GSMA

Commercialising the 6 GHz IMT Ecosystem

June 2024

Call for 6 GHz Collaboration

6 GHz spectrum can ensure that affordable mobile capacity is available to drive industrial and economic competitiveness in the sustainable, digitalised markets of the future. The mobile industry believes that:

- 6 GHz capacity is required to meet increasing customer demand at speeds outlined in the International Telecommunication Union's vision for 5G, as well as future evolution.
- Mobile networks are already densified, but 6 GHz can enable the growth of sustainable mobile capacity on existing macro-cell sites.
- Timely availability of 6 GHz, at reasonable conditions and price, will drive cost-efficient network deployment, help lower the broadband usage gap and support digital inclusion.
- Mobile networks will need, on average, 2 GHz of mid-band spectrum per country by 2030. This is challenging to achieve without 6 GHz.
- The 6 GHz band at 6.425-7.125 GHz should be made available for licensed, macro-cell mobile.

Therefore, the GSMA and the above stakeholders call on government and industry to work together to support the full development of 6 GHz for mobile, to ensure a spectrum roadmap is delivered for mobile operators, and to put in place clear timelines for equipment and handsets to be ready at scale.

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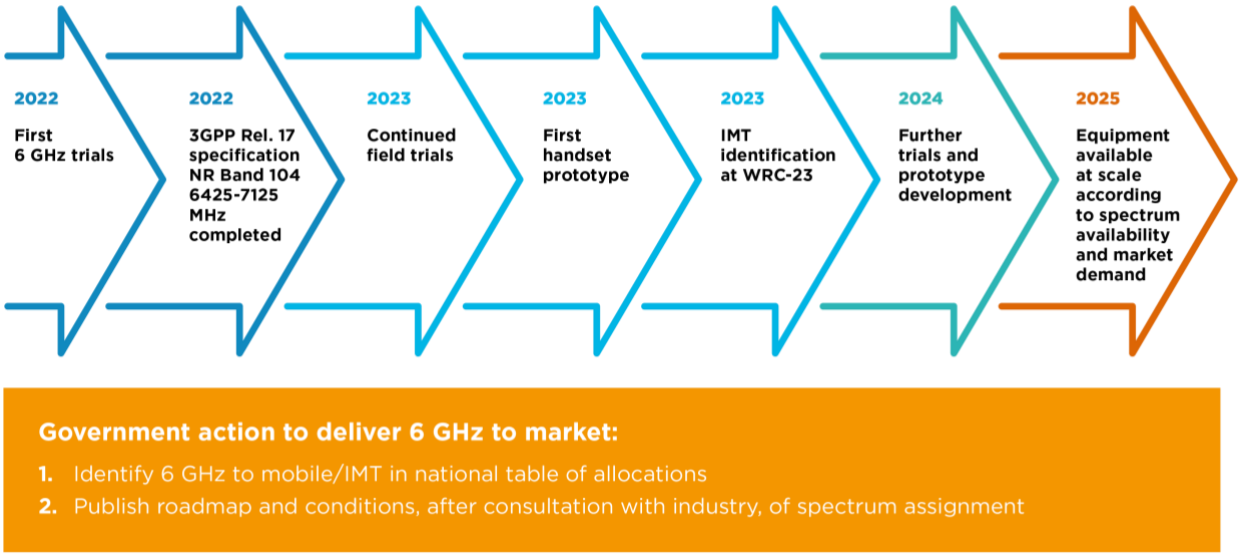
6 GHz Timeline



Government action to deliver 6 GHz to market:

1. Identify 6 GHz to mobile/IMT in national table of allocations
2. Publish roadmap and conditions, after consultation with industry, of spectrum assignment

Government and industry partnership for 6 GHz mobile

6 GHz spectrum will form a critical part of sustainable communications development. The enhanced mobile connectivity enabled by the 6 GHz band in wide-area, macro-cell networks will lay the foundations for inclusive and technology-driven progress in countries across the world and form a vital element of each country's digital ambitions.

5G equipment using 6 GHz has undergone trials for the past two years in countries across the world, reaching peak speeds of 12 Gbps, while the first prototype handset using 6 GHz was tested in late-2023. This marks a huge upward curve in technology development over the 5 years since the first consideration of the band for public communications infrastructure.

Following on from this period of commercial activity, the World Radiocommunication Conference in 2023 (WRC-23) defined the international harmonisation of 6 GHz spectrum. Support for 6 GHz at WRC-23 from countries representing 60% of the global population already guarantees its scale, with additional countries planning to join the global harmonisation at WRC-27.

The emphasis now is on governments and industry to work together and deliver the full commercialisation of 6 GHz for mobile. Government's role is to ensure that the 6 GHz spectrum band is now included in spectrum roadmaps so that industry has clarity on the investment path that will be required for this frequency range.

Conclusion of international agreements

The International Telecommunication Union's WRC-23 opened the doors to a new era of connectivity for all services and laid the foundation for mobile progress into 5G-Advanced and future 6G. The 6 GHz band (6.425-7.125 GHz) was identified for International Mobile Telecommunications at WRC-23 by countries from all regions of the world – Europe, CIS, the Middle East, Africa, the Americas, and the Asia Pacific.

With this international agreement comes an opportunity for countries to take action to develop the use of 6 GHz and align with other major markets in supporting this band for licensed mobile. It represents the largest remaining single block of mid-band spectrum that can be allocated to licensed mobile services in the foreseeable future.

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Critical, Sustainable Connectivity

As connectivity permeates every aspect of industry, smart cities rely on consumer access to seamless, enhanced mobile broadband, and enterprises transition from manufacturing or commerce to also becoming industrial data platforms, mobile networks will require spectrum planning that is integrated into a long-term vision of each nation's industrial future. Licensed 6 GHz capacity will support the transition to Industry 4.0 and enable digital economies to flourish.

The race to net zero will be one of the most important features of the industrial landscape for decades to come and intelligent innovation and automation is now happening everywhere. Net zero will be greatly enhanced by sufficient connectivity and 2 GHz of mid-band spectrum, including 6 GHz, will be required to deliver the International Telecommunication Union's vision for mobile.