given about 20 megahertz up to the end of this year to ease congestion, which has affected quality of service. But, the operators are reportedly lobbying the regulator to maintain the free additional bandwidth beyond year-end to maintain high quality service, a request the authority said it was still considering. Dr. Machengete said Potraz took the decision to increase bandwidth for operators because of significant and sudden increase in the usage of online and digital platforms due to Covid-19 restrictions. Following the outbreak of the coronavirus global pandemic earlier this year, Governments across the world enforced strict restrictions that included national lockdowns to curtail the spread of the deadly virus. Commenting on viability issues in the sector, Dr. Machengete said Potraz had given operators permission to increase tariffs to cover costs, which ballooned on the back of exchange rate and inflation increases. The telecoms operators incurred \$13 billion loss in the quarter to June on account of huge losses incurred as a result of inflation and the exchange rate, which moved to around \$81 to the US dollar from \$25. In the quarter to June 2020, operators saw revenue increase 45 percent to \$3 billion while costs vaulted from \$5 billion to \$16 billion due to inflationary pressures emanating from exchange rate increases. A significant component

of the operators' costs are denominated in foreign currency, meaning that the operators incurred huge costs when the exchange rate moved from the fixed \$25 to US\$1 to a variable rate. And with the costs now pegged to the auction rate, Dr. Machengete said the current tariff would guarantee viability for telecoms operators. However, the regulatory authority's boss said that the only concern for the regulator was the issue of congestion and poor service quality. "The losses were before we gave them a tariff increase. But after we authorized a tariff increase, we believe they should be able to sustain operations, we had last given them a tariff increase a long time ago. "As such, they made exchange control losses before we gave them a tariff increase because of the exchange rate movement from the fixed \$25 to US\$1 to between \$70 and \$83 to US\$1, which translates into losses. Most of the network operators require forex. After the Government said they can now use the auction rate to convert their foreign currency denominated costs, we gave them a tariff increase and after that we also issued them another tariff increase because their costs had lagged behind for some time," he said. Now that the issue of costs had been addressed, Dr. Machengete said of major concern was the poor quality service, which has been occasioned by congestion as a result of Covid-19 regulations. "The only problem is congestion and poor quality of service. Everybody has gone virtual. There is a problem of congestion which operators are working on. We gave them additional spectrum to cover Covid-19 pressures. We gave them for free," he said. 📍

(October 5, 2020) herald.co.zw

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