Regulatory Developments & Industry Updates

2022

FCC Launches Proceeding on Promoting More Efficient Spectrum Use:

The Federal Communications Commission voted to open a proceeding to explore options for promoting improvements in radio frequency (RF) receiver performance, including through use of incentives, industry-led voluntary approaches, Commission policy and guidance, or regulatory requirements.

While FCC spectrum management efforts often have focused on transmitter regulations, the Notice of Inquiry adopted will take a fresh look at the role of receivers and how improved receiver performance can promote more efficient spectrum use and enable valuable new services to be introduced that will benefit the American public.

Australia beefs up operator ID checks:

The Australian Communications and Media Authority (ACMA) introduced rules requiring mobile operators to take stronger measures to check customers' identity when they make high-risk transactions, to protect them from scams.

ACMA's rules go into effect 30 June, requiring multi-factor authentication of a customer's identity to confirm personal information and respond with a one-time code when users request a SIM-swap, changes to accounts or disclosure of personal information.

Fiona Cameron, chair of ACMA's scam taskforce, stated SIM-swap scams can cause a lot of harm as charlatans take control of a phone number and then use it to gain access to the user's online banking accounts.

"*We expect these rules will go a long way to stamping out unauthorized transactions…and improve safeguards," she stated, adding SIM-swap fraud is particularly egregious as it leads to identity theft and significant financial losses.*

If operators breach the rules, ACMA noted it can take a range of actions including court proceedings.

In early 2020 the regulator required operators to implement multifactor authentication before transferring a phone number in a move to fight mobile number fraud.

ACMA stated data indicates the regulation had been effective in addressing porting fraud.

European Commission Updates Usage Conditions for 5 GHz Wi-Fi

The European Commission (EC) has successfully implemented a new Decision 2022/179 which clarifies and harmonizes the spectrum usage of wireless access systems (WAS) including radio local area networks (RLAN) in the 5 GHz frequency band.

Indoor implementation requires special attention as it has become possible to install WAS/RLANs in road vehicles.

By April, 1st

2022 EU member states are to make available the frequency bands of

- 5150–5250 MHz,
- 5250–5350 MHz and
- 5470–5725 MHz

for the implementation of WAS/RLANs in accordance with the technical conditions mentioned in the Annex of the aforementioned decision.

European Commission moves against 10 states over telecom code failures:

The European Commission (EC) started legal proceedings against a group of countries including Spain, Portugal and Sweden for failing to fulfil obligations in the adoption of its Electronic Communications Code.

European Union member states were obliged to fully transpose measures in the code, which covers a wide range of rules related to the telecommunications industry, into national laws and then inform the EC how their regulations adopt the relevant parts.

The rules became legally valid in December 2018 with countries given two years to implement them.

In a statement, the EC explained it had opened infringement procedures against 24 countries for non-compliance in February 2021 and contacted 18 of these again about continued issues seven months later.

It noted ten have still failed to fulfil obligations, with the matter now being referred to the Court of Justice for the European Union, which is able to impose fines for breaches.

Alongside Spain, Portugal and Sweden, the other countries on the hook are Croatia, Latvia, Lithuania, the Republic of Ireland, Poland, Romania and Slovenia.

The EC claims the code "modernises EU telecoms rules to the benefit of consumers and the industry by stimulating competition, driving investments, strengthening the internal market and consumer rights".

It imposes a number of regulations in a wide number of areas related to telecommunications, from minimum durations for spectrum licenses to price caps for international calls.

However, during the legislative process some measures attracted criticism from industry, with ETNO in 2018 describing the code as a "missed opportunity" and the GSMA branding parts a "political compromise".

European Commission signs-off €2B scheme to boost 5G in Italy

The European Commission (EC) approved an Italian government Programme to allocate €2 billion for expansion of 5G and fibre networks in the country as part of a post-Covid-19 (coronavirus) economic and social recovery plan.

Italy's scheme had to be signed-off by the EC due to the cash coming from the European Union's (EU) Recovery and Resilience Facility, which provides grants and loans to member states.

The funding is set to cover expansion of next generation networks into underserved areas, providing a boost for consumers and businesses in those parts of the country.

In a statement announcing its blessing, *EC EVP in charge of competition policy Margrethe Vestager said the support would contribute to "economic growth of the country and to the EU's strategic objectives relating to the digital transition".*

The EC noted the proposal was "necessary and proportionate to address market failures, namely the absence of current or planned mobile networks that would adequately address end-users' needs".

Cash will be allocated as direct grants to CSPs to finance infrastructure including backhaul and base stations to deliver a minimum 5G service level of 150Mb/s download and 30Mb/s up.

On originally announcing the scheme, Italian authorities imposed a deadline of 27 April on bids for the funding with an obligation to complete related work by end-June 2026. Public funding is set to cover up to 90 per cent of costs.

French court annuls Starlink license:

France's highest administrative court revoked a decision by Arcep to grant frequencies to SpaceX's low Earth orbit (LEO) satellite broadband service Starlink, stating the French telecoms regulator had not carried out the correct proceedings.

Arcep in February 2021 authorized Starlink to use two frequency bands to provide satellite-based broadband services in France. However, the Conseil d'Etat quashed the regulator's decision after it was challenged in court by two environmental groups.

In its ruling published (18 April), the court noted Arcep failed to carry out a public hearing before granting the frequency licenses.

Such a hearing would have been a legal requirement because the decision to grant the licenses to Starlink "could impact the market of access to high-bandwidth internet and affect the interests of end users", the court stated. Reuters reported Starlink is yet to comment on the ruling.

Starlink had been authorized to use the frequencies 10.95GHz to 12.70GHz for space-to-Earth and 14GHz to 14.5GHz for Earth-to-space transmissions.

Poland's Plus looking to extend 2100MHz license:

The Polish telecoms regulator, the Office of Electronic Communications (Urzad Komunikacji Elektronicznej, UKE), has opened a consultation regarding the extension of the 2100MHz spectrum license held by cellco Plus (registered as Polkomtel).

According to a report from Telko.in, Plus submitted an application on 14 December 2021 to extend its concession which is set to expire at the end of this year. The operator is looking to use 29.6MHz of frequencies in the 2100MHz range until 31 December 2037.

The license renewal will cost Plus PLN403.4 million (USD94.4 million). Poland's other cellcos – Orange, Play and T-Mobile – are also looking to renew their 2100MHz concessions, with the government expecting to raise almost PLN1.9 billion from the process.

India regulator calls for 5G spectrum price cuts:

India's telecoms regulator heeded calls from operators and recommended the government reduce reserve prices for spectrum in the key 700MHz and 3500MHz bands for an upcoming auction.

In a statement, the Telecom Regulatory Authority of India (TRAI) confirmed the sale will include more than 100,000MHz of spectrum across ten bands, which carry 20-year licenses.

It recommended the Department of Telecommunications (DoT) cut the per-MHz price of 700MHz spectrum by 40 per cent to INR39.3 billion ($516.4 million) and 3500MHz by 36 per cent to INR3.2 billion.

TRAI also wants new reserve prices set for 5G spectrum in the 800MHz, 900MHz, 1800MHz, 2100MHz, 2300MHz and 2500MHz bands.

The government still has to finalize the amount of spectrum to assign in the 600MHz, 3500MHz and mmWave bands.

With the three major operators in the country all conducting limited 5G trials, most have called for the government to release the necessary spectrum and cut prices.

They have reportedly also threatened limited participation in the auction depending on the access enterprises are given for private 5G networks.

The coveted 700MHz band was not sold during an auction in March 2021 due its high reserve price.

NTRA adds e-wallets to 'My NTRA' interactive services :

The National Telecom Regulatory Authority (NTRA) has added e-wallets to the range of services included within its 'My NTRA' app.

Using their ID numbers, users can identify e-wallets registered with their name across the networks of the four mobile operators in Egypt's market and across banks as well. Users may also cancel such wallets via the app.

It is worth noting that each user has the right to create three e-wallets at maximum in accordance with the regulatory frameworks established by the NTRA and the Central Bank of Egypt (CBE).

The service was actually added after users' feedback, complaints, and needs were taken into account as part of the NTRA's role to improve basic telecom services for individuals and corporations, boost users' experience, and ease up the process of providing services via mobile.

As for corporate services, the NTRA also added licensing services for wireless telecom devices to the range of interactive services encompassed in My NTRA in order to carry out all procedures related to permits, licenses, and custom clearances of telecom services via app.

Furthermore, this step aims to provide the NTRA's services online in conjunction with the state's goal to go digital.

The My NTRA interactive app was launched at the end of 2021 and is considered a leading app worldwide, encompassing a large number of integrated services for end-users.

Downloaded about 2 million times so far, My NTRA includes many interactive services starting with 'My Numbers', through which users can check which cell phone numbers they own with each operator in the country's market without visiting their branches. It also includes dialing the free-of-charge unified code to inquire about or cancel entertainment

services in response to users' complaints regarding extra charges on monthly packages.

Furthermore, the NTRA also provides operators with a 'Points of Sale (PoS) Interactive Service' through which users can look up the addresses of the operators' official points of sale in Egypt's market.

Users can also escalate their complaints to the NTRA or inquire about and track the status of already existing ones via the complaints section in the event no satisfactory solution was reached with an operator.

Additionally, they can test and measure the speed of Wi-Fi or data internet services via the 'Internet Speed Check Service' on the Android app.

Bahrain readies draft work plan for 2022-23:

Bahrain's Telecommunications Regulatory Authority (TRA), as a consumer centric regulator, has published its draft work plan for 2022-23 period structured upon four main pillars: meeting government policy, ensuring a secure and resilient network for all users, reliable broadband for all, and protecting and empowering consumers.

Since its establishment in 2002, TRA has been working with government, consumers, operators and investors to develop Bahrain into the region's most modern communications hub and to facilitate the growth of the market.

Commenting on the One Year Work Plan, TRA Bahrain General Director Philip Marnick said: "Bahrain continues to develop its telecoms sector as part of its Economic Vision 2030 plan, with telecommunications being one of the key strategic areas. The Authority will help drive the digitization of industry in the kingdom."

The authority's work plan ensures that our work delivers for Bahrain and consumers. *I welcome comments from industry and consumers on our proposed work plan," stated Marnick.*

"As part of this process, the Authority will consult to ensure that everyone's views are taken into consideration before publishing the final work plan," he added.-TradeArabia News Service

CITC announces its intention to launch the Emerging Technologies Regulatory Sandbox :

The Communication and Information Technology Commission (CITC) Kingdom of Saudia Arabia announces its intention to launch of the Emerging Technologies Sandbox. The sandbox aims to provide a flexible and nurturing regulatory environment that will enable businesses to test and deliver innovative business models, solutions and services, which will accelerate digital transformation and maximize the beneficial use of emerging technologies.

CITC invites businesses with innovative business models, products and services enabled by emerging technologies to visit the link and register their interests. Applications for the ET Regulatory Sandbox will be open on 10 May 2022.

It is worth mentioning that CITC has previously launched the Regulatory Sandbox for innovative solutions developed by telecom service providers and the Regulatory Sandbox for delivery applications, in order to provide an attractive environment that stimulates development and innovation.

Batelco, Ericsson explore 5G options:

Bahrain operator Batelco signed a memorandum of understanding (MoU) with Ericsson with the aim of exploring various 5G technologies which could help realize the country’s economic vision for 2030.

The agreement builds on an existing 5G partnership that the pair signed in 2019. They now intend to collaborate on Voice over New Radio (VoNR), standalone and cloud-native core solutions.

Other focus areas include NB-IoT and an advanced charging system to support low-power IoT devices.

Furthermore, Batelco wants to strengthen its enhanced mobile broadband (eMBB) capabilities and explore the use of mmWave frequencies for fixed wireless access 5G services and more.

In June 2019, Batelco became the first operator in Bahrain to commercially launch non-standalone 5G services. In October 2020, it announced the network covered 95 per cent of the population.

Du launches 5G Home Wireless:

United Arab Emirates (UAE) fixed and mobile operator Du has launched a new 5G-based broadband service for home users under the name 5G Home Wireless.

For AED299 (USD81.39) a month plus VAT Du customers get a plug-and-play service which gives them 5G data speeds throughout their home, with unlimited data and OTT streaming. Amazon Prime, OSN Streaming and beIN Connect are included free for twelve months with the subscription.

Tre Sweden now covers seven city centers with 5G:

Swedish cellco Tre says it has now achieved full 5G coverage in the centers of seven cities: Stockholm, Gothenburg, Malmo, Norrkoping, Linkoping, Jonkoping and Helsingborg.

Meanwhile, it is continuing to deploy 5G infrastructure in cities with more than 20,000 inhabitants, using 2100MHz spectrum and faster 3.5GHz frequencies.

The operator has launched a new service dubbed 3Fullfart which uses the 3.5GHz band to offer peak download speeds of up to 1.3Gbps. The service costs SEK49 (USD5.13) a month but is being included free in all subscriptions this year to allow customers to test what Tre calls its 5G+ network.

The operator has invested SEK3 billion in the rollout and upgrade of 4G and 5G technology in recent years, with SEK1 billion to be spent in 2022.

1&1 signs German tower deal with ATC:

German operator 1&1 signed a long-term tower rental agreement with the local unit of American Tower, marking a further step in the deployment of the market's long-awaited fourth mobile network.

Under the framework agreement, 1&1 will be able to install antennas on up to 15,000 tower sites operated by ATC Germany. Each site will have a lease term of 20 years, which the operator will be able to extend multiple times.

Ralph Dommermuth, CEO of 1&1 parent company United Internet, welcomed ATC Germany as the newcomer's "third strong partner for passive network infrastructure, which ideally complements our mast portfolio".

1&1 recently inked an agreement with network specialist GfTD on the construction of 500 antenna sites.

The fledgling operator has also signed a long-term tower rental agreement with Vodafone Group's Vantage Towers allowing it to use up to 5,000 existing masts.

1&1 pledged to activate 1,000 5G base stations this year, which it is obliged to do under the terms of a license obtained in 2019. It recruited Rakuten Group to design, build and operate a fully virtualized mobile network based on open RAN.

Until the 1&1 network has been completed, customers will be able to use the Telefonica network under a national roaming agreement.

eir confirms its FTTH network now passes more than 800,000 premises:

Ireland's eir has announced that its fibre-to-the-home (FTTH) infrastructure now passes more than 800,00 premises. With the company having begun the rollout of an urban focused full fibre network in 2019, following the completion of its rural FTTH Programme – which saw the technology rolled out to 340,000 homes and businesses – it noted that expansion had continued apace throughout the COVID-19 pandemic.

Indeed, it was keen to highlight that during the global health crisis it had still been able to extend the reach of FTTH*, with Eavann Murphy,*

Managing Director of Open eir Wholesale, saying: 'We are extremely proud of the scale and pace of this FTTH network build, and I think it is particularly remarkable that approximately 400,000 of these homes and businesses were passed during the pandemic.'

eir aims to have made gigabit speeds available to 84% of premises in Ireland by 2026, with 1.9 million homes and businesses expected to be within reach of its FTTH network by that date.

Meanwhile, the telco notes that its fibre rollout forms a key part of its EUR1 billion (USD1.1 billion) capital investment Programme to transform and expand its fixed and mobile infrastructure, with a view to 'delivering world class infrastructure informed by the needs of its customers, now and into the future'.

China Telecom reveals Q1 gains:

China Telecom added 23 million 5G connections in the opening quarter of 2022, taking total year-on-year gains to nearly 100 million package subscribers as it booked double-digit growth in profit and revenue.

Mobile service revenue increased 5 per cent to CNY49 billion ($7.6 billion). The operator closed March with 210.8 million 5G package subscribers. Overall mobile customers increased 6.5 per cent to 379.5 million.

ARPU from mobile was down 1.1 per cent at CNY45.10.

In a statement, chairman and CEO Ke Ruiwen noted China Telecom continued to optimize its 5G network and industrial internet services, while moderately increasing investment. Network operations and support expenses increased 14 per cent to CNY35.3 billion.

Net profit rose 12.1 per cent to CNY7.2 billion with operating revenue growing 11.9 per cent to CNY119.6 billion. Net finance costs dropped 64.2 per cent to CNY195 million, as a share offering covered its capital requirements for key investment projects.

Industrial service revenue grew 23.2 per cent to CNY29.4 billion.

New business units drive China Tower growth:

China Tower booked gains during Q1, with its smart tower and energy units leading revenue increases as its traditional tower business registered modest growth.

In a statement, chairman Zhang Zhiyong explained China Tower continued to strengthen resource sharing to support the expansion of the country's 5G networks.

The company added 18,000 sites year-on-year to end March with 2.05 million under management. Total tenants rose by 96,000 to 3.5 million, pushing the average number per tower from 1.68 in Q1 2021 to 1.7.

Net profit improved 28.7 per cent to CNY2.2 billion ($343.1 million), while operating revenue increased 7 per cent to CNY22.6 billion.

Smart tower revenue rose 34.9 per cent to CNY1.2 billion and sales from its energy unit increased 70.3 per cent to CNY642 million.

Revenue from its tower business increased 3.1 per cent to CNY20.8 billion though its contribution to overall turnover declined from 89 per cent in Q1 2021 to 85.7 per cent. Indoor distributed antenna system sales grew 35.7 per cent to CNY1.3 billion.

Belgian new entrant applies for reserved spectrum:

The prospect of a fourth MNO entering the Belgian mobile market became more likely after a potential new entrant applied for a package of reserved spectrum with an eye to offering 5G services.

One of two new entrants the Belgian Institute for Postal Services and Telecommunications (BIPT) cleared to participate in a spectrum auction scheduled for June exercised an option to secure a 30MHz duplex block covering 2G, 3G, 4G and 5G, paying more than €83.3 million, the regulator stated.

The regulator deemed a total of five mobile players as admissible for the auction, without revealing any names.

However, BIPT indirectly confirmed Proximus, Orange Belgium and Telenet/Base are among the contenders by stating the "three existing mobile operators" also each paid

€73 million to obtain spectrum reserved for them “to ensure the continuity of their current service on the mobile market”.

The identity of the new entrant was not disclosed, although Citymesh previously made clear its ambition to become the fourth player. The Belgian B2B services provider joined forces with IT company Cegeka in 2020 and already holds licenses in the 2.6GHz and 3.5GHz bands. It currently markets B2B mobile services under an MVNO agreement with Proximus.

BIPT explained that in addition to the reserved spectrum, a total of 640MHz is being auctioned in June for a minimum amount of €477 million.

Licenses in the 700MHz, 900MHz, 1,400MHz, 1,800MHz, 2.1GHz and 3.6GHz bands will be up for grabs. The 700MHz, 1400MHz and 3.6GHz bands are designated for 5G.

Rogers claims Canada first with SA 5G launch:

Canadian operator Rogers Communications unveiled what it described as the country’s first commercial standalone (SA) 5G network, highlighting immediate advantages in terms of coverage and scalability alongside the opportunity to introduce new use cases.

The company’s SA 5G deployment uses Ericsson kit. Its launch follows several national “firsts” related to the latest architecture including attaining certification for use of the Google Pixel 6 device range on the network and completing work on a SA 5G core ahead of peers.

Rogers – Canada’s largest operator with 11.3 million connections according to GSMA Intelligence – noted the latest generation of 5G would cut latency and introduce network slicing capabilities. It added its rollout was one of the first globally.

The operator said it had been “built to scale massively and will support the unprecedented growth of IoT devices in the years to come,” while pointing to potential new services including dedicated private networks, applications in public safety, and the AR/VR consumer space using edge computing.

Alongside the already certified Google handsets, Rogers expects to add “other major devices” later in 2022.

FCC adds Kaspersky, China telecoms to threat list:

US regulator the Federal Communications Commission (FCC) on Friday (25 March) added Moscow-headquartered Kaspersky, China Telecom (Americas) Corp and China Mobile International USA to its list of communications equipment and services that have been deemed a threat to national security.

Last year, for the first time, the FCC published a list of communications equipment and services companies that it said posed an unacceptable risk to national security, including Huawei, ZTE, and three additional Chinese vendors.

FCC Chairwoman Jessica Rosenworcel said the FCC has been working closely with its national security partners to review and update the list, which is commonly referred to as the covered list.

"Today's action is the latest in the FCC's ongoing efforts, as part of the greater whole-of-government approach, to strengthen America's communications networks against national security threats, including examining the foreign ownership of telecommunications companies providing service in the United States and revoking the authorization to operate where necessary," stated Rosenworcel.

A 2019 law, the Secure and Trusted Communications Networks Act, requires the FCC to publish and maintain a list of communications equipment and services that pose an unacceptable risk to national security or the security and safety of US persons.

US FCC sets date for latest spectrum auction:

The US Federal Communications Commission (FCC) confirmed final details of its next spectrum auction, with the process scheduled to begin on 29 July and focus on allocating blocks in rural parts of the country.

The regulator expects to offer 8,000 flexible use county-based overlay licenses, though noted it still had some pending applications from communities given priority access to the bands, which could slightly reduce the number available.

Alongside publishing the date and final details of the auction, the FCC also launched a mapping tool able to identify the location and scale of unassigned spectrum in specific areas.

Rosenworcel stated the "2.5GHz band auction can help deliver on the promise of 5G services and ensure that it reaches as many people as possible," emphasizing it provided an "opportunity to fill in some of the critical 5G gaps in rural America".

The sale will commence less than nine months after operators pledged to spend around $22 billion on licenses in the 3.45GHz to 3.5GHz range, in a sale lauded as being one of the highest grossing in the country's history.

German operators fill 2,000 4G coverage gaps:

Deutsche Telekom and Vodafone Germany announced they closed more than 2,000 4G coverage gaps in the country as part of ongoing efforts to improve mobile network connectivity through various collaborative agreements including network sharing.

In a statement, the operators noted they plan to close more than 3,000 so-called 4G grey spots under an agreement signed a year ago, with more locations to be addressed by the middle of the year.

Grey spots are defined as areas in which not all operators can offer their customers mobile network access. These areas often pose financial challenges around setting up and operating separate infrastructure using an operator's own network technology.

The German operators have been tackling coverage gaps through the deployment of multi-operator core network (MOCN) technology which allows access nodes to be shared between two or more operators.

Deutsche Telekom reiterated network sharing will remain limited to selected rural areas, with each operator continuing to invest in its own infrastructure in more competitive areas.

In addition to Vodafone, Deutsche Telekom also collaborated with Telefonica Deutschland on closing grey spots in several hundred sites.

Vodafone formed a separate agreement with Telefonica.

The trio joined forces in 2019 to coordinate construction of 6,000 new sites to close so-called white spots, areas where no operator is present.

In mid-2021, Germany's Federal Ministry for Digital and Transport (BMDV) stated more than 99.9 per cent of households and 97.5 per cent of the nation's territory had access to LTE networks.

Italy establishes €2B 5G fund:

Italy's government made more than €2 billion available to help boost the deployment of 5G and connecting fibre networks in underserved areas, its latest move to boost access in the country.

Infratel Italia, the agency in charge of managing the two linked projects, stated the aim is to connect more than 10,000 existing mobile sites with fibre and create new 5G

sites in over 2,000 areas of the country with download speeds of up to 150Mb/s and uploads of 50Mb/s.

The latest funding comes on top of the €3.7 billion announced in January to help boost deployment of 1Gb/s broadband service.

Funds will come from Italy's Recovery and Resilience Plan, the nation's Programme under the European Union's Recovery and Resilience Facility which aims to mitigate the economic and social impact of the Covid-19 (coronavirus) pandemic.

The latest move by the government comes during a flurry of activity among Italy's network operators as they grapple with increasingly competitive market conditions.

For example, Iliad Italia and WindTre are in talks on a network-sharing agreement for 5G deployment in remote areas of the country.

Telecom Italia is also set to explore a possible tie-up with state-backed company Open Fiber, and will start formal talks to assess a €10.8 billion non-binding offer for the group by KKR.

Vodafone Group, meanwhile, snubbed a preliminary offer by Iliad Group and private equity company Apax Partners to acquire its operation in Italy.

Open signal notes pressure on T-Mobile US speed crown

Research by network metrics company Open signal suggested Verizon and AT&T now have the required mid-band spectrum to close the gap on T-Mobile US for fastest 5G download speeds in the nation after deploying C-Band earlier this year.

In a report released yesterday (29 March), Open signal placed T-Mobile download data rates at 225.5Mb/s Verizon's C-Band at 211.8Mb/s and AT&T 160Mb/s.

For uplink C-Band or mid-band rates, results from Open signal's users showed AT&T and Verizon neck and neck at 18.5Mb/s and 18.2Mb/s, respectively with T-Mobile at 20.7Mb/s

Verizon's C-Band spectrum activation has also changed the overall 5G download speeds beyond mid-band.

The operator's rates increased from 55.7Mb/s to 70.6Mb/s after it deployed C-Band, but T-Mobile still has a commanding lead with an average 5G data rate more than double that of Verizon's.

By contrast, AT&T's initial C-Band launch is yet to have a widespread impact on its 5G users' national experience, Open signal's data showed.

There are a few caveats to Open signal's research: AT&T initially deployed C-Band in just eight markets, while Verizon announced in January it planned to deploy across 1,700 markets.

Expansion

Earlier this month, Verizon stated it planned to deploy its C-Band and mm Wave-powered 5G ultra-wideband service in 30 more cities this year. It plans to cover at least 175 million people with the service by end-2022.

Verizon strengthened its hand through agreements with satellite providers for early clearance of C-band spectrum to enable the expanded availability.

AT&T's 5G speeds will likely improve as expands mid-band deployments over the rest of this year using C-Band and 3.45GHz to 3.55GHz spectrum it bought during a Federal Communication Commission auction in January.

While AT&T and Verizon's C-Band spectrum is largely in the frequency range of 3.7GHz to 3.8GHz, Open signal used T-Mobile's 2.5GHz band for the comparison because the operator is employing it along similar lines.

The research company also noted T-Mobile had a head start because it deployed 5G on the frequency two years ago.

Scotland to see two new '5G hubs' amid acceleration of high-speed tech

The Scotland 5G Centre said it was continuing to expand its S5GConnect program by launching hubs in Aberdeen and Kilmarnock.

It marks the fourth and fifth S5GConnect ventures, following the announcement of hubs in Forth Valley, Dundee and Scotland's first rural hub, in Dumfries.

These new innovation hubs will continue to support economic growth through the deployment and adoption of 5G technology, supported by a £4 million investment from the Scottish Government.

Based in ONE Tech Hub, the new hub in Aberdeen is a partnership with Opportunity North East. In Ayrshire, Halo Kilmarnock will be the lead partner and the hub will be hosted in the Halo Enterprise and Innovation Centre.

Since launching the first three hubs, Scotland 5G Centre has engaged with more than 400 businesses on the transformational benefits of 5G technology.

The new hubs will promote innovation and investment, focusing on sectors relevant to the Ayrshire and Aberdeen economies, including energy, offshore and ports.

Paul Coffey, chief executive of the Scotland 5G Centre, said: "Announcing two further S5GConnect hubs is a significant step forward in this innovative new Programme.

"Our expanding hub network will unlock growth and innovation, augmented through 5G network capabilities, and re-imagine customer processes and outcomes through data, artificial intelligence and machine learning.

"Acting as a catalyst to place Scotland at the forefront of digital connectivity, each hub will build on regional engagement, job creation and skills development by supporting key sectors and businesses."

Jennifer Craw, chief executive, Opportunity North East, said*: "Locating the S5GConnect Hub within ONE Tech Hub provides businesses and tech developers with the opportunity to demonstrate, develop and apply 5G connectivity in new applications and ensure the region's key sectors continue to be at the forefront of digital and technology developments and further strengthens ONE Tech Hub as the forum for the digital ecosystem."*

Marie Macklin, founder and executive chair of the Halo, said: *"We're really pleased to welcome a Scotland 5G Centre Connect Hub to the Halo Enterprise and Innovation Centre.*

"The Halo is setting the standard for low carbon energy sites across the UK, offering a state-of-the-art environment for entrepreneurs specializing in green growth by building a sustainable community powered by renewable energy.

"Hosting a Scotland 5G Centre connect hub here at the Halo will further enhance our community approach to providing digital and cyber jobs with skills development, economic growth and access to employment opportunities."

Economy secretary Kate Forbes added: "*These new 5G innovation hubs will help boost the economy and encourage entrepreneurship in Aberdeen and Kilmarnock.*

"The S5GConnect hub Programme is playing an important role in unlocking the power of 5G technologies, helping small and medium sized enterprises with the skills they need to understand how 5G can benefit their business.

"This transformational technology could provide Scotland with competitive advantage and, most importantly, improve quality of life for citizens and businesses across the country as we rebuild a sustainable economy with good jobs at its heart.*"*

Nokia and Etisalat UAE, from e&, to launch 5G private wireless networks to support enterprise digital transformation

Nokia announced it has signed an agreement with Etisalat UAE, the telecoms pillar of e& in the UAE, to deploy 5G private wireless networks to support enterprises across Abu Dhabi. The two companies will work together to support businesses in various industries, including ports, oil and gas, government and critical infrastructure, by digitally transforming their operations and embracing Industry 4.0 through 5G use cases.

Nokia and Etisalat UAE will offer a variety of solutions, including Mobile Edge Computing (MEC), Modular Private Wireless (MPW) and Nokia Digital Automation Cloud (DAC), to meet the diverse needs of various enterprises. In addition, the frame agreement includes Nokia Group Communications with push-to-talk and push-to-video capabilities, as well as Enterprise Voice Core (EVC). Nokia and Etisalat UAE will be able to develop 5G-enabled use cases to support digital transformation and improve operational efficiency across multiple industries with this broad set of solutions.

To demonstrate these use cases to enterprise customers, a 5G private wireless network based on the Nokia DAC platform has been installed at the Etisalat Innovation Centre in the operator’s Abu Dhabi headquarters.

Khalid Murshed, Chief Technology and Information Officer at Etisalat UAE, said: “We are committed to supporting the government's vision to accelerate digital transformation of businesses so they can capture emerging opportunities. This collaboration with our long-term partner Nokia is in line with this vision and will provide our customers with best-in-class solutions. 5G private wireless networks will allow them to boost productivity, enhance operational efficiency, and grow revenue while improving customer experience."

Rima Manna, Vice President of Middle East Business at Nokia, said: “With over 75 5G and more than 420 private wireless customers around the world, Nokia offers field-proven technology and expertise in the 5G private wireless networks domain. Etisalat is a leader in innovation, and we look forward to collaborating on this initiative to provide industry-leading solutions to help enterprises across the country on their digital transformation journeys. This partnership will assist Etisalat in increasing revenue while leveraging 5G spectrum and deployment.”

China Unicom chief pegs joint 5G capex savings at $33B

GSMA POST MWC22 SHARING: China Unicom chairman and CEO Liu Liehong (pictured) highlighted the vast financial and energy reductions a 5G network built jointly with China Telecom had delivered to date, placing the total combined capex savings at $33 billion.

Liu boasted the shared network also saved the operators $3.1 billion in opex and 17.5kWh of electricity in 2021. Jointly operating 690,000 5G base stations across China reduced carbon emission by 6 million tones, or the equivalent to planting about 3.3 million trees.

China Telecom president Li Zhengmao pegged its total capex savings at $16 billion and opex reduction at around $1.6 billion a year.

He noted after partnering with China Unicom, its 5G coverage and speeds doubled, highlighting each operator's core network runs independently for differentiated operation of services.

Li added by sharing resources the two were able to quickly build the world's largest shared standalone 5G network, covering all cities and some developed townships.

The number of shared 5G base stations in service is expected to rise by 300,000 to nearly 990,000 by the year-end.

Council of the Czech Telecommunication Office proposes temporary regulation of the wholesale market

Following the comments from BEREC and the European Commission, the Czech Telecommunication Office (CTU) has re-analyzed relevant market No.3 - the wholesale market for access to mobile services. Based on its findings, CTU has launched a public consultation on a new draft analysis with specific proposals on temporary measures.

CTU concluded, in line with BEREC and other expert views, that the market is not an effectively competitive market within a time horizon of up to 2 years. There are undertakings with significant market power and the effects of the 700 MHz auction obligations will not be felt in the meantime. in particular to prevent certain competitors from being squeezed out of the retail market. CTU has launched a public consultation on the draft, which will run until 8 March 2022.

CTU finds that remedies under national or EU competition law are not sufficient to address this issue.

"*The Czech Telecommunication Office is a regulatory authority, so I believe that it must try to influence prices, which are among the highest in Europe, by means of regulation. The law gives us that possibility. Council of the Czech Telecommunication Office did not consider it justifiable to do nothing. We hope that the proposed specific regulatory packages will contribute to reducing prices on the retail market,*" said CTU Council Chair Hana Továrková.

Based on the relevant market analysis, CTU proposes to designate T-Mobile Czech Republic a.s., O2 Czech Republic a.s., and Vodafone Czech Republic a.s. as undertakings with significant market power on this market.

CTU proposes to impose obligations on the three operators to offer two regulatory packages of mobile services in all their current mobile network access contracts (2G, 3G, 4G and 5G). The regulation of the prices of packages will take the form of a prohibition of margin squeeze combined with setting the maximum wholesale price for the regulatory packages. All three mobile network operators will be obliged to provide access on non-discriminatory terms to both packages, including for newly contracted MVNOs. The regulation will be limited in time to 18 months from the day the remedies will come into effect.

End