

The Future of Digital Radio

The issue

The European Broadcasting Union (EBU) believes in a future for radio that is digital, multiplatform and hybrid. Listeners will access radio on different devices, from ordinary receivers to smartphones and computers, with a screen showing extra information, images and multimedia content. To achieve this vision, digital radio needs to be delivered by both broadcast and the internet, the two technologies complementing each other.

Radio must not remain the only analogue medium in a digital world. Yet governments are behind in creating the necessary framework to enable such new technologies to be best exploited in radio. Radio has retained its worldwide appeal because of its universality, simplicity and human touch. Digital technology now brings greater plurality, communication power and the potential for higher quality, than ever before in human history. In the multiplatform age of microblogging, social media, and smartphone applications, radio must stay relevant and accessible.

There are several ways of transmitting and receiving digital radio today. These include the most commonly adopted DAB, DAB+, DMB (digital multimedia broadcasting) and DRM (Digital Radio Mondiale) – DRM30 (AM) and, DRM+ (above 30 MHz) standards.

European countries are at various stages of digitizing radio, from exploratory testing of standards to full-scale implementation, and no single solution is being applied throughout the EU. But whatever the timing, and whichever standard individual countries opt for, the success of the digital radio project in Europe will largely depend on its deliberate and proactive implementation by governments. Simply, it will fail without planned launch scenarios, cross-border awareness campaigns, and a coordinated, EU-wide drive, including well managed migrations and analogue switch-offs. Regulators, manufacturers and broadcasters must bear this in mind as Europe ushers in its own brighter, digital future.



EBU Principles

Digital broadcast radio is key to radio's future

Radio will have an uncertain future if it remains an analogue medium without the opportunity to evolve with technology. Digital radio means more stations and programmes, the potential for higher quality audio, and extra content, such as images and information. Digital broadcasting is also more cost effective and 'spectrum-efficient', meaning it makes the best use of available radio frequencies.

The internet complements broadcast radio; it does not supersede it

The two platforms – broadcast radio and the internet – are not competitors and broadband is not a substitute for broadcast radio. They have different strengths based on demographics, listener needs, audience size, and location. But internet radio (IP) cannot match the reach, reliability and universality of free-to-air broadcast radio. The appeal of internet radio lies in its variety, its on-demand services and the scope for innovation it offers broadcasters.

Europe needs concrete national digital radio policies

Digital radio in Europe can only gain momentum if national governments draw up clearly defined launch scenarios, a process needing a coordinated EU-wide approach. A crucial element of digitization is the need to plan for analogue-to-digital migration, and to consider an eventual analogue switch-off. What Europeans want is a radio market that offers choice, top-quality products and services, and affordable radios.

Digital broadcast radio is key to radio's future

Radio is popular and everywhere

Broadcast radio today remains very popular around the world, thanks in large part to its unique qualities of being free and easily accessible almost anywhere. In an average week radio reaches more than 90% of the population in many European countries (EBU report: *Public Radio & New Media Platforms 2011*), and it is this enduring popularity that has rooted broadcast radio so firmly in European society. It is also why radio is today such an integral part of European economies; millions of radio stations, journalists, advertisers, technicians, and equipment/technology manufacturers live from the revenues generated by radio. But the success of broadcast radio is about more than just earnings. Radio is the cheapest, the most reliable and the most inclusive broadcast medium there is, bringing essential information and culture to millions of people every day.

Progress never goes backwards

Through smartphones, tablets and digital television, digital technologies are becoming ever-present in our everyday lives. Pressure is mounting on the radio industry to keep pace with its rivals. FM has now become inadequate in the digital age, as it cannot compete with the opportunities for choice and innovation provided by digital delivery. Digital radio is more spectrum-efficient than FM radio, which leaves less room on the crowded airwaves for expansion or for new stations. Digital radio encourages start-ups and enables broadcasters to offer many more stations, programmes and services.

Digital radio is the future

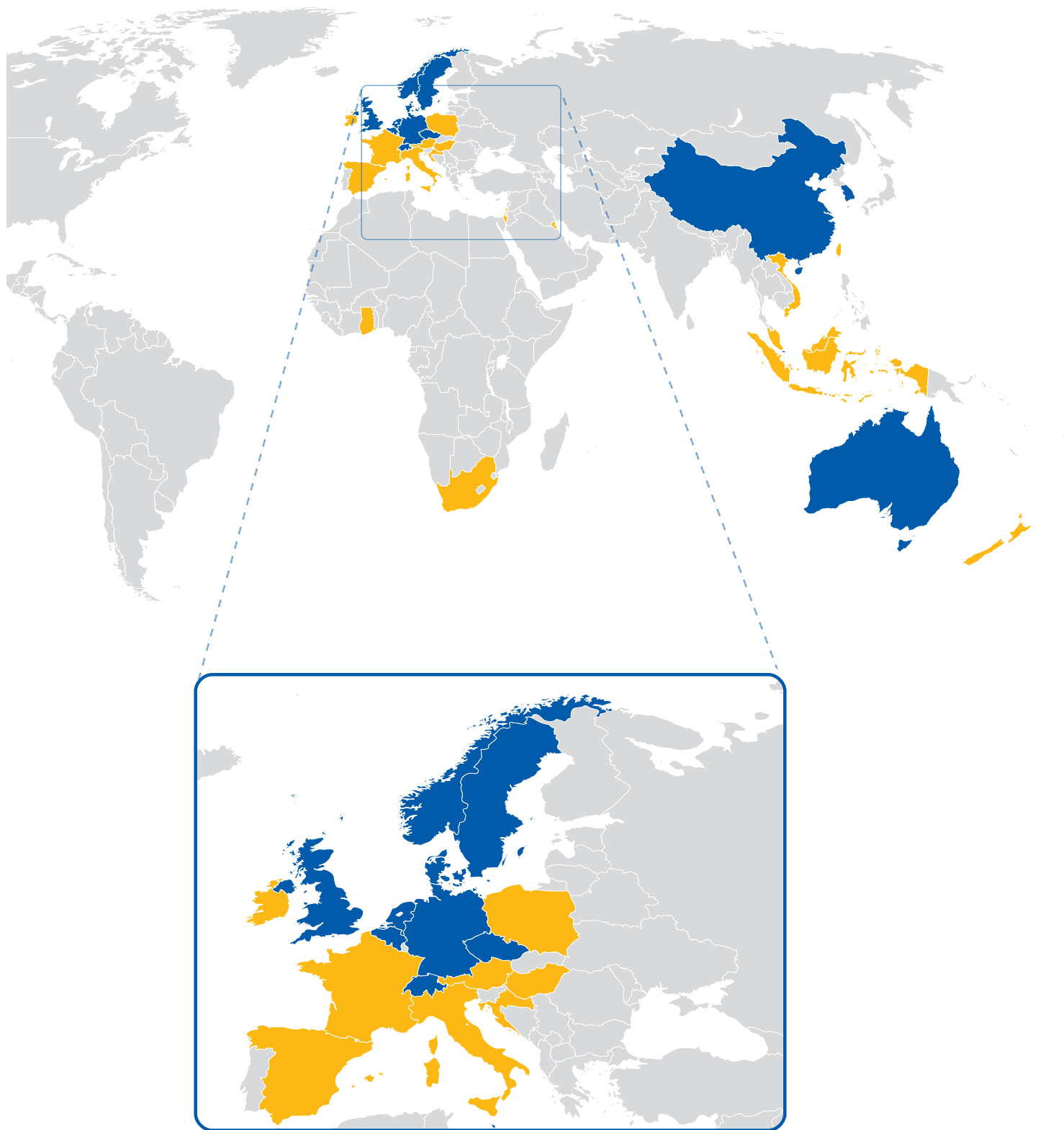
The EBU believes that digital terrestrial radio should be protected and strengthened as a backbone of European broadcasting, which means promoting the DAB/DAB+/DMB digital radio standards, but it also means enabling European states to decide which standard best suits their populaces. There are complementary standards, such as DRM, which works well over the bands currently used for AM broadcasting. DRM+, which was designed for broadcasting at higher frequencies, could be a solution for community radio stations that are unable to join multiplexes in areas where the FM band is full.


However, they all carry the same distinct advantages, such as increasing the number of radio programmes in a given spectrum, improving audio quality, eliminating fading in mobile environments, allowing additional datacasting services and decreasing the transmission power or the number of transmitters required to cover a given region.


DAB and DRM in brief

- The future of FM is DAB (in Europe). DRM and DRM+ could respectively provide continuity to AM and FM stations.
- More than 1,000 stations around the world broadcast in the DAB format.
- DAB/DAB+ is used in 20 countries around the world.
- About 500 million people in the world are within range of a DAB transmitter.
- DAB+ is the new generation of the DAB family developed in 2007 and is twice as efficient as DAB in terms of capacity, but has the same requirements in terms of coverage.
- There are more than 600 hours of DRM transmissions per week reaching potentially half of the world's population.
- There are more than 120 DRM30 services on air globally (BBC, Voice of Russia, KBS International, Radio Vatican, Radio Romania International, etc.).
- To date, India and Russia are the biggest countries to have legislated to digitize using the DRM standard.

Focus on countries with DAB and DAB+



 Countries with regular services DAB/DAB+/DMB

 Countries with trials and/or decision to use DAB/DAB+/DMB

Digitization enhances the listening experience

Another of digital radio's major advantages lies in the functionality of the radio receivers themselves, which can facilitate and enhance the listening experience. Digital listeners can effortlessly scroll through a list of services available, accessing extra textual or visual information, such as the names of tracks and artists, travel information, weather updates, presenters' details, stations and shows, but also public service messages in the event of emergencies. Modern digital radios often have a text storage function, enabling the user to call up information categorized into news, weather, traffic and so on. In addition, digital radio can provide recording and listen-again functions, similar to those already widely available with digital television. These manifold benefits are not available with analogue radio.

Better quality and more choice

A digitally-dominated world is a win-win for everyone: listeners will have a greater choice of programmes and stations, all transmittable in crystal clear audio, while broadcasters can exploit creative and commercial development opportunities. A broadcaster can transmit many more stations and more information using less infrastructure if it does so digitally. For instance, using the DAB/DAB+ system means broadcasters can simultaneously transmit, or 'multiplex', up to 18 stereo radio programmes with high-quality audio, as well as additional multimedia services, such as electronic programme guides (EPGs), slide shows, transport information and more, all from the same antenna.

Using DRM, up to four programmes can be broadcast using the bandwidth currently used for a single programme, and all at up to 40% less transmitter electricity consumption (source DRM Consortium).

Spectrum efficient and cost effective

The more efficient transmission technologies enable broadcasters to multiply their offer, increasing their revenue streams while enjoying the lower costs associated with digital radio broadcasting. For example, in Switzerland digital radio works out around six times cheaper to transmit per programme than FM. Not only that, but it is also greener and more economical; according to WorldDMB, the average DAB radio uses a third less power than an energy-saving light bulb.



The internet complements broadcast radio; it does not supersede it

Importance of free-to-air

A big plus of broadcast radio is that, beyond the cost of the receiver, it is free at the point of access. In order to listen to the radio via the internet, users must pay an internet service provider (ISP) for a broadband link, or a telecoms company for mobile coverage.

It should not be forgotten that radio is the medium people typically turn to in a crisis or emergency situation. Radio is almost always the 'last medium standing', in part because, unlike the internet, it is not at risk of congestion problems when many people tune in at the same time. In the event of a natural disaster, for instance, when television stations may be out of action, telephone networks are saturated or out of operation, and the internet with them, broadcast radio may be the only way to find out what is happening and for the authorities to communicate emergency messages.

Broadcast radio is universal

There is no cheaper way of transmitting radio content than broadcast. In addition to the cost issue for the individual, internet radio is unable to compete with broadcast in terms of its universality. As a means of reaching mass audiences cheaply, the so-called 'one-to-many' scenario, the internet is completely unsuitable as the greater the size of an audience accessing a transmission via the web, the greater the costs to the broadcaster, because of the increased number of servers and power required to carry the programme. Furthermore, part of radio's appeal lies in the fact that many people enjoy listening while they are doing something else, whether driving a car, working or making dinner, but very often an internet connection does not lend itself comfortably to these settings. Internet radio stalwarts may sometimes talk of IP car radios, but with current Wi-Fi infrastructures this is a fanciful notion.

This is why broadcast radio remains the vastly preferred method of listening – around 75% of all radio consumption in Europe is of broadcast radio (EBU report: *Public Radio & New Media Platforms 2011*).

Complementary technologies

As technology evolves, so does the way people listen to radio. While many listeners today tune in on their computer, Wi-Fi enabled smartphone or other internet-connected devices, for the reasons mentioned above broadband will never supersede broadcast as the dominant means of radio delivery. This aspect of the debate is sometimes portrayed as rivalry between broadcast and broadband, but in reality the two are not competitors; they are complementary technologies. Both have strengths and limitations depending on factors such as audience size and tastes, demographics and geography.

Hybrid radio

Where the internet adds value to audiences is when it is used in tandem with broadcast radio, because it enhances the listening experience through so-called 'return-path functionalities'. This means listeners can 'participate' in a broadcast, as opposed to the traditional one-way broadcaster-to-listener monologue. Radio combined with Wi-Fi – so-called 'connected' or 'hybrid radio' – invites listeners to engage in 'conversation' with their chosen station, sharing opinions and comments, 'socializing' the experience, or enabling a user to easily search for more information. A listener who wants to know more about something he hears, such as an advertisement or a piece of music, could at the touch of a button receive interesting additional information from the internet. In addition, digital also means radio stations can accurately monitor their audiences, using the data to improve their output and attract advertisers. Internet radio can also provide on-demand services, archives and applications, meaning it is better suited to select groups of listeners than mass audiences.

Europe needs concrete national digital radio policies

Need for action

The benefits of digital radio are considerable for the general public and the authorities, so action is needed to support the digital radio project on an EU and national basis.

Governments need to draft bold digital radio policies that will make the issue a priority and start the inevitable debate about an analogue switch-off. EU institutions need to back this process by launching EU-wide awareness campaigns on the benefits of digital radio while providing information, guidance and support on how best to implement a successful migration to digital.

Currently, of the 27 states in the EU, 16 still have no digital radio broadcasts available. There are various reasons for this, but unless all European states agree on the future of radio, on broadcasting standards and on a practical approach to a digital radio rollout, the technology will be denied a fair chance to prove its worth. After a promising start in 1986, when EU-wide consensus brought about the sophisticated DAB standard, the momentum was lost. Unfortunately, there is today an inertia among European decision-makers about digital radio. What is needed is enthusiastic and affirmative action to make the change happen and complete the picture of a digitally connected Europe.

Launch scenarios and migration policies needed

The EBU believes that the best way to break the impasse and finally unlock the full potential of digital radio is to incentivize, educate and assist governments to hoist the issue higher up their agendas. Member states need to develop a clear national framework for digital radio and to coordinate timescales and technology to introduce it.

It would be unhelpful and counterproductive for Brussels to advocate specific switchover dates for EU member states, but it would be valuable to share experiences and to offer guidelines to give countries a realistic timeline to aim for. This approach was effective in the digitization of television, which will be completed in most EU countries by the end of 2012. Without such information, guidance and support on how best to go about implementing successful migration, governments will put off taking a decision, and the status quo will remain, with its hotchpotch of technologies, national approaches and separate markets.

Keys to success

To make digital radio happen all broadcasters – both public and commercial – must work together to drive the digital radio agenda and market digital radio.

The reluctance of some radio operators to go digital is a major hurdle to the overall migration of European radio. Some see a digital marketplace as a threat, since it will encourage competition by opening the door to new stations. While this argument may have some weight in the short term, it fails to address the real long-term threat they face from the increasing number of platforms competing for listeners.

Another key factor to success lies within the automobile industry. Vehicles are the most important listening environments for radio outside of the home, so the availability of digital radio in cars is a key enabler for successful digital radio services.

Carmakers will embrace the digital radio project if national governments and the broadcasting industry as a whole give clear, positive signals in favour of this technology.

The EBU

The **European Broadcasting Union** (EBU) is the leading association of national media organizations in the world, comprising 85 national media organizations in 56 countries in and around Europe. The EBU represents its Members and promotes the values and distinctiveness of public service media in Europe and around the world. www.ebu.ch

Did you know?

- EBU offers its Members a broad range of radio activities related to the exchange of concert recordings and live music, news, sport and culture programmes, as well as the development of joint projects.
- The Euroradio network ensures access to over 3,700 radio concerts and operas every year.
- Euroradio News Exchange: 1,000+ users; 125+ organizations; 1,650 downloads / 2,230 uploads; 3,155 streams
- Euroradio Culture Exchange: 38 organizations; 685 interviews and discussions
- Euroradio Sports Exchange: 40 organizations; 1,200 downloads/streams
- Eurosonic, the partnership of EBU radio stations specialized in pop-rock music and youth programming, offers its Members over 500 concerts and music programmes a year.



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