

6 GHz IMT will expand capacity and deliver connection speeds to launch a new era of mobile productivity. The enablement effect of mobile communications on the race to net zero can be enhanced by gigabit experiences delivered with lower carbon emissions through minimal densification.

Thanks to the identification for IMT at WRC-23, 6 GHz is now the harmonised home for the expansion of mobile.

The average economic benefit of **FULL-POWER LICENSED MOBILE IN UPPER 6 GHz** is



**GREATER THAN UNLICENSED**

## 6 GHz at WRC-23



The upper part of the 6 GHz band (6.425-7.125 GHz) – was identified for IMT in each ITU Region – EMEA, the Americas and Asia Pacific.



Harmonised technical conditions were agreed on and added to the Radio Regulations.



The next step is for policymakers and regulators to update their spectrum strategies and add the 6 GHz band to their roadmaps.

## Channel Sizes – peak 6 GHz trial speeds



**1.28 Gbps**  
80 MHz channel

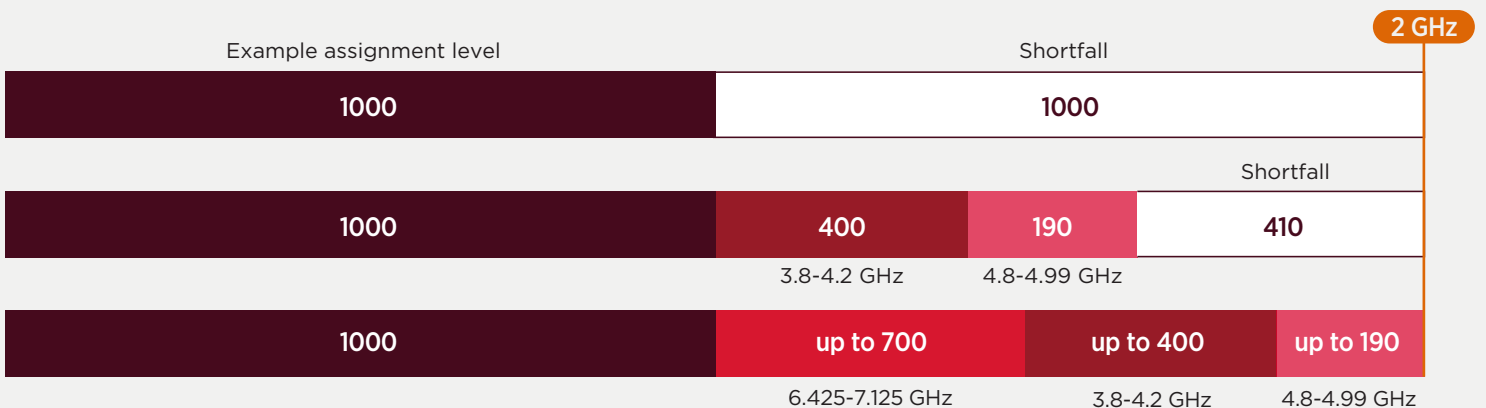


**5 Gbps**  
200 MHz channel



**12 Gbps**  
400 MHz channel

## An average of 2 GHz of mid-band spectrum is required, per country, by 2030



Reaching this is challenging without 6 GHz capacity

## 6 GHz ecosystem



Network vendors



Chipset developers



Radio front-end suppliers

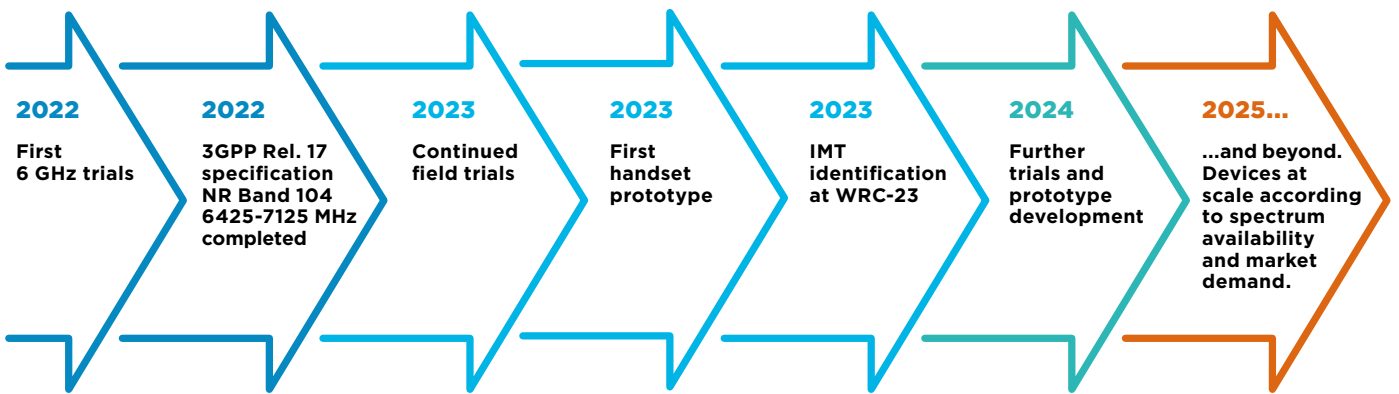


Device manufacturers



Mobile network operators

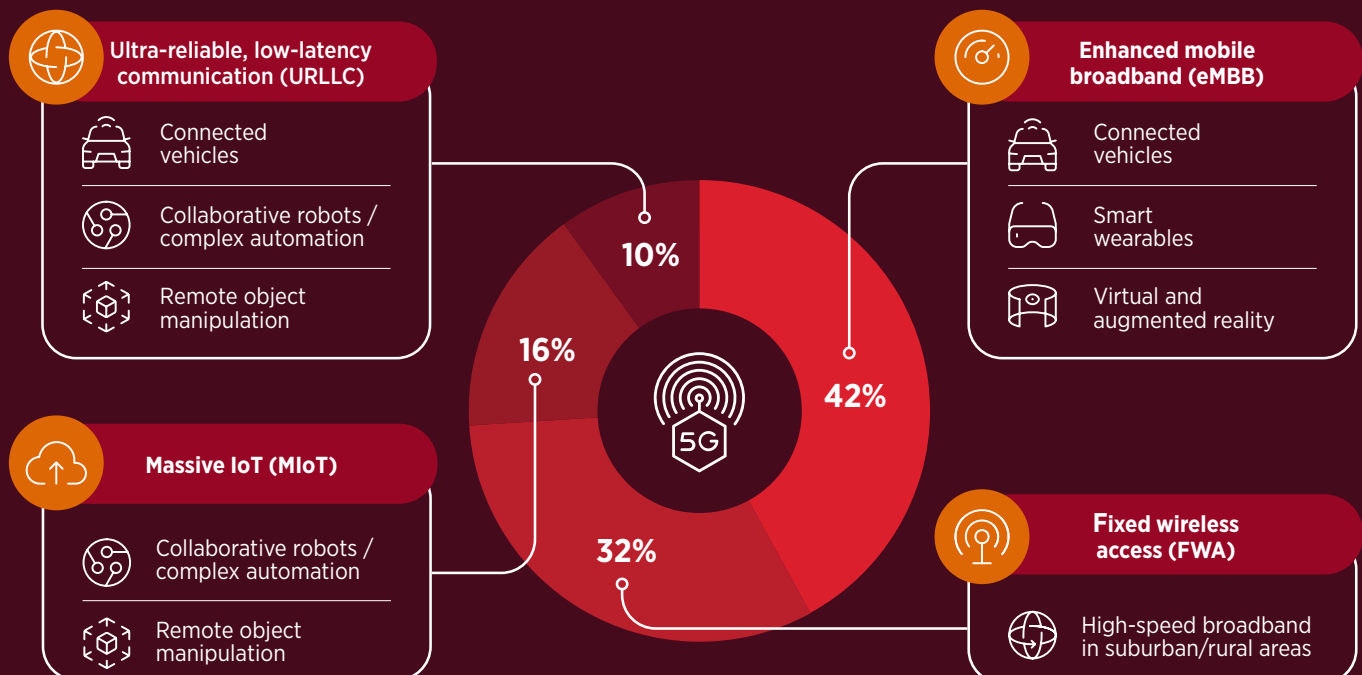
## 6 GHz timeline



### Government action to deliver 6 GHz to market:

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

## Projected global contribution of mid-band 5G spectrum to GDP, by use case



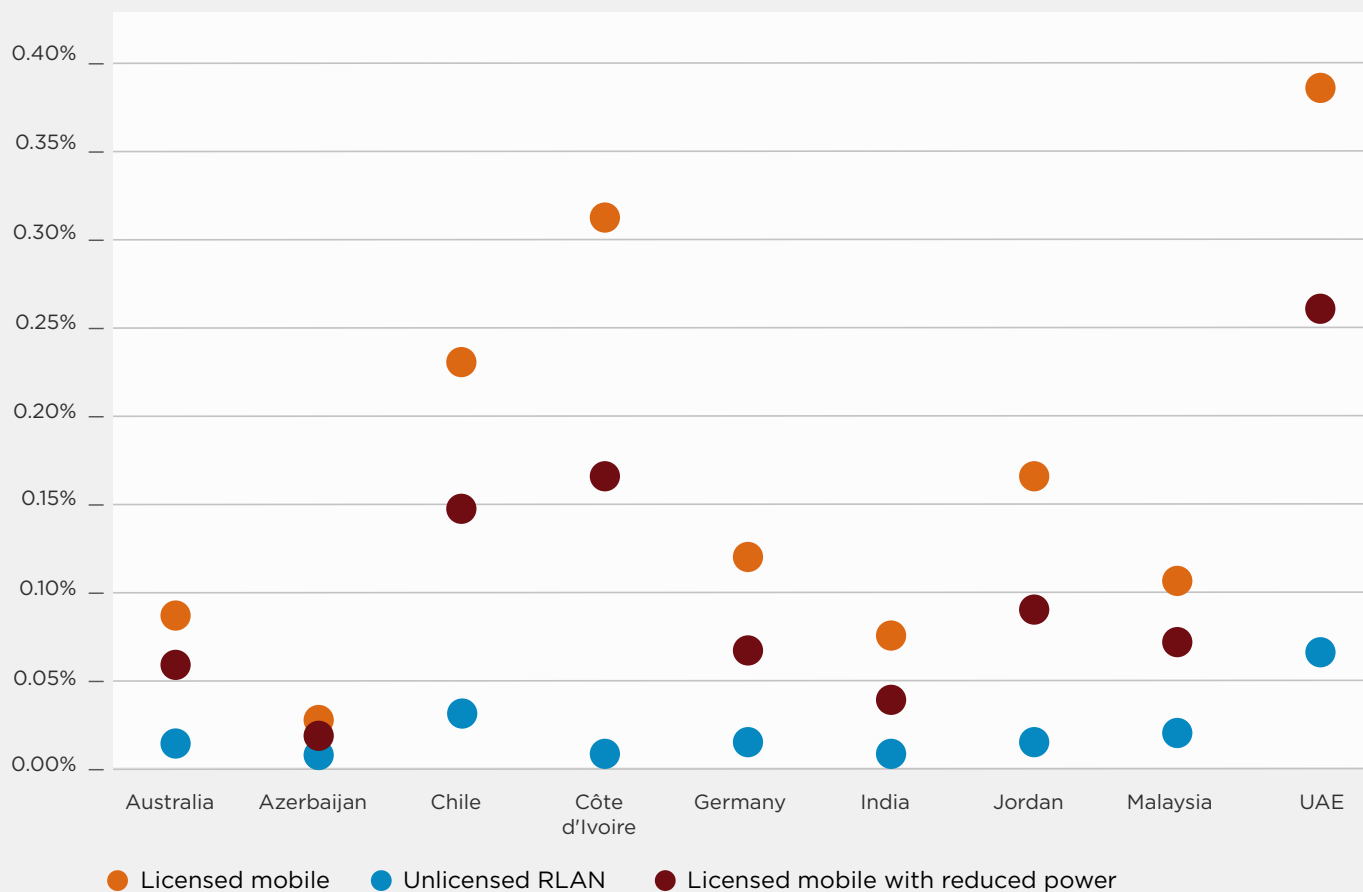
## Global 6 GHz progress



● Countries identified at WRC-23    ● Requested identification at WRC-23

Additional countries are expected to identify 6 GHz at WRC-27.

## Comparison of 6 GHz benefits Proportion of expected GDP in 2035



Source: GSMA Intelligence

Note: The results represent the net present value (NPV) of economic benefits during 2023-2035, expressed as a proportion of expected GDP in 2035 for each country.

# Commercialising the 6 GHz IMT Ecosystem

## 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 support increasing customer demand at speeds outlined in the International Telecommunication Union’s vision for 5G. It will also be required for the future evolution of mobile.
- 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.

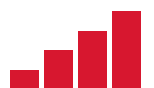
- Mobile networks will need, on average, 2 GHz of mid-band spectrum per country by 2030. This is challenging to achieve without 6 GHz.
- The 6 GHz band at 6.425-7.125 GHz should be made available for licensed, macro-cell mobile.

**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.**



➔ All data and further analysis found at: [www.gsma.com/spectrum/resources/6-ghz-for-5g/](http://www.gsma.com/spectrum/resources/6-ghz-for-5g/)

➔ Read more about WRC-23 spectrum here: [www.gsma.com/spectrum/wrc-series/](http://www.gsma.com/spectrum/wrc-series/)



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