Alliance for Broadcasting and Cultural Frequencies/
Allianz für Rundfunk- und Kulturfrequenzen

Terrestrial broadcasting in the digital society 2030+

May 2022

Perspective

> Terrestrial broadcasting of the future forms a symbiosis with high-quality wireless media production.

Terrestrial broadcasting continues to offer citizens a low-threshold, affordable and reliable supply of quality content, even in crisis situations.

This applies stationary and mobile, at any time, on all end devices and based on secure and sustainable networks in national ownership. <

A. Spectrum requirements for terrestrial television

Digital terrestrial broadcasting forms an integral part of television coverage in Germany. According to the Video 2021 digitization report, 2.6 million TV households with a total of 5.3 million people[1] use DVB-T2 as their primary TV reception path, with rising tendency. In metropolitan areas such as Berlin, Bremen, Hamburg, Hanover/Braunschweig and North Rhine-Westphalia, around 14% of TV households use DVB-T2 as their primary TV reception path. Further growth can be expected thanks to the abolition of the ancillary cost privilege for cable TV in 2024.

Approaching the digital society, terrestrial television broadcasting set the course early on and successfully fulfilled its role of providing citizens with low-threshold, affordable and reliable quality content. These central features of terrestrial television will be retained in the long term and form the basis for making an important contribution to the democratic opinion-forming process and digital participation in Germany beyond 2030. For this, the unchanged availability of the UHF TV frequency spectrum (470–694 MHz) is required.

In addition to today's features, terrestrial television broadcasting of the future will gear itself to changing usage requirements as well as socio-political objectives.

One clear trend in media usage is increasing mobility. Cable, satellite and IPTV will not be able to accommodate this trend in the future either. Ensuring easy access to journalistic quality content in mobile usage situations without data volume restrictions takes on special significance in view of broadcasting's clamp function for democracy.

According to the Video 2021 digitization report, there is steady and strong growth in mobile media use. With this end in mind, the broadcasting industry plans to particularly enhance the mobile usability of terrestrial TV broadcasting. In various 5G broadcast model trials, the broadcast network operators and ARD are working on the prerequisites for a possible successful evolution of the distribution channel, including as a goal a convergent system for linear and non-linear media consumption. 5G broadcasting and future developments may hold the potential to become a provider system for linear content to an increasingly mobile society. The population could thus be reached directly on mobile devices – and optionally without a contract with a mobile communications company. For the media industry, 5G broadcasting and future developments could therefore open up a possible direct, affordable and independent path to the end consumer.

For democracy, broadcasting and media are systemically relevant. The current crises (the Covid-19 pandemic, floods, war in Ukraine) illustrate society's particular interest in independent critical infrastructures under national ownership. Terrestrial broadcasting is the only distribution channel in solely national hands. The current situation, in which terrestrial

[1] According to Statista, an average of 2,03 people live in one household.

broadcasting infrastructures are partly in public hands and partly operated by German companies that are subject to full regulation under telecommunications and media law in Germany, is therefore to be retained.

Broadcasters need a sufficient choice of distribution channels. This avoids dependencies on distribution channel providers and a weakening of the negotiating position towards platforms. With the continued competition between distribution channels, the development of terrestrial broadcasting can ensure more choice as well as better quality and prices for consumers.

In the event of disasters and crises, broadcasting will also play an important role in the required mix of warning and information systems in the short, medium and long term due to its legal obligations. The most recent natural disasters in Germany have shown that both terrestrial radio and TV infrastructures have a significantly higher resilience than especially mobile radio infrastructures. Only terrestrial broadcasting, with its secure and exposed transmission sites compared to mobile communications, can continue broadcasting for days and weeks without failure thanks to the emergency power supplies and redundant signal feeds installed there. In the event of a crisis, the terrestrial infrastructure is characterized by the fact that it is internet-independent due to its closed nature. Therefore, it can be operated autonomously. With terrestrial broadcasting, network congestion due to intensive use is ruled out as such, unlike with IP infrastructures. In the future, 5G broadcasting and advanced technologies could enable all forms of mobile devices and infotainment systems to be reached directly and barrier-free with audiovisual messages, even in the case of disaster.

Finally, terrestrial broadcasting will meet the highest sustainability requirements. The energy consumption of digital terrestrial television is already the lowest by far compared to IP-based TV broadcasting and OTT platforms (study by Carnstone on behalf of the LoCaT Project 2021 (https://www.thelocatproject.org)). Additionally, depending on the network operator, almost 100% of the electricity procured already comes from renewable energies or this proportion is increasing.

The basis for the further development of terrestrial TV distribution of the future is today's UHF TV spectrum in the 470–694 MHz range. The entire available spectrum is already fully occupied by terrestrial TV and wireless production facilities. On the one hand, a spectrum reduction would inevitably mean that media content could no longer be produced in its current form. On the other hand, the fundamental question would arise as to whether television terrestrial transmission with a reduced program offering would continue to be sufficiently attractive for both broadcasters and viewers. The future options currently being evaluated would then not be feasible. For this reason, the broadcasting and cultural industries need the UHF TV spectrum from 470–694 MHz in unchanged form even beyond 2030.

A. Spectrum requirements for wireless production equipment (PMSE)

Quality content is inconceivable without high-quality production. For this reason, too, the TV frequencies must be protected in their entirety from being reallocated, as they are used in interference-free symbiosis of terrestrial TV broadcasting with wireless production technology (e.g. wireless microphones, in-ear monitors and wireless radio systems). Wireless production technology is the indispensable basis not only for professional broadcast media productions, but also for the existence of cultural and creative industries (concerts, theaters, events). There is no other technical solution in sight that fulfills the essential use cases. Furthermore, no usable, equivalent alternative spectrum is known that can provide the required transmission capacity.

B. Political objectives

Further planning of a terrestrial broadcasting and media distribution infrastructure requires certainty regarding the long-term availability of frequency resources in the 470–694 MHz range. Thus, the broadcasting industry and the stakeholders in the wireless means of production demand:

- principally: development perspective and planning security for terrestrial broadcasting/media distribution beyond 2030

- specifically: unchanged allocation of UHF TV frequencies (sub-700 MHz band) at the 2023 World Radiocommunication Conference (WRC-23) primarily to broadcast radio alone and secondarily to wireless means of production, i.e., no clearing of UHF TV spectrum for authorities and organizations with security tasks (BOS), the German armed forces or mobile communications

- the corresponding binding mandate of the German delegation in the context of the preparations for WRC-23 as well as in the bodies at EU level (e.g. Radio Spectrum Policy Programme)

- the extension of the current EU regulatory framework, i.e. the possibility of usage of the UHF TV frequencies for broadcasting as well as for wireless means of production beyond 2030

- adherence to the political goal set out in the coalition agreement between the parties in the German government that the UHF TV spectrum should be permanently secured for broadcasting and culture.

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The Alliance for Broadcasting and Cultural Frequencies is a joint initiative of ARD, Deutschlandradio, Media Broadcast, the media authorities, SOS - Save Our Spectrum, Sennheiser, VAUNET, ZDF and the German Electrical and Digital Manufacturers' Association (Verband der Elektro- und Digitalindustrie) ZVEI. The alliance is committed to securing the spectrum in the 470–694 MHz range even after 2030 to enable the future of terrestrial broadcasting as well as the maintenance of cultural events for the people in Germany.

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