

Spectrum Policy Trends 2026

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Spectrum Policy Trends

Foreword



The year ahead promises to be one of continued transformation across the connectivity landscape. From expanding coverage in underserved areas to preparing for the next generation of mobile technology, 2026 will bring new opportunities and challenges.



Close collaboration between industry and government, thoughtful planning, and forward-looking regulation will all be important to ensure mobile connectivity drives progress for societies worldwide.

Planning new spectrum capacity will remain a priority in 2026 as 5G matures in leading markets and new launches continue worldwide. Governments considering mobile licence renewals will focus on long-term or indefinite licences to deliver network quality while increasingly shifting toward pricing approaches that better align with long-term connectivity goals. At the same time, greater emphasis on low-band spectrum will help regulators tackle the digital divide by improving rural and deep-indoor coverage.

Direct-to-device (D2D) connectivity is also set to develop, with hybrid mobile and satellite spectrum models supported by a growing number of partnerships between satellite and mobile network operators. As these developments accelerate, regulators will continue shaping the necessary frameworks to oversee D2D services.

At the international level, preparatory work for WRC-27 will intensify, with candidate bands – including 4.5 GHz and 7 GHz - under study for future IMT use to deliver the 200-400 MHz channels needed for 6G. MSS allocations and D2D applications are also being considered alongside their potential harmful interference to mobile networks.

The mobile industry, alongside government and regulatory experts, is laying the long-term foundations for the deployment of 6G networks in the 2030s. Understanding future spectrum requirements has become critical for operators, the wider mobile industry, regulators and policymakers.

Supportive regulatory frameworks help unlock the socio-economic benefits of mobile connectivity. When governments provide long-term stability and encourage sustained investment, mobile networks can expand, improve in quality, and deliver the digital infrastructure that helps economic growth, productivity, and innovation.

With the right spectrum regulation, mobile connectivity can continue to expand opportunities, empower communities and fuel digital growth worldwide.

Luciana Camargos, Head of Spectrum, GSMA

Spectrum Policy Trends

5G to reach maturity in leading markets as launches continue



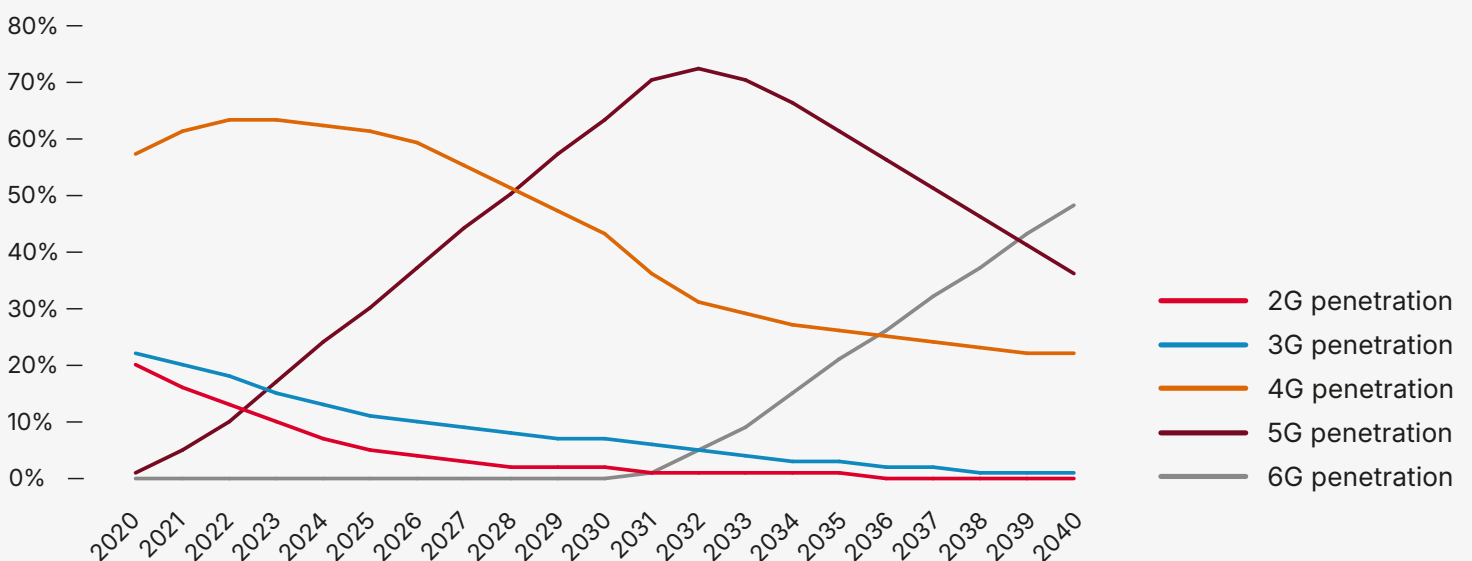
Nearly eight years on from the first commercial launches, 5G deployment is starting to mature. As a result, the pace of 5G launches is starting to slow, with 375 networks already launched globally by the end of 2025. Adoption varies regionally and the busiest areas for the next wave of 5G deployments are likely to be in Africa as well as island nations. 5G's maturity in early-adopters has seen MNOs developing their networks as data consumption increases in line with network quality. Operators continue to require access to sufficient low-, mid-, and high-band spectrum to deliver affordable, high-quality 5G for smart cities, high-capacity enhanced mobile broadband, and enterprise digitalisation.

Why does it matter?

5G is expected to continue developing into the 2030s, while growth in the second half of this decade will see 5G connections surpass 4G by 2028. Higher 5G adoption will help deliver capacity for increasing consumer demand as mobile traffic is expected to grow by 15-20% in the period up to 2030. However, the migration of operators and consumers to 5G and higher-speed networks will also drive traffic growth in itself as users become accustomed to consistent speeds and higher network quality.

Ensuring 5G capacity delivers connectivity in all areas will enable secure public networks and provide economic growth. New functionality will continue to develop through 5G-Advanced and 5G will remain a platform for innovation that will drive mobile into the 2030s. However, the speed, reach and quality of 5G services continues to depend on governments and regulators supporting sufficient, affordable spectrum access.

Market penetration by technology, 2020–2040



Source: GSMA Intelligence

Note: Market penetration is calculated by dividing number connections by total population.

What are the policy considerations?

Full-power, licensed spectrum has been important to 5G's success. It enables wider coverage areas, helps provide high-quality service, and drives network investment. To deliver the full range of 5G use cases, operators need access to spectrum across low, mid-, and high bands.

Low-band spectrum (below 1 GHz) ensures digital equality by providing rural and deep indoor coverage, while mid-bands (1–8.4 GHz) deliver city-wide capacity and support applications like smart cities and advanced manufacturing. High bands (above 24 GHz) offer ultra-fast speeds and low latency for high-capacity hotspots, complementing the broader coverage of lower bands.

Regulators can support growing demand through clearing and harmonising prime bands, aiming for at least 100 MHz of contiguous mid-band spectrum per operator at launch, while expanding low-band capacity.

Long-term, technology-neutral licences and flexible-use frameworks encourage sustained investment. Voluntary spectrum sharing can improve efficiency, although it does not reduce overall spectrum needs. Excessive spectrum pricing slows deployment and reduces coverage: linking licence conditions to achievable roll-out targets instead can help enhance connectivity.

What to expect in the year ahead

As 5G adoption becomes more widespread, and operators and consumers migrate to 5G and higher-speed networks, data traffic increases. Markets with higher 5G penetration show greater data usage – up to 2.5x more where 5G accounts for at least 30% of connections, and nearly 4x more in markets with download speeds above 250 Mbps. However, demand in many countries remains constrained by network capacity issues.

Spectrum assignments for 5G launches will continue in the remaining countries, while many are already looking to expand spectrum capacity to avoid future constraints. North and Sub-Saharan Africa have shown significant progress in deploying 5G networks, and more assignments in 3.5 GHz are expected in 2026. Fiji started assigning spectrum for 5G in 2025 and other island nations, including in the Caribbean, are expected to follow this trend.

Southeast Asian countries have ambitious plans to amplify assignments in the 700 MHz, 2.6 GHz and 3.5 GHz bands, following success in Vietnam. Spectrum refarming from legacy 2G and 3G networks to 5G is also expected to continue.

The upper 6 GHz band will continue to support 5G deployment in some countries, while it will be used later for 6G in others. More countries are expected to release 6 GHz plans in 2026 while the band will be gradually brought into use this year ahead of full commercial deployments in 2027. Following assignments in the UAE and Hong Kong, India and Brazil have announced ambitious auction plans.

2026 could also see more spectrum roadmaps emerging, combining long-term planning with clearer pathways to release bands that have already been identified but not yet assigned. This creates the potential for additional capacity across bands such as 600 MHz, 700 MHz, 1500 MHz, 2.3 GHz and 2.6 GHz, as well as further expansion in 3.5 GHz and 6 GHz.



Policy in practice: The US unlocks 800 MHz of mid-band spectrum

In July 2025, the US took a major step to boost its supply of mid-band mobile spectrum, passing legislation to identify an additional 800 MHz by 2034, with much of it required to become available sooner. This is a significant initiative to commercialise mid-band spectrum and allow the US to keep pace with global leaders.

Spectrum licensing in the US has been grounded on the principle of fair auctions to deliver pricing signals for the value of spectrum. Market-driven secondary trading also supports spectrum efficiency. Perpetual spectrum licences give regulatory certainty for operators to invest, and the country was a first-mover on 600 MHz spectrum, which has contributed to high levels of 5G coverage and use. 5G FWA is also a robust and growing market segment.

The new legislation provides clear guidance on the future availability of mid-band spectrum by clearing up at least 800 MHz new spectrum, with the majority (500 MHz) to be found from current federal users. At least 100 MHz will come from 3.98–4.2 GHz and the rest from elsewhere in the 1.3–10.5 GHz range.

Towards the end of 2025, the US set out its vision for 6G. This included studying the reallocation of incumbent services in the 7.125–7.4 GHz frequency range for full-power commercial licensed use. Studies will also consider portions of the 2.69–2.9 GHz and 4.4–4.94 GHz frequency ranges.¹

¹ The White House (19 December 2025). [Winning the 6G Race](#)

Spectrum Policy Trends

Spectrum assignments and renewals to support connectivity goals



Connectivity is a cornerstone of every nation's digital ambitions, prompting governments and regulators to adopt innovative spectrum pricing and licensing approaches that encourage investment in connectivity and coverage. Nationwide connectivity objectives, such as better network quality and wider coverage, will help shape spectrum pricing and licensing decisions.

In 2026, spectrum licensing will be shaped by three major trends: widespread licence expiries, evolving renewal practices, and shifting pricing models.

Why does it matter?

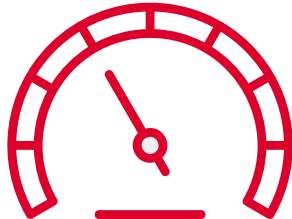
Over the last decade, mobile service costs have reduced as more people are brought into the digital community. Access to affordable, well-managed spectrum can expand digital inclusion and unlock mobile's full potential but spectrum costs have not reduced in line with pricing. Low spectrum costs directly improve network rollout and service quality: a 10-percentage-point (pp) decrease in spectrum cost-to-revenue ratios results in up to 6-pp more coverage and 8% faster download speeds.

Transparent, technology-neutral licence renewals help maintain investment certainty, since spectrum access drives long-term infrastructure planning. Spectrum is a finite national asset and aligning pricing and licensing with broader connectivity goals, such as coverage obligations and affordable access, ensures networks expand into underserved areas and deliver socioeconomic benefits at scale.

The impact of a 10-percentage point spectrum price increase compared to revenue



↓ **6-percentage point**
Lower coverage



↓ **8%**
Lower speeds

Source: GSMA Intelligence

What are the policy considerations?

Regulators are increasingly adopting transparent processes and innovative renewal mechanisms, such as zero-cost extensions tied to coverage obligations, to align with national connectivity goals.

Pricing strategies are also evolving, with governments moving away from high upfront fees toward models that incentivise investment in underserved areas. This shift reflects the need to balance affordability with long-term network expansion as operators plan for 5G growth.

Regulators can support the delivery of better service quality by ensuring renewal decisions are made five years ahead of the renewal date. Continued network development is required to support growing consumer and business needs, but operators may not invest in their networks if there is uncertainty over future spectrum rights. Uncertainty can be further minimised by creating a presumption of renewal unless a breach of licence condition has occurred, a fundamental reallocation of spectrum or a new service is required, or an overriding policy need arises.

Pricing recommendations

New spectrum

1. Regulators should not anchor administratively set prices to historical prices and outdated benchmarks.
2. Setting reserve prices at a low level allows room for price discovery and minimises the risk of unsold spectrum.
3. Making all spectrum allocated to mobile services available to operators ensures there is no artificial scarcity and supports better outcomes for consumers.
4. The cost of meeting obligations or investment commitments attached to spectrum licences should be reflected in their price.

Licence renewal

1. Fees should not be linked to historical spectrum prices, given the decrease in underlying value.
2. Renewal fees contribute to the build up of spectrum cost and can have negative impacts on consumers. A spectrum trading framework can provide the same incentives without imposing additional costs.
3. Regulators can consider renewals in exchange for investment commitments for coverage or quality of service.
4. Alternatively, administrative review can be the most cost-effective way of ensuring that spectrum remains in efficient use.

What to expect in the year ahead

Licences in 43 markets will expire in 2026, mainly in Europe, followed by APAC, Latin America, and MENA. Most expiries are in the 900 MHz, 1800 MHz and 2100 MHz bands, which are important for coverage and capacity and commonly refarmed during 2G/3G sunsets.

The Digital Networks Act (DNA) in Europe, which will take shape throughout 2026, is an opportunity to reset how Europe manages spectrum for the years to come. In particular, longer licence durations and predictable renewals are part of the proposal.

Best practice of prioritising overall policy goals regarding connectivity growth will continue to grow as governments

seek to digitalise their economies. Zero-cost renewals and coverage-based obligations will become more common as long-term connectivity development is backed by governments to deliver GDP growth.

Operators will assess the impact of new pricing frameworks and coverage obligations on long-term strategies. Where commitments are not realistic, spectrum may remain unsold or underused. Regulators will continue to align spectrum prices for future development, avoiding outdated benchmarks. Between 2025 and 2030, nearly 1,000 licences will expire globally, creating further opportunities to rationalise pricing and support efficient spectrum use.

Policy in practice: Spain enables long-term investment

The Spanish government, seeking to align domestic regulation with the European Electronic Communications Code (EECC), commissioned a review of licence renewals. Based on the findings, all existing licences were extended by 10 years, up to a maximum of 40 years since the date of the first award. No additional costs, obligations or charges were involved, beyond the continued payment of existing annual fees.

The review found no alternative spectrum uses that could deliver greater or similar socioeconomic benefits. Extension ensured the most efficient use of spectrum while minimising administrative costs. The government expected that cost-free renewal will mean “savings of hundreds of millions of euros for operators, which can be invested directly in deployment and innovation”².

Beyond cost savings, licence extensions provide certainty of access, enabling long-term investment planning. This is particularly important for bands expiring before 2030 that are likely to be refarmed for 5G, which reached 91% population coverage in Spain in 2024.

² The Ministry for Digital Transformation and Public Service (20 June 2024). [The Government extends radio spectrum concessions to operators to encourage investment in new technologies](#)

Spectrum Policy Trends

Digital inclusion policies will require focus on low bands



Low-band spectrum is a driver of digital equality, helping reduce the digital divide between urban and rural areas by delivering capacity across wide spaces. Regulators aiming to bridge this divide are starting to focus again on improving access to sub-1 GHz spectrum.

In low- and middle-income countries (LMICs), adults in rural areas are 28% less likely to use mobile internet than urban users. Among mobile internet users, rural populations record a lower intensity of use and are 30% less likely to regularly engage in key activities such as instant messaging, online calls and accessing services such as banking or education. Despite coverage improvements, these gaps limit access to economic growth and other societal benefits.

Why does it matter?

As mobile is rolled out using mid-bands such as 3.5 GHz across urban areas, covering wide rural areas with the same quality of service remains a challenge. Sufficient low-band spectrum will help give rural communities access to the latest digital technologies.

Low-band spectrum is essential for mobile because it enables wide rural coverage and deep indoor penetration in urban areas, ensuring connectivity for both remote communities and hard-to-reach city environments. The volume of low-band spectrum is important as download speeds are directly linked to the volume of spectrum

available. Communities that rely on low bands will get access to faster connectivity if new low bands like 600 MHz or below (such as 500 MHz) are developed for mobile use.

Mobile connectivity delivers significant social and environmental benefits, helping to reduce poverty, improve education and health, enhance well-being, and expand access to jobs and financial services. Ensuring adequate low-band spectrum extends these benefits to rural and underserved areas – where typically economic prospects are already lower.

What are the policy considerations?

Replanning spectrum below 700 MHz is a lengthy process. Policymakers are considering additional low-band frequencies as part of their long-term planning to address the digital divide. To promote digital equality, regulators can harmonise and release additional low-band spectrum alongside mid- and high-band allocations, making it available under affordable conditions that support network rollout in underserved regions.

International negotiations have taken place at recent World Radiocommunication Conferences (WRCs) to expand low-band access for rural communities and ensure they have better access to digital services. This has included the wide harmonisation of 700 MHz, the development of 600 MHz and consideration of the future of low-band spectrum beyond this, such as 500 MHz.

WRC-23 considered further UHF low-band spectrum and began to develop the international agreements to support widespread use with both primary and secondary allocations. WRC-27 represents an opportunity for more countries to sign into existing footnotes throughout the UHF band and also consider the full scope of a new item on the agenda for WRC-31 to finalise the issue in EMEA. In APAC, existing allocations support increased low-band use, and this has seen the development of the n104 band plan (allowing for an expanded 2 × 40 MHz assignment in 600 MHz) by some Asian markets. Expansion of existing footnotes can support development in the Americas.

WRCs can deliver interference-free coexistence in low bands and lay the foundations for harmonised future spectrum use. Lasting impact will depend on political commitment to improving connectivity in rural and underserved communities. By pursuing policies that genuinely level up all parts of their countries, governments can ensure that those most in need are not left behind.

An additional 50 MHz of spectrum in bands below 1 GHz is linked:



What to expect in the year ahead

Digital inclusion will continue to be a priority in countries across the world in 2026. The Baku Declaration, adopted at the ITU WTDC in 2025, underscored the importance of new and emerging technologies for societal development and how investment in connectivity can tackle the usage gap.

While 700 MHz has dominated low-band 5G rollouts so far, the 600 MHz band is starting to pick up momentum and is expected to expand in 2026. The US and Canada have already licensed the band and use it heavily for 5G, while Saudi Arabia and the UAE have also developed 600 MHz as the first countries in EMEA to do so.

Changes to broadcast networks are at different stages across the world. Some countries are looking to the final sunset of digital terrestrial TV, while other markets are looking to realise their first digital dividend through analogue switch off. However, all these actions will have the net result of freeing up low-band spectrum and those at later stages of development can benefit from lessons learnt over the past 30 years of digital TV and ensure the maximum dividend is made for mobile at the onset.

Policy in practice: Saudi Arabia reallocating the 600 and 700 MHz bands from incumbent users as a driver of technology evolution

At WRC-23, the whole of EMEA (ITU Region 1) discussed the development of low-band spectrum. Varied levels of use and development led to a fragmented approach in the EMEA region as a whole, with countries from the GCC gaining a primary allocation and IMT identification but others gaining a secondary or no allocation. However, the creation of a regional bloc within GCC countries was critical in allowing rapid local moves.

In 2024, Saudi Arabian regulator CST reallocated spectrum to mobile from incumbent users, such as terrestrial TV and amateur radio, and made 1300 MHz of licensed low- and mid-band spectrum available to the national mobile operators, including the 600 and 700 MHz bands. This pipeline has successfully contributed to early 5G network deployments, high levels of adoption and some of the highest download speeds globally.

As a result, Saudi Arabia became the first country in the EMEA region to award the 600 MHz band for mobile. The UAE has also assigned the 600 MHz band subsequently (having already made 700 MHz available).

Low-band signals propagate further meaning that international coordination is an important part of enabling nationwide use of the spectrum. The strength of the GCC regional bloc allowed Saudi Arabia and UAE to move quickly after the WRC, following bilateral negotiations with other neighbours. This regional bloc approach may be adopted in other areas, where groups of neighbouring countries decide to change use along similar timescales to minimise interference issues. Such blocs can then grow and merge as more countries change the use to level up all communities with better mobile connectivity.

Spectrum Policy Trends

D2D: momentum to accelerate in MSS bands



Direct-to-device (D2D) connectivity between satellites and mobile handsets has been high on the regulatory agenda for several years and business models are evolving rapidly. The regulatory world knows how D2D using mobile satellite (MSS) spectrum works but is worried that a lack of compatible handsets will prove a barrier to adoption.

Meanwhile, the concept of D2D using terrestrial mobile spectrum in bands with an IMT identification, through the terrestrial licence holder, is a new regulatory ground. The World Radiocommunication Conference in 2027 (WRC-27) will provide international regulations, but in the interim period, first-mover countries are making their own rules. D2D using mobile spectrum does not have to worry about specialised handsets (standard devices can be used), but keeping existing mobile free from interference is still being discussed.

Why does it matter?

Connecting to D2D requires access to a mobile phone and, normally, a subscription with an MNO that has a D2D contract with a satellite network operator (SNO). D2D can thus potentially be a supplementary service for the 58% of the world's population³ that are connected to mobile by allowing them to stay connected while outside of coverage areas. It can also help connect the 4% of people who do not live within coverage areas ("coverage gap"), providing they can afford device and services costs (this will not be everyone in the 4% coverage gap).

However, D2D will not have a significant impact on reducing the "usage gap" of 38% of the global population that live within the footprint of a mobile network and are not using it due to issues including affordability and digital literacy. Addressing both the lack of coverage and usage will be important to expand connectivity and address digital divides. Satellite's strength lies in its ability to reach remote areas. It cannot provide the capacity that terrestrial mobile networks can deliver, but with the correct regulation, D2D can supplement terrestrial mobile coverage.

What are the policy considerations?

SNOs may be looking at hybrid offerings through both forms of D2D – using MSS or mobile spectrum – but their regulation still differs. MSS bands have an existing international framework but using mobile spectrum requires new agreements to be made internationally, and domestic regulation to be put in place.

D2D using mobile spectrum is being permitted by regulators through the terrestrial spectrum licence. This means the rights of use by satellite for any given terrestrial band derive from the exclusive rights on MNO licences, through commercial agreements or other authorisation tools as applicable in each country. This approach allows MNOs to decide how best to use their licensed mobile spectrum bands to enable satellite connectivity for subscribers.

The capacity provided by D2D needs to be clearly understood by regulators and their political counterparts. This is not being helped by some of the media coverage on the issue which suggests mobile-like service quality. D2D will provide valuable coverage but it will not provide meaningful data to areas of significant population coverage (which include a lot of rural areas). Free space path loss weakens the satellite signal from space while the large footprint of satellite spotbeams (25km against a maximum of around 2.5km for a low-band mobile cell) limits spectrum reuse. To get any kind of data rate from D2D – say 2 Mbps – the number of people in the spot beam needs to be very small. The GSMA estimates that even with a 12,000-satellite constellation and access to 80 MHz of mobile spectrum, D2D could offer 2 Mbps to only 1.5% of the world's rural population.

3 GSMA (September 2025). [The State of Mobile Internet Connectivity](#)

What to expect in the year ahead

In our 2025 spectrum trends piece on D2D, the GSMA wrote: “Consumers care about service quality – not the underlying technology”. This fact has rung true in the D2D world in the last year where the above distinction between the two types of D2D is being merged at a business level by many of the players.

One year ago, SNOs largely had assets for one or other form of D2D – using MSS or mobile spectrum (IMT) – but that has shifted. The SpaceX purchase of Echostar’s S-band spectrum hit the headlines, but the associated purchase of its S-band satellite filings was perhaps even more critical and together they will give the company a choice of spectrum to offer service from. AST Space has also made moves in MSS spectrum while two smaller players – Lynk and OmniSpace – have merged their respective mobile spectrum and MSS approaches under their significant shareholder SES Global.

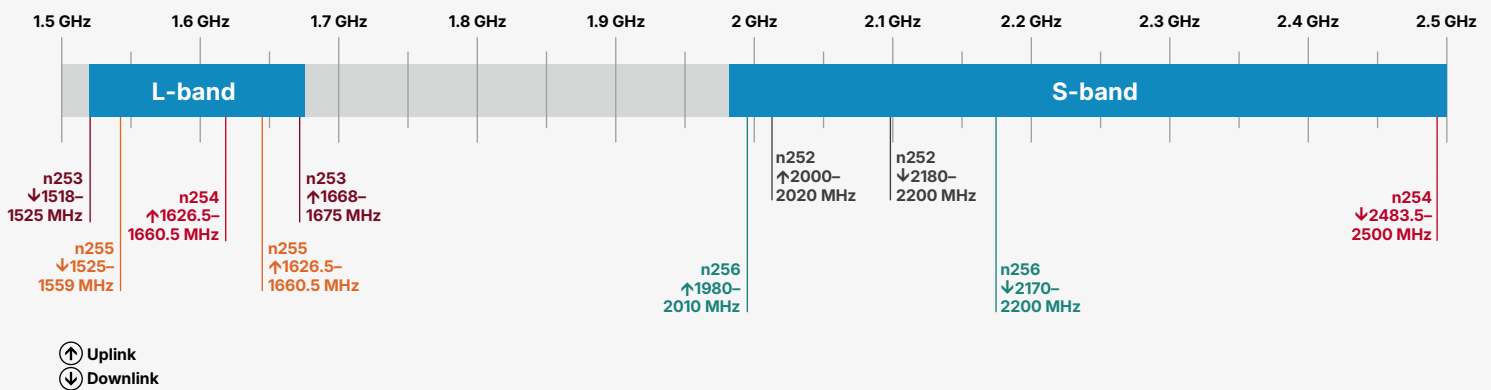
It is likely that the 2 × 30 MHz of S-band MSS spectrum around 2.1 GHz will continue to be an area of focus. Both SpaceX and AST have acquired filing rights to this spectrum at the ITU, but its local assignment will also be important. In Europe, the current spectrum licences (ViaSat, through its Inmarsat purchase, and Echostar) expire in 2027. While these were originally

sold as complementary ground component (CGC) spectrum, Inmarsat has partnered with Deutsche Telekom to provide the European Aviation Network, while Echostar has provided some enterprise connectivity. The reworking or renewal of these licences are likely to include D2D – not so much complementary ground component as supplementary space component.

While satellite filings at the ITU give rights to provide connectivity in space, they do not give rights to land and regulators around the world will have to decide on the best way of giving access to this spectrum. Satellite operators have traditionally paid administrative fees for in-country access, but will we see these S-band landing rights considered a scarce resource coupled with competitive bidding? This approach to auctioning landing rights is certainly being considered by some regulators.

What is certain is that more MNOs will be signing deals with satellite operators to extend their coverage this year. Some will do this to fulfil coverage requirements in very low population areas. Others will associate the services with premium subscriptions, offering their subscribers SMS/SOS and low-bandwidth data services in areas they do not currently cover, such as national parks or territorial waters.

MSS spectrum





Policy in practice: Australia's regulatory approach to D2D services

Australia has adopted a cautious, licence-centric approach to the introduction of D2D. The Australian Communications and Media Authority (ACMA) has stipulated that satellite-based D2D operations must be conducted under the terms and conditions of an existing terrestrial mobile licence, with the mobile network operator retaining full regulatory responsibility.

ACMA's position emphasises that terrestrial spectrum licences confer rights and obligations that cannot be bypassed by satellite operators. Use of mobile spectrum for D2D therefore requires agreement with the terrestrial licence holder, with services operating in a manner consistent with licence conditions, including technical parameters, interference management and geographic constraints. This reflects a need to protect incumbent services and ensure that D2D remains supplementary to terrestrial mobile networks.

ACMA has signalled that further consideration of D2D will be evidence-based and incremental, prioritising service continuity and regulatory certainty over rapid market entry.

Their approach closely mirrors the US Supplemental Coverage from Space model, particularly in its reliance on mobile operator consent, use of existing IMT licences, and treatment of D2D as a supplementary service in conjunction with a terrestrial network.

Spectrum Policy Trends

Spectrum activity for the 2030s to gather pace



Successive generations of mobile technology have played a central role in expanding connectivity, enabling digital transformation and supporting economic growth. As governments and industry look ahead to the 2030s, standardisation and spectrum policy will shape the next phase of mobile development, widely expected to be defined by 6G.

The WRC-27 will have a significant impact on spectrum decisions for 6G. Its consideration of spectrum for International Mobile Telecommunications (IMT) and its potential to establish harmonised regulatory conditions will influence how effectively future mobile technologies can be deployed at scale.

In the lead-up to WRC-27, administrations are studying several frequency ranges for potential IMT identification, including the 4.5 GHz and the 6–8 GHz ranges. Further spectrum is being considered outside of the WRC framework such as the upper 3.5 GHz band. Together, these bands could provide significant additional capacity in 200-400 MHz channels for future 6G networks and, if combined with new low-band spectrum in the 500-600 MHz bands, can help deliver widespread 6G connectivity.

Why does it matter?

Cities with over 50% of the world's urban population will be capacity-constrained by 2030 if mid-band spectrum remains at today's levels. For its evolution into the 2030s, mobile needs more spectrum capacity. 6G will use 200-400 MHz channels, harmonised as widely as possible. However, finding new bands is more challenging with each cycle as spectrum becomes more congested.

6G is expected to reach 2.1 billion connections by 2035, rising to 5 billion, or 54% market penetration, by 2040. Many of the most common applications of the 6G era are already starting to be used today – such as AI or XR – but 6G will be required to enhance these applications and supply the significant traffic increases. Data growth is still substantial, even in mature markets. In the US⁴, traffic is doubling every two years while the UK⁵ recently announced an 18% increase in 2025 over the previous year.

4 CTIA (September 2025). [2025 Annual Survey Highlights](#)

5 Ofcom (19 November 2025). [Brits devour data at record levels as mobile networks race to improve 5G](#)



What are the policy considerations?

More low-band spectrum is needed to cover wide areas with 6G while the amount of mid-band spectrum available will also need to be increased in all markets. Mid-band spectrum needs in 2035-2040 will vary according to market maturity and population density in the busiest areas, but the average figures will be:



2-3 GHz

Global average



2.5-4 GHz

Higher demand countries

A harmonised spectrum roadmap that delivers the total mid-band spectrum requirements should be developed to enable operators to meet these capacity demands from 2030. To meet this demand, regulators can seek to assign spectrum in 3.8-4.2 GHz and upper 6 GHz to mobile by around 2030 to meet demand and consider 4.4-4.99 GHz and 7-8 GHz beyond that. Demand

for low bands will continue to exceed supply and new assignments are needed for digital equality between urban and rural areas.

By the 2030s, a new era of connectivity will carry its own spectrum requirements, and these bands will represent a potential resource for the next stage in mobile evolution.

What to expect in the year ahead

Spectrum activity for the 2030s is gathering pace.

2026 will be the year when we start to see clear national and regional positions developing for the future of mobile spectrum. Two countries effectively jump-started global momentum for the 7 GHz range while continuing to examine 4.5 GHz. The US, an early adopter, is likely to be first to study 7.125–7.4 GHz after identifying it for mobile use, while India has also included the 7 GHz band in its medium-term roadmap.

The ITU's Working Party programme is moving towards its conclusions for this WRC cycle, and this will help define both how new bands can be used and how widely they are harmonised. Regional blocs such as the Arab Spectrum

Management Group (ASMG), Asia-Pacific Telecommunity (APT) or their counterparts in other regions will begin to define their support for new mobile spectrum. This will keep industry busy as vendors continue development of products – both 5G Advanced and 6G – that have access to the new bands.

7 GHz mobile has now moved out of the laboratory and into the field. Decisions in the next 18 months will decide the extent of its use.

Policy in practice: US and India start 7 GHz development

Just before the end of 2025, two huge markets laid out the clearest plans yet that 7 GHz mobile was making progress. The early-adopting US market and the huge scale of India – itself increasingly seen as a 6G leader – have both brought this new band firmly into play.

The list of potential support goes beyond these markets. In its December decision on 6 GHz, Europe's RSPG laid out the possibility of expanding the upper 6 GHz range further into 7 GHz, while Brazil has also shown interest. Regional blocs are considering the extent of their support in their own WRC process around the world which will become clearer in the next 12 months.

The official announcements from the US and India were perhaps the most noticeable. India will move beyond its recent 6 GHz support to consider the 7 GHz and 4.5 GHz bands pending WRC decisions and has laid this out in its national frequency allocation plan. The US went even further with 7 GHz, with a presidential memorandum titled 'Winning the 6G Race' in December 2025. It tasked its NTIA agency to "immediately begin the process of identifying the band of spectrum frequencies at 7.125-7.4 GHz for reallocation for full-power commercial licensed use cases".

The US will continue studies of 2.7-2.9 GHz and 4.5 GHz, the former made possible by an upgrade programme for airport radar systems using the band. 4.5 GHz is used by government and military systems all over the world, but nowhere more so than the US. The feasibility study, to be carried out by NTIA, may prove a useful guide.



GSMA

1 Angel Lane, London, EC4R 3AB, UK
Tel: +44 (0)207 356 0600
Email: info@gsma.com

