

5G Broadcast for Radio: Securing future-proof, diverse and free-of-charge radio access on all platforms and all mobile devices

Radio's experience today is hybrid, with radio programs being accessible terrestrially via FM and DAB/DAB+ or via fixed or mobile broadband networks using IP streaming.

5G broadcast could enable unprecedented radio and TV consumption on mobile devices: high quality access to the full range of radio programs, anywhere, on any mobile device, at no access or broadband costs. For this to happen, the sub 700 MHz band (470-694 MHz) must continue to be exclusively allocated to broadcast transmissions.

In times of crisis as well as increasing disinformation, radio and TV being a source of trusted information is of vital importance. Broadcasters play a significant public value role, providing reliable news and curated quality content, making a vital contribution to media plurality. 5G broadcast will enable radio and TV to improve its significant public value role of delivering trusted, culturally diverse and, in case of manmade or natural disasters, lifesaving safety information to the public.

What is 5G for radio and why is it important for radio?

5G broadcast combines the advantages of 5G (mobile communications standard) and broadcasting (radio and TV), enabling very high efficiency in terms of spectrum usage, network costs, network coverage and energy consumption. With 5G broadband, inefficient (one-to-one) IP-streaming is replaced by a broadcast transmission (one-to-many). Moreover, this mode of transmission is much more energy efficient than one to one transmission, and will therefore contribute to a significant reduction in CO₂ emissions.

In addition, 5G broadcast offers significant customer benefits: linear radio (and television) services could be received on all 5G-capable mobile devices and at no additional mobile broadband costs, at home and on the move without unnecessarily burdening users' mobile data limits. While currently it is necessary to set up a streaming connection whenever one wants to consume radio or TV via smartphone, with 5G broadcast a smartphone operates like a portable radio or TV set.

Taken together, the technical possibilities, energy efficiency gains and expected customer benefits create significant additional benefits for society. For example, in case of manmade or natural disasters as well as emergency situations, in which the population can mainly be reached via classic radio receivers, 5G broadcast provides a technology to effectively inform citizens via smartphone or other mobile and connected devices, wherever they are, at no additional cost.

Finally, thanks to 5G transmission, radio will be able to continue to innovate and provide listeners with access to news and entertainment content via their smartphones, tablets, smart speakers and connected car systems. Radio will continue to provide diversity of content and pluralism of opinion. This is, in times of crisis and increasing disinformation, especially important. Radio is a vital source of trustworthy information.

Broadcasters play an important public value role in providing reliable news and curated quality content.

Background

Licensed broadcasters make a critical contribution to media pluralism and diversity. With their news services, they make a crucial contribution to safeguarding democratic discourse. In the event of a disaster or an emergency situation, radio is the first - and often the only remaining - medium for informing the public. The COVID pandemic makes it very clear how important quality media, especially radio, are in disaster situations to inform the population.

Furthermore, broadcasters are an important economic input as they create and secure thousands of jobs. To safeguard the future of the radio and TV industry and its services, it is necessary to set a technological course that takes into account the changes in media consumption habits that accompany digitisation.

Securing spectrum in the future

Spectrum is needed for the terrestrial distribution of broadcast content. Traditional radio broadcasting, e.g., uses the 87.5 to 108 MHz frequency band for FM transmission and the 174 to 230 MHz frequency band for DAB+. Terrestrial television broadcasting currently uses the 470 to 694 MHz frequency band for DVB-T and DVB-T2 transmission. 5G Broadcast, as the future mobile broadcast transmission standard for linear radio and television content, should also use the 470 to 694 MHz frequency band. No other frequencies would be available for audiovisual broadcasting, and a significant risk of harmful technical interference would arise in the event that this band was allocated on a co-primary basis to mobile telephony (or any other non-broadcast related use not already permitted within this sub-band). For this reason, the so-called 'sub 700 Mhz band' needs to be preserved exclusively for broadcast use also in the long-term.

In this context, the **next International Telecommunications Union's World Radiocommunication Conference in 2023 (WRC-23)** will be the forum where the decision on the future use of spectrum will be made at international level. The next WRC will take place in 2023 and will consider possible regulatory interventions in the 470 – 694 MHz band based inter alia, on the results of spectrum use and studies conducted by ITU-R. **A 'no change' to the existing allocations will mean that broadcasting remains the exclusive primary service in 470-694 MHz, with programme-making and special events (PMSE) as secondary service, and will in fact be able to continue on its path of transformation and innovation, e.g. by introducing 5G broadcast or future broadcast related technologies and thus opening up smart devices for one-to-many broadcast reception.**

For the highly adaptive and innovative broadcasting industry "change" is a central paradigm of their work, as regards the direct and effective reaction to changing market requirements or media consumption habits. In order to do so, however, broadcasters need the required frequency spectrum, which is why "No Change" is indispensable with regard to frequency assignment. **It is essential to preserve the 'sub 700 band' exclusively for broadcasting and PMSE, and to secure it well beyond 2030 so that broadcasters can provide reliable news content, entertainment and companionship to all mobile users and ensure democratic discourse.** A co-allocation, or loss, of these broadcasting frequencies would completely end terrestrial TV broadcasting and also pose an existential threat to terrestrial radio broadcasting via FM and DAB+ in the medium term as the broadcasting costs of transmitters and tower rents for radio would suddenly rise.