



EBU

OPERATING EUROVISION AND EURORADIO

DIGITAL RADIO TOOLKIT

KEY FACTORS IN THE DEPLOYMENT OF DIGITAL RADIO

DECEMBER 2014

DIGITAL RADIO TOOLKIT

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The EBU's Media Intelligence Service (MIS) provides your broadcasting organization with the latest market data, research and analysis needed to plan your future strategies and stay ahead of the game.

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INTRODUCTION

Digital distribution has been an issue for the radio industry for about two decades. While digital is a reality for platforms such as the Internet, mobile devices and even TV, radio remains analogue in the most cost-effective and primary distribution platform for free-to-air services, terrestrial broadcasting.

To build the case for digital radio, the EBU's Radio Unit commissioned the Media Intelligence Service to examine the key success factors for radio digitization. Entitled the Digital Radio Toolkit, the research was carried out with the collaboration of various radio industry stakeholders (see annexe) and this report details the results.

This project builds on the EBU's Recommendation on Digital Radio Distribution in Europe (**EBU R 138**), which suggests the deployment primarily of DAB+ services and, only if DAB coverage is not possible, the use of DRM as a broadcasting alternative. As a further step, this report offers guidelines on how to launch digital terrestrial radio, based on the experiences at the three countries leading this process in Europe: Norway, Switzerland and the United Kingdom.

The report focuses on good practices for introducing digital radio; however, there is no one-size-fits-all solution. Consequently, it describes various ways to handle the main digitization issues by highlighting 30 factors that contribute to positive acceptance of digital radio by listeners. Each of these key success factors is illustrated with a specific national example.

Obviously, national contexts are significant in the radio market. General social conditions such as each country's wealth or its citizens' ICT awareness affect the uptake of digital radio. Other specific issues play an important role, such as the level and nature of competition, the relative strength of public service media organizations, the co-existence and share of national, regional or local networks and stations, the size of the advertising market, or policies and regulations.

Even taking into account the specificities of each national context, the experiences analysed in this report can be helpful when introducing national policies and broadcasting strategies for launching digital radio.

NEVER
UNDERESTIMATE
THE SIMPLICITY
OF RADIO

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**Knut-Henrik
Ytre-Arne (NRK)**



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METHODOLOGY

This research project was designed for EBU Members and other radio industry stakeholders in response to the growing momentum of digital radio in some countries.

Following a first phase of desk research to define the most relevant markets, Norway, Switzerland and the United Kingdom were chosen as national case studies, as they are forerunners in launching digital radio (in offer, penetration and development of regulation).

The bulk of the project was based on 34 semi-structured personal interviews with relevant stakeholders conducted

between May and July 2014. The interviewees included top and middle managers in public service media organizations, commercial broadcasters, network operators, government departments dealing with radio issues, regulatory authorities, industry trade bodies, and car manufacturers. A complete list is provided as an annexe to this report.

The report is divided into eight sections, each of them tackling a key element for the digitization of radio: institutional structure, policy and regulation, content and offer, technology, switchover process, public communications, consumer electronics

and the car industry. As many aspects are interrelated and boundaries are increasingly blurred between areas, there are frequent cross-sectional references throughout the document.

Finally, a terminological consideration needs to be clarified. In this report, the term digital radio is used as a synonym for digital terrestrial radio, as it is commonly used as such by industry practitioners. Nowadays, digital radio services are also available on other platforms, such as the internet, mobile and television networks, but terrestrial delivery is still (and is forecast to remain so for the coming years) the main distribution platform for radio services.

EXECUTIVE SUMMARY



Terrestrial radio is the only radio distributed universally and free at the point of use. At the same time, it is also the only platform that guarantees the delivery of public service content and its associated democratic values. In its current analogue form, there seems to be no more room for development in most of the European countries. The future is not just broadcasting but broadcasting will be the backbone of this future. This is why a switchover to digital transmission is highly important.

Summarizing, there are **5 Cs** that digital radio needs if it is to succeed:

Coverage

At the end of the process, digital radio coverage must be at least the same as analogue radio, including along major roads. Listeners will not accept losing coverage in comparison with analogue services.

Content

The content needs to be strong, with clear added value when comparing the digital and analogue portfolio of services. This means more services but also more diversity, targeting unattended audiences.

Costs

The launch of digital radio has associated costs, mainly distribution costs and production costs for new content. Carefully planning and building economies of scale will help broadcasters deal with these additional costs. Returns are not immediate. If the process is managed successfully, these costs are outweighed by long-term benefits.

Collaboration

Led by broadcasters, all the stakeholders must work together in the technological and communications sectors. Their involvement may vary according to the stage of the process but all of them are necessary. This relationship must be built on trust and confidence.

Communication

Public communication is essential to make citizens aware of the new platform and its associated services. It is also a central tool in involving the related industries. The message must be consistent and avoid confusion in the market.

This 5 Cs formula leads to a sixth: **commitment** from all stakeholders. This commitment clearly shows the goals and ambitions of the industry and sends the strongest possible signal, helping to generate momentum among listeners. For them, digital radio represents an expanded offer of services, not just limited to traditional programming but as a driver of other audio innovations in broadcasting and on IP platforms.

1. INSTITUTIONAL STRUCTURE



The radio market includes a variety of stakeholders, each with particular interests. Conflicts and divergence are therefore common among these players. Any uncertainty arising from technological transitions creates additional tensions, so understanding the logic of the radio environment is crucial to achieving effective coordination among all stakeholders.

The digital switchover is not an issue that broadcasters can tackle individually. As it affects the entire industry, it requires coordinated actions. Yet often the difference arises less out of differing needs for digitization but more because the players involved cannot afford the costs involved.

Public intervention in this area must seek to create win-win situations in which all players can find incentives to embrace digitization. To that end, three main actions are necessary:

- identifying benefits for all stakeholders
- foreseeing risks and uncertainties and managing their potential impact
- creating opportunities for everybody

Ideally the long-term benefits of the transition should outweigh the initial investment and interviewees repeatedly pointed out that the cornerstone of their whole strategy was 'competing on content, cooperating in technology'. This approach enables broadcasters to focus on creating appealing content for audiences while outsourcing non-core tasks to other stakeholders.

Similarly, tackling digitization lets broadcasters manage their own transition while limiting the opportunities for a disruptive new entrant.

Finally, public service broadcasters have the opportunity to broaden their remit and better serve their audiences, while commercial broadcasters might obtain additional revenues from expanding their activities. Governments and regulators can also benefit from this transition by simplifying standards or correcting misalignments in the market. Obviously, network operators, manufacturers and retailers are keen to offer new products and services, to expand their business areas. Balancing these opportunities will help to promote digital terrestrial radio and generate momentum.

**COMPETE ON
CONTENT,
COOPERATE IN
TECHNOLOGY
IS THE SHARED
VISION BETWEEN
PUBLIC AND
PRIVATE
BROADCASTERS**

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KEY SUCCESS FACTOR 1 Involve all stakeholders

Stakeholders need to see an achievable benefit for their involvement in the digitization process: better serve their audiences, expand their coverage, broaden their range of services and business, offer new products and services, reduce costs in the long-term, etc. Collaboration among public and private broadcasters, network operators, regulators and governments needs to be established before the launch, during the planning stage. Once launched, this commitment needs to be extended to other stakeholders, such as retailers and manufacturers in related industries.



NATIONAL EXPERIENCE 1 Business case for commercial radio

Commercial operators might feel uncomfortable with opening up markets to new entrants. While competition is already increasing on other platforms (streaming services, internet radio, apps, etc.), broadcasters could retain control of the terrestrial digital radio market. This is the approach in Norway and the UK, where the incumbent operators have been allowed to increase their offer in digital radio, creating more choice for listeners without creating more competition for broadcasters.

KEY SUCCESS FACTOR 2 Set up an industry body

As an example of collaboration, creating industry bodies involving key stakeholders has proved to be an effective tool to drive radio digitization. These organizations usually focus on non-core activities for broadcasters, such as enabling coordination among stakeholders, public communications (see section 6), marketing and engagement with retailers and manufacturers.



NATIONAL EXPERIENCE 2 Digital Radio UK

Digital Radio UK is an industry body set up by broadcasters and the network operator Arqiva. It includes representatives from the automotive industry and radio manufacturers. Its main goal is to boost digital radio listening. Its activities include coordinating public communications and public relations campaigns, activities to engage with manufacturers and retailers, and managing the Digital Tick Scheme (see section 6). It also collaborates with the government in several key areas of the Digital Radio Action Plan, the roadmap for digital radio in the UK. In Norway and Switzerland, Digital Radio Norge and MCDT play a similar role.

KEY SUCCESS FACTOR 3 Unified message to the authorities

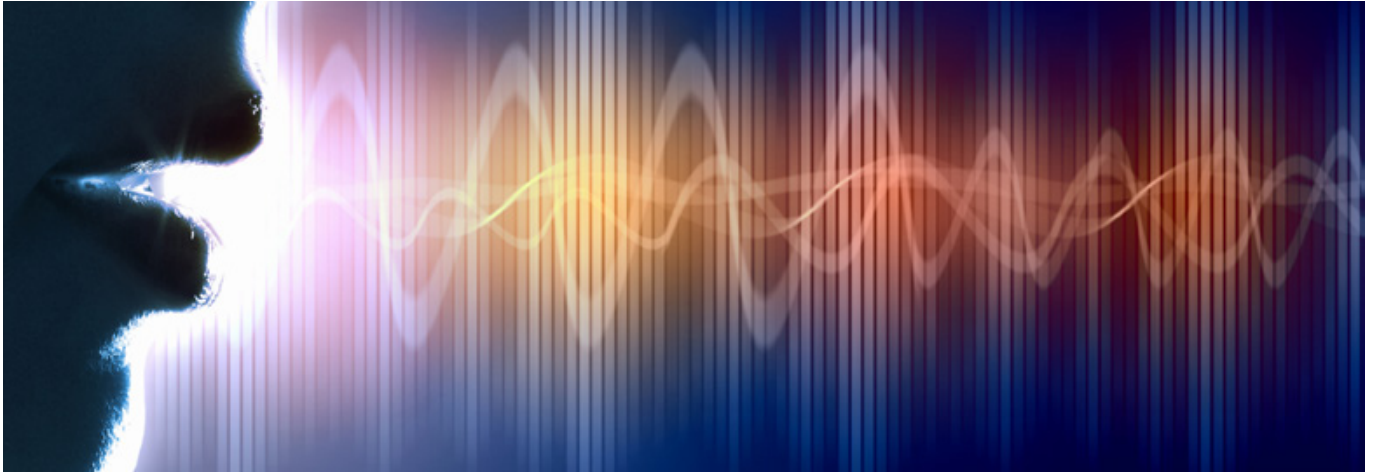
Once cooperation is established and strategies aligned, a single joint message needs to be sent to the government and the regulators, so the appropriate regulations and policies can be drawn up (see section 2). A unified and coherent discourse makes the case for digital radio stronger, and it is then more difficult for the authorities to ignore the industry's approach. The sooner there is consensus and the stronger it is, the more effective this approach will be.



NATIONAL EXPERIENCE 3 DigiMig

In Switzerland, a working group called the Digital Migration (DigiMig) was set up to make recommendations to the Swiss government based on the radio industry's views. It comprises public and private broadcasters, working together for the first time, and chaired by the media authority acting as a facilitator. Between 2013 and 2014, DigiMig studied technical, legal and public communications solutions to promote opportunities for the success of digital radio and propose a **route map** to the government.

2. POLICY AND REGULATION



The traditional reason for broadcasting regulations and granting broadcasting licences was spectrum scarcity and the need to organize airwaves to avoid interference. Thanks to digital technologies, this scarcity has become less acute and so the licensing system has shifted focus towards content delivery issues: what content is seen by the legislator as essential for a healthy democratic, diverse and pluralistic society. In the analogue era content requirements were part of the licences awarded in most countries. Now they have become their core element.

Digital radio policy aims to enable the radio industry to take advantage of the new opportunities provided by technology and give its listeners a better service. This is crucial if radio is to remain relevant in the digital age. As the FM spectrum is saturated in most European countries, digitization is also the only option for growth.

Among the various policy tools, regulation has proved to be the most suitable way of driving the digitization of radio. The most relevant issues settled by regulation include:

- nature of the licensing regime
- criteria for allocating licences
- renewal or expiration of analogue licences (with different durations depending on the country, including indefinite duration)
- possible uses of the analogue frequencies being released
- need to maintain, amend or introduce a must-carry principle for some public service radio stations
- public subsidies for digital transmission or for specific stations (typically local or community stations)
- decisions regarding stations deciding not to migrate to digital transmission

Policies and regulations can foster the deployment of digital radio by providing appropriate incentives for broadcasters, which are highly sensitive to regulatory conditions.

IT IS ESSENTIAL TO
FIND THE RIGHT
REGULATORY
INCENTIVES TO
FOSTER THE
INVOLVEMENT OF
BROADCASTERS

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KEY SUCCESS FACTOR 1 Provide regulatory incentives

Broadcasters mainly avoid digitizing radio to protect their analogue business. Regulatory incentives are therefore necessary to encourage them to do so. There is a wide range of possibilities:

- extension of analogue licences (as in Switzerland and the UK)
- protection from new entrants
- reduction of the licence fees paid by broadcasters
- relaxation of the current regulatory regime (local content requirements in the UK)
- direct subsidies for rolling out digital networks (Switzerland and partially in the UK)
- clear and early calendar for the switchover, which offers certainty for the required investments and reduces the cost of simulcasting



NATIONAL EXPERIENCE 1 British regulatory incentives

In the UK, regulatory incentives were provided at the very outset of radio digitization. The automatic renewal of analogue licences for broadcasters launching DAB services was one of the first measures implemented. Furthermore, regulation was relaxed, for instance reducing local content requirements. A third incentive was a funding hub set up for the roll-out of local DAB transmitters, including partial public subsidies.

KEY SUCCESS FACTOR 2 Rethink your licensing system

The appearance of multiplex operators in digital radio has forced regulators to rethink the licensing regime. In the countries studied, digital terrestrial radio licences are awarded to the multiplex operators instead of the broadcasters, as was traditionally the case. This means that the broadcasters need to reach a commercial agreement with the multiplex operator to be included in its portfolio of services. Consequently, there are no broadcast licences (or they are awarded without a public tender, as in Norway) and therefore no chance to lose them. This also reduces the cost of regulation since the number of beauty contests (comparative selection) is reduced to a minimum.



NATIONAL EXPERIENCE 2 Norwegian licensing regime

The licensing regime in Norway comprises three kinds of licences: spectrum (right to use the spectrum), facility (right to set up transmission facilities), and broadcasting licences (right to broadcast). Facility and spectrum licences were awarded together in an auction (jointly held by the Media Authority and the Postal Authority). Broadcasters interested in DAB must contact the holder of the facility and spectrum licences to reach a commercial agreement on renting capacity. Once this has been obtained, these companies can apply to the Media Authority for a broadcasting licence. When the agreement is terminated the broadcasting licence is also revoked. The broadcasting licence has no content requirements but needs to be obtained. Content requirements can be included in the facility licence for the multiplex operator, so diversity is ensured when the latter negotiates with broadcasters.

KEY SUCCESS FACTOR 3 Correct regulation

The transition to digital radio represents a unique opportunity to correct regulatory misalignments in the market or to introduce new regulatory modalities. Together with the incentives, the authorities can strengthen the democratic, social and/or economic value of radio and act on sensitive areas such as pluralism, diversity or universal service. A public debate on these issues might help as well.



NATIONAL EXPERIENCE 3 Swiss key regulatory areas

In its **recommendations** to the Swiss government, the DigiMig interest group suggested that several issues needed to be resolved as a result of digitization:

- use of analogue frequencies no longer operated by radio broadcasters
- adapting the must-carry principle
- need for public subsidies for digital transmission or for specific stations (typically local or community stations)
- status quo for stations that decide not to migrate to digital transmission.

3. CONTENT AND OFFER



Offering an attractive radio service is a challenge not only in terms of creativity and marketing but also of costs. At the same time, the increasing number of competitors beyond broadcasting makes it tougher to find a relevant audience niche.

For digital radio to succeed, its content needs to be different from analogue radio. Something new and valuable needs to be added. This can be achieved not only with new radio channels and programmes but also with visuals, multimedia, metadata, sound quality, interactivity, etc. By combining all of them in an increasingly hybrid environment, digital radio can provide greater value for audiences.

Investments need to be scaled over time. The return on investment will not be short-term, as it rarely is with new technologies. Consequently, broadcasters have used various strategies to avoid a chicken-and-egg situation, in which new cycles of funding are not provided because the return on the previous ones has not been satisfactory. There is a difference between seeing this funding as a cost and seeing it as an investment, between short-term and long-term management.

Strong content, capable of engaging listeners, is a requirement for avoiding the funding issue described above. Simulcasting on analogue stations is necessary to ensure that no listeners experience a loss. But this is not enough: listeners need to perceive digital radio as more and better radio.

Together with specific research, a knowledge of the internal market and the lessons learned from other countries can help broadcasters design a new, attractive portfolio of services that is not just a secondary platform but is integrated into the station's overall offer. In this section, the various key success factors are closely related and in many cases several of them have been applied together.

A BALANCE
IS NEEDED
BETWEEN AN
ATTRACTIVE
CONTENT
PROPOSITION
AND ITS
ASSOCIATED
COSTS

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KEY SUCCESS FACTOR 1 **Add value to your offer**

The feature of digital radio listeners most appreciate is the availability of additional stations. A good, varied portfolio of channels is the pillar of a strong content proposition. Sound quality is also seen as relevant although it is not a clear driver; it is more in terms of the stability of the digital signal compared to analogue, especially in-car.



NATIONAL EXPERIENCE 1 **Oslo digital offer**

In Oslo, the 27 FM services have become 40 digital stations; half of which are exclusively digital. The increased offer is even more apparent in terms of airtime since several stations that previously only broadcast a few hours in FM have expanded their output in digital. As a result, the added value in comparison to the analogue offer is obvious for listeners.

KEY SUCCESS FACTOR 2 **Find unattended audiences**

Broadcasters may find audiences that are not catered for with the analogue offer. Society's changing tastes, behaviours and habits, together with the limited analogue spectrum, mean that there are minorities that are currently not being served. This represents an opportunity for broadcasters to find an audience niche.



NATIONAL EXPERIENCE 2 **P1+ senior target**

Through its research, the Norwegian public broadcaster NRK identified growing disenchantment with its main radio station, P1, among seniors as it was becoming younger, especially in style. As a result, they created a more traditional channel, P1+, to target this unattended audience. As a result, one week after the launch it had become the sixth largest radio station in Norway.

KEY SUCCESS FACTOR 3 **Rely on familiar and well positioned brands**

Existing well positioned brands are a huge asset for broadcasters. Relying on them to drive audiences to digital listenership has proved to be effective. At the same time, this strategy also favours the broadcaster, as it can market its new services more efficiently.



NATIONAL EXPERIENCE 3 **BBC's extra channels**

Three of the new digital-only BBC stations are extensions of analogue brands. Like BBC Radio 1, BBC 1Xtra targets young adults, although it focuses on black music and ethnic minorities. BBC Radio 5 Live Sports Extra extends the news and sports focus of BBC Radio 5 Live. Finally, BBC Radio 4 Extra was originally branded BBC Radio 7 with limited success. After rebranding it Radio 4 Extra, the same type of content achieved a 37% increase in weekly listening hours in just six months.

KEY SUCCESS FACTOR 4 **Exploit economies of scale**

Broadcasters can limit the costs of new digital services by exploiting economies of scale. Examples include producing the same output (a radio programme or station) for a larger distribution or sharing the costs of production among a larger number of stations (e.g. by airing the same radio show with customized music for each network).



NATIONAL EXPERIENCE 4 **Imported content from other platforms**

For many years, Swiss public broadcaster SRG SSR had jukebox-like radio services for satellite and cable, with major penetration in the country. Making these channels available through broadcast networks for the first time emerged as a natural option for filling part of the new DAB offer at zero cost.

KEY SUCCESS FACTOR 5 **Design a product strategy, not a platform strategy**

The biggest incumbent radio players try to bundle a comprehensive portfolio of radio stations throughout their various distribution platforms rather than providing a platform-based offer. Bundling leads to synergies and therefore cost savings. At the same time, it allows commercial broadcasters to maximize advertising revenue by offering a more attractive range of outlets for advertisers.



NATIONAL EXPERIENCE 5 **Absolute Radio's bundled offer**

In the UK, the commercial group Absolute Radio has bundled an offer of digital-only music radio stations that accounts for most of its listenership. The segmentation is clear and covers most of the radio audience. The stations are organized in decades: Absolute Radio 60s, 70s, 80s, 90s, 00s and Absolute Radio Classic Rock. This portfolio enables listeners to clearly identify the output of each station while helping the commercial team to market the services.

KEY SUCCESS FACTOR 6 **Drive people to digital listenership**

Broadcasters are developing various strategies to drive listenership to digital platforms. As their main asset is the content offered and valued by the audience, these strategies mainly involve moving this content onto digital radio. This can be done at different levels: stations, programmes or even DJs and journalists.

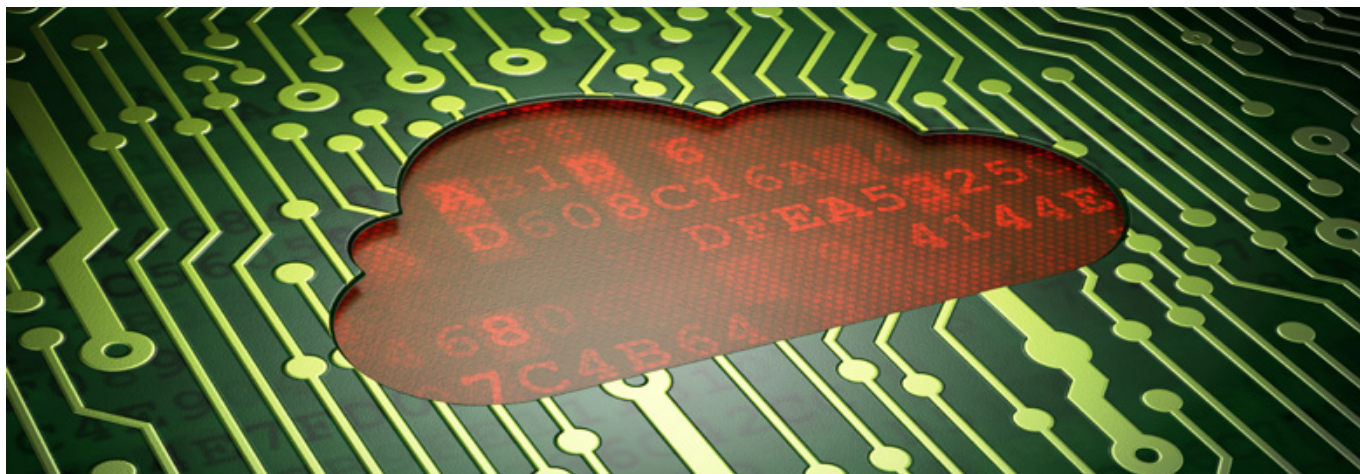


NATIONAL EXPERIENCE 6 **Musikwelle's move to digital**

In German-speaking Switzerland, SRG SSR had to shut down its traditional AM music station MusikWelle due to environmental issues. In order to keep the service broadcasting, SRG SSR decided to transform it into a DAB channel. As the station is aimed at senior citizens, this decision encouraged a group that was usually behind on new technologies to adopt digital radio.



4. TECHNOLOGY



Unlike analogue, digital technology evolves rapidly and media organizations are therefore faced with constant innovation. The multiplication of delivery platforms and receiving devices makes this situation more complex, especially in terms of distribution strategy. In addition, the enhanced capabilities of digital devices, such as additional screens or their increasing multifunctional nature, pose challenges in terms of broadcasters' traditional services.

Relying purely on analogue technology limits radio's ability to innovate on its main distribution platform while digital transmission allows local stations to expand their coverage. At the same time, broadcasters do not want third-party operators to become the gatekeepers of their services. This is why digital broadcasting is seen as the logical future of the radio industry.

Broadcast networks are the main platform for radio services, even in the markets where online and mobile services are more developed. It is the only free-to-air, easy-to-use platform that is available everywhere. Its coverage still outpaces mobile networks and will do it for many years to come, also because of the robustness of its signal. This is why it is still considered an essential resource for communication in emergency situations, for example.

In this context, broadcast is still seen by the industry as the backbone of present and future radio services, which are becoming increasingly hybrid. There is no longer any room for purely broadcast strategies: broadcasting is cost-efficient for the broadcaster and for the listener. In addition, reception devices are energy efficient, even though in today's media environment they are also relatively unsophisticated. Broadband can add sophistication, including personalization.

IP delivery does not appear to be a suitable replacement for broadcast transmission. The potential audience for IP in national markets is still smaller than the almost universal coverage provided by broadcast. At the same time, broadcast delivery is **40 times more cost effective** than broadband because once a broadcast network is up and running, the cost of adding listeners is zero. With IP distribution, each additional listener also means an additional cost for the broadcaster, and often also for the listener.

HYBRID
RADIO BRINGS
TOGETHER THE
EFFICIENCY OF
BROADCASTING
AND THE
SOPHISTICATION
OF INTERNET

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KEY SUCCESS FACTOR 1 **Ensure good coverage**

Good coverage is taken for granted by most listeners. The minimum requirements for digital terrestrial radio coverage must therefore be at least the same as for analogue transmissions. In this sense, network planning and geographical flexibility can help to control costs, especially at an early stage. The roll-out of digital radio typically starts in the most densely populated areas and along major roads. While a slow extension plan keeps costs low, it also shows limited commitment, makes public communication more difficult and prolongs the transition period.



NATIONAL EXPERIENCE 1 **DAB coverage in Switzerland**

In Switzerland, outdoor coverage was prioritized and nowadays reaches 99% of the population. Indoor coverage is also very high (96%). Additionally, commercial stations have expanded its FM coverage and for the first time will be able to cover nearly all their linguistic areas. This represents a clear improvement for listeners.

KEY SUCCESS FACTOR 2 **Reduce transmission costs**

Transmission costs are lower for digital than for analogue broadcasting because the network is shared among many stations. To fulfil this attractive incentive for broadcasters (see section 1), during the simulcast period they need to pay for both analogue and digital transmission. Investment in digital radio can therefore be seen as a long-term savings strategy that also depends on additional factors such as coverage requirements, the topography of the country, the amount of services in a multiplex or available public funding, for example.



NATIONAL EXPERIENCE 2 **NRK's transmission planning**

NRK has an obligation to cover 99.5% of population with its 14 digital radio services (DAB+), just as it had to do with its FM offer, in a large country sparsely populated by five million people. To fulfil this requirement, 762 transmitters are needed. Digitization has enabled NRK to reduce its transmission costs and increase its offer. Currently about 2,000 masts are required to distribute three FM channels alone.

KEY SUCCESS FACTOR 3 **Extend collaboration to all technical platforms**

The technological cooperation agreed in Norway, Switzerland and the UK (see section 1) is not only based on broadcast technologies but is being extended to other platforms such as internet and mobile networks. The collaboration is not only reflected in specific developments but even at institutional level in organizations such as RadioDNS, focused on coordinating technical standards for hybrid radio.



NATIONAL EXPERIENCE 3 **Shared Radioplayer**

In the UK, the BBC and the main commercial players agreed to share a common internet platform. This is the entry point for the audience to the UK radio stations, just as they have in their traditional radio set. The **Radioplayer** is run by a jointly owned not-for-profit company. The service has been extended to connected devices such as PCs, tablets and mobile phones, and has even developed a prototype of hybrid radio adaptor for in-car use that also enables users to receive FM and DAB/DAB+ signals.

KEY SUCCESS FACTOR 4 **Make the case for local radio**

Local radio is a relevant player in the radio industry, probably bigger than its audience figures show. They often represent one of the few local media outlets available in many cities and towns, are key for local commitment and participation, central for local news and indispensable for local advertisers in the case of commercial stations.



NATIONAL EXPERIENCE 4 **DAB+ islands**

Backed by the regulator, DAB+ trials have been conducted in Switzerland. This is a low-cost software solution for local and community radio stations. Local radios want to share the distribution platform with big stations; otherwise, they think they will eventually lose their audience. As DAB was originally designed for large areas rather than local communities, as is the case for FM, these islands may be a solution.

KEY SUCCESS FACTOR 5 **Be flexible with the quality**

Along with the receiver, bitrates define the quality of the audio for the listener. A common practice in digital radio is to assign different bitrates to radio stations according to the type of content: lower bitrate for talk-radio than for music stations and, among these, the highest bitrate for classical music. This allows a more efficient use of radio spectrum.



NATIONAL EXPERIENCE 5 **NRK's variable bitrate**

NRK varies the bitrate of its transmission depending on external and internal factors. The external factor is transmissions from its regional stations: they rarely transmit 24 hours per day, freeing multiplex capacity for other services at certain hours. The internal factor is the kind of content offered. This is a result of negotiations between channel strategists and the Technical Department. In DAB, bitrates vary from a maximum quality of 192 kbps, typically for the classical music channel, to a minimum of 16 kbps for the weather channel, which is primarily aimed at fishermen at sea. In DAB+ the highest bitrate is 80 kbps.

KEY SUCCESS FACTOR 6 **Use digital technologies in a digital way**

Digital technologies do not only mean a change in the transmission signal; they also open up new opportunities: some typically digital uses of broadcast technology include the supply of associated metadata, the creation of pop-up stations, the use of electronic programme guides or the distribution of visuals to enrich audio content. This provides broadcasters with opportunities for business development.

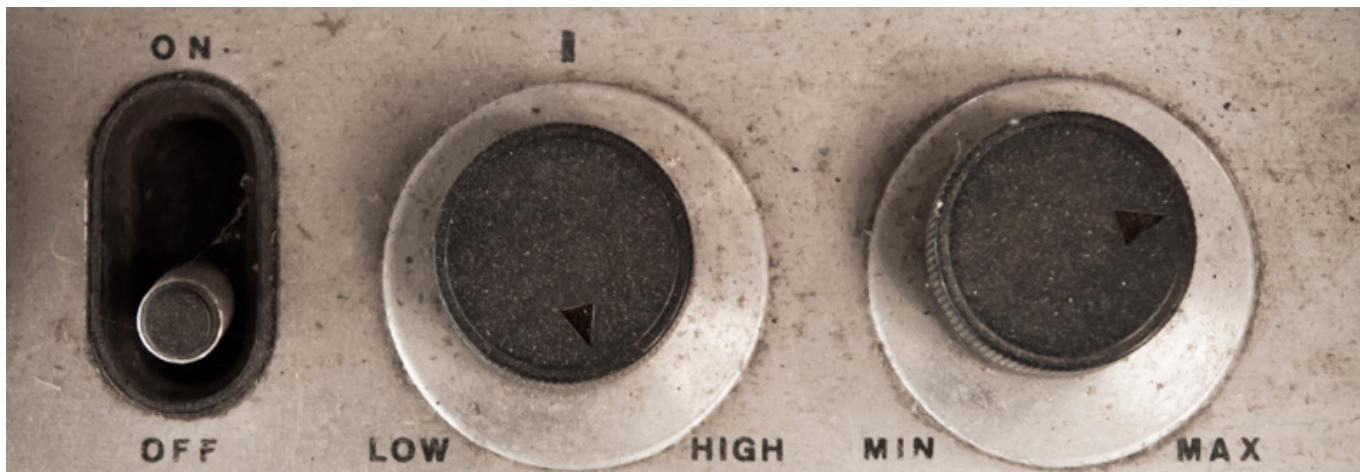


NATIONAL EXPERIENCE 6 **Pop-up stations**

Norwegian and British public service media have experimented with temporary, or pop-up, digital stations. NRK created a new channel for the Christmas season, reaching 13% of the audience. During the 2012 London Olympic Games, the BBC aired BBC Radio 5 Live Olympics Extra, with a total reach of 1.6 million listeners in two weeks. In 2014, it bundled its coverage of the Eurovision Song Contest with the four-day station BBC Radio 2 Eurovision.



5. SWITCHOVER PROCESS



Converting analogue to digital radio, i.e. the switchover process, creates uncertainty about the best strategy and pace for achieving the goals. Uncertainty is not good for the management of any activity so the radio industry tends to avoid it. This creates an additional challenge for the players involved.

To address this issue, planning is essential. It enforces commitment, sets guidelines and sends a powerful signal about the commitment of stakeholders. One strategy used in some countries has been to differentiate between pre-launch and post-launch. The pre-launch phase lets the stakeholders set the technical and regulatory conditions that will enable digital radio to be launched. This means that broadcasters need to work closely with network operators, the government and the regulatory authority. In the post-launch phase, the focus shifts onto consumers, public communications, retailers and manufacturers. Here, the specific digital radio industry body and the related industries take on a more central role alongside broadcasters (see section 1).

The switch-off is usually the key element of the whole switchover process. Actually, one of the key decisions of the process is whether the goal of the process is to achieve analogue switch-off or not; AM and FM services have coexisted for decades in many countries although AM has now been switched off in several European territories. In the event of a switch-off, criteria play an essential role, giving certainty to stakeholders, setting the milestones to be achieved and thus guiding the steps of the stakeholders. These criteria must be clear, well-defined and measurable. Additionally, a permanent data collection is necessary to monitor the progress of the process.

The experience of the early adopters will help newcomers to digital radio, as many of the challenges have been faced and solutions tested. The learning curve therefore accelerates for everybody.

IN THE SWITCHOVER PROCESS, STAKEHOLDERS MUST REDUCE UNCERTAINTY ABOUT THE FUTURE BY SETTING GUIDELINES

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KEY SUCCESS FACTOR 1 **Plan the process**

The switchover is a long and complex process. So careful planning, based on lessons learnt elsewhere, can save a lot of time and money by setting out procedures and inspiring strategies. Although with different levels of detail, all the countries analysed have set guidelines or action plans for the transition. Having a plan also generates momentum.



NATIONAL EXPERIENCE 1 **Digital Radio Action Plan**

In the UK, the industry and the government worked together to produce the **Digital Radio Action Plan**. From 2010 to 2013, information was gathered for a well-informed decision by the government on whether to switch off analogue broadcasts. The plan was built around consumer choice, quality, affordability, accessibility and awareness, producing publicly available documents in different key areas.

KEY SUCCESS FACTOR 2 **Fix a clear calendar**

The industry bodies and the related industries in particular require a clear calendar for the whole transition process. However, broadcasters and regulators tend to be more cautious to avoid a situation where it is not possible to meet the deadlines; this could be seen as a failure and create a negative image for digital radio. In any case, a clear calendar sends a strong signal about the commitment of the radio industry and its stakeholders.



NATIONAL EXPERIENCE 2 **Norway's calendar**

In an official **white paper**, Norway proposed a calendar combining a clear commitment to switchover but with flexibility. Analogue switch-off was set for 2019 but the possibility for an earlier switch-off was possible if additional criteria were met. The calendar included additional milestones such as a date for defining some of the criteria, the evaluation date of the criteria and a calendar to assess the situation of local radio.

KEY SUCCESS FACTOR 3 **Set realistic criteria for the switch-off**

The switch-off date is one of the most sensitive decisions of the transition. Realistic and measurable criteria are needed, based on serious research. Data must be collected systematically in order to monitor progress; this will make it easier to take measures to correct misalignments. Setting criteria also generates interest in digital radio among listeners and sends the strongest possible signal to retailers, manufacturers and importers.



NATIONAL EXPERIENCE 3 **Norway's switch-off criteria**

Norway was the first country to set **criteria for an analogue switch-off**. Three of them are absolute: digital coverage of public broadcaster must be equivalent to that of its main FM channel; digital coverage for national commercial broadcasters must reach at least 90% of the population; and digital radio must add value for the listeners. Two additional criteria could allow an earlier switch-off: 50% of daily reach via digital platforms and availability of affordable and technically satisfactory solutions for in-car radio.

6. PUBLIC COMMUNICATIONS



The average citizens are not aware of the technicalities of radio. They just need to know how to tune in to their preferred radio programme or station and to be aware of the advantages of digital radio.

Public communication is a useful tool for broadcasters and other stakeholders involved in digital radio for two reasons: first, to raise awareness among the public about the availability of digital radio and its characteristics; second, to persuade them to switch from analogue to digital.

This effort needs to be sustained over time and scope, backed by evidence and based on trust. Strategy can change from one campaign to another but needs to rely on broadcasters' own outlets, including powerful tools such as cross-promotion from current FM services or television services within the same media group, or third-party media.

Broadcasters' core know-how is in creating appealing content and not public relations. That is why all the countries analysed have created a specific industry body (with different kinds of stakeholders and ranges of activities). Public communication is in all cases one of its more critical tasks and that's why a specialised and wholly dedicated team is needed. They do business-to-consumer (B2C) communication to inform citizens as well as business-to-business (B2B) communication to inform the related industries. The most important message for driving listeners to digital radio is to show them that there is something unique in digital radio, a strong content proposition (see section 3). For B2B, the key message is to show the business opportunity for them.

RAISING
AWARENESS
AMONG THE
PUBLIC AND
PERSUADING
THEM TO SWITCH
TO DIGITAL
RADIO ARE KEY
COMMUNICATION
GOALS

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KEY SUCCESS FACTOR 1 **Communicate a single, clear and accurate message**

Messages to citizens and related businesses need to be straightforward. As people are attached to programmes and not to technology, the message should focus on the clearly perceivable added value, such as new stations. Quality should be used as a secondary feature or for specific purposes, such as in-car reception. Similarly, it is advisable to promote 'digital radio' instead of 'DAB' or 'DAB+' as it is easier to understand.



NATIONAL EXPERIENCE 1 **Get Digital Radio**

In the UK, the national information and promotional campaign is coordinated under one single message: **'get digital radio'**. Originally it focused on DAB but this was later seen as a mistake and the label used was changed to digital radio, including on other platforms. Digital is a concept familiar to many citizens and normally has positive connotations for them. With D-Love, they also created a popular figure to increase the promotional effect.

KEY SUCCESS FACTOR 2 **Plan promotion**

To ensure consistency in messages about digital radio across channels and regions and their effectiveness, promotion needs to be coordinated, perhaps even centralized. This enables the promotion effort to be sustained over a long period while sharing the efforts among the various stakeholders. A coordinated approach also ensures that retailers have enough stock and show it prominently while campaigns are running.



NATIONAL EXPERIENCE 2 **Promotion calendar**

In the UK, two big annual campaigns are coordinated and scheduled by Digital Radio UK. In summer, the first focuses on the content available; just before Christmas, the second insists on the idea of radio as a gift, focusing on sales. Both campaigns include commercial radios and BBC radio and television airtime as part of the broadcasters' contribution to the process. The new car registration periods are also taken into account since this is a period when car sales jump. Then the focus is on in-car receivers. The effort is sustained throughout the year, with differing levels of intensity.

KEY SUCCESS FACTOR 3 **Target the related industries**

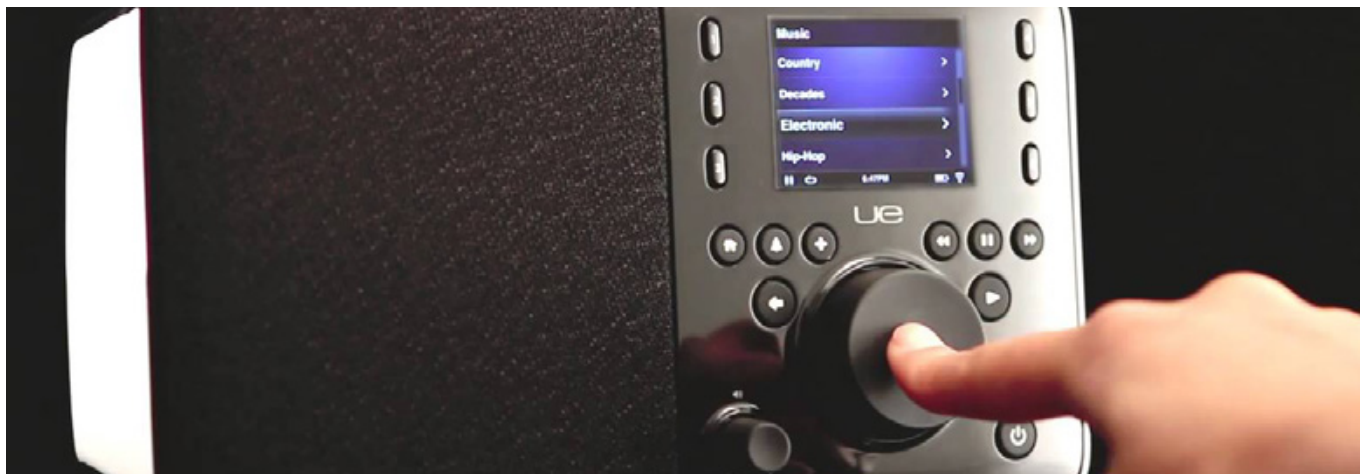
The radio industry is not isolated from other businesses. Consumer electronics provide most of the necessary devices to access radio content while the car industry provides one of the main listening locations. These are important players within the industry and need to be targeted early in the process of introducing digital radio in a country. They include manufacturers, importers/distributors and retailers, where the key targets are marketing and sales staff.



NATIONAL EXPERIENCE 3 **B2B activities in Norway**

Communications activities targeted to related industries in Norway include garages, professional visits, speeches, leaflets, articles in professional magazines, etc. Most of this activity targets the car and consumer electronics industry. As an example, by mid-2014 more than 80% of Norwegian car dealerships had been visited by the industry trade body Digitalradio Norge at least once. The focus then shifted towards other car-related businesses such as petrol stations or tyre repair shops, making them aware of the business opportunity of providing aftermarket in-car adaptors (see section 8).

7. CONSUMER ELECTRONICS



The role of the consumer electronics industry in the transition to digital radio is to provide the necessary equipment. While many different options are available at professional level, with consumer equipment critical issues need to be addressed. These issues are mainly related to the availability and affordability of radio sets.

Clearly, consumption changes matter. The way listeners can access radio services is evolving with the multiplication of platforms and devices. In some countries a decline in the sales of radio receivers can be observed. This does not mean that fewer people are accessing radio but that they are diversifying the devices they use.

In line with the EBU's Smart Radio initiative, the aim is to have free-to-air broadcast in all radio-capable devices equipped with both FM and digital tuners in order to ease the transition to digital radio. This includes domestic and in-car radio sets as primary devices as well as smartphones, tablets and other digital gadgets.

In order to address this challenge, broadcasters are joining forces with consumer electronics and semiconductors manufacturers, as they are all interested in consumers' purchasing new devices; broadcasters to distribute their digital services and manufacturers to sell their products.

These manufacturers are international so the bigger the scale of the production, the cheaper the devices will be on the market. A major effort has been made in pioneering countries but there is a need to target retailers and importers in each country to create demand for devices. Working with them, normally through a common industry trade body (see section 6), will help to foster the involvement of these players and consequently improve take-up of digital radio.

WORKING WITH
MANUFACTURERS,
IMPORTERS
AND RETAILERS
FOSTERS THEIR
INVOLVEMENT
AND THE TAKE-UP
OF DIGITAL RADIO

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KEY SUCCESS FACTOR 1 **Make affordable devices available on the market**

Cheap devices are needed on the market to provide affordable access to digital radio. This will give low-income listeners access to digital radio and might also encourage undecided people to give digital radio a try given the low economic barrier. Additionally, a range of devices is needed at a variety of price and quality levels to cater to all listener target groups.



NATIONAL EXPERIENCE 1 **Entry level prices**

In the summer of 2014, DAB devices in the UK had an entry price close to GBP 15 (just over EUR 20) in the main chains selling radio sets. Countries joining the transition later will have the advantage of the economies of scale created by the frontrunners since manufacturers have international scope. The same can be expected for in-car radio devices, including aftermarket units.

KEY SUCCESS FACTOR 2 **Offer future-proof devices**

Citizens do not want to buy a radio set and realize that it has become outdated after just a few years. Consumer interest must be kept in mind when producing, importing and selling radio receivers. Otherwise, a bad experience will create a negative image for digital radio. This can be done directly by introducing mandatory digital tuners or indirectly through information campaigns or certification marks for tested products. This requires close cooperation between broadcasters, manufacturers and retailers. Consumer regulations can also apply.



NATIONAL EXPERIENCE 2 **Tick Mark Scheme**

The UK's Digital Radio Certification Mark or simply **Tick Mark** identifies radio devices that meet minimum requirements through a test, assuring buyers that the product is future-ready and will enable them to receive DAB, DAB+ and FM radio stations. The mark can appear at the retail point of sale, on packaging, online and on other marketing materials. It is managed by the trade body Digital Radio UK (see section 1).

KEY SUCCESS FACTOR 3 **Ensure a good buying experience**

Retailers need to keep three basic things in mind: sales people need to be trained to explain main features of digital radio to consumers; radios must be displayed at the point of sale (and a prominent position will boost sales); and in-store repeaters should be considered an option for demonstrations.



NATIONAL EXPERIENCE 3 **In-store repeaters**

Some of the biggest British retailers, such as John Lewis, or specialist consumer electronics shops, such as Currys, use in-store repeaters to guarantee a clear reception of DAB signals for their demonstrations. This is done with the acknowledgement of the regulator and consumers are reminded to check coverage at home to avoid a disappointing experience.

8. CAR INDUSTRY



Although radio is closely related to the car industry it is not one of its core concerns. It is therefore important to make the case for in-car digital radio highlighting the added value for customers. The international scope of the car industry, compared to the national scope of broadcasters, is an additional challenge.

Digital radio is not important to the car industry unless it is an incentive or a risk: an incentive for customers to buy a particular car if digital radio is offered or a risk of losing them if it is not offered. In this context, the radio industry's best partners are consumers, since their demands for digital radio will generate a positive response from the car industry.

Given the international nature of the car industry, it may be difficult to make the case for digital radio nationally. However, countries adopting digital radio later will have the advantage of the awareness and the economies of scale created by frontrunners' markets. Once the market starts to develop, there is also a snowball effect: car manufacturers offer digital radio because their competitors include it, especially those in the same segment or targeting the same type of customers.

As agreed by our contacts, both content and safety can be used as arguments to involve this stakeholder. The reasons for digital include the extra content (see section 3) but also the opportunities of using digital radio networks for improved information and travel services, such as TPEG. This standardized traffic protocol enables more and more accurate information and has already been launched through DAB+ in Germany. In-car digital radio represents more quality and safety at marginal cost. At the same time, it is the most reliable network in emergency situations and is capable of reaching a large number of listeners without the risk of network congestion.

A final note refers to the connected car. In future years, radio will lose the monopoly of the car dashboard with the wide availability of data connectivity. This can be a distribution channel for radio but also for other audio providers such as Spotify, Deezer, Pandora or Apple. Other entertainment options could also have an opportunity to take over time traditionally devoted to radio. However, at this point the connected car is not foreseen by broadcasters as a disruptive competitor. On the contrary, as broadcasters see it, the real connected car combines IP with broadcasting offering a wide range of hybrid radio content and added value for drivers.

IN-ROAD
SAFETY AND
INFORMATION
PROVIDED BY
DIGITAL RADIO
IS ADDED VALUE
FOR THE CAR
INDUSTRY

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KEY SUCCESS FACTOR 1 **Target the car industry early**

The car industry works with long lead times so it is necessary to target it soon. Currently, there are no technical constraints to include digital radio, just commercial reasons. There is a need to launch a dialogue with car manufacturers since broadcasters assume that car manufacturers will install radios as they have traditionally done so but this may be naïve when Spotify or Pandora are paying car manufacturers to be on the dashboard.



NATIONAL EXPERIENCE 1 **Car industry visits**

In Switzerland, the industry body MCDT heavily targets the car industry, mainly through personal visits. Without Swiss local manufacturers, importers are a key target to promote the installation of in-car digital radio tuners. As a result, in 2013 DAB+ was fitted as standard in 30% to 50% of all new cars. Dealerships are also visited and specific in-store staff training sessions are held, providing them with brochures and other promotional material.

KEY SUCCESS FACTOR 2 **Attend to the aftermarket**

Most of the current radio audience will not change their cars during the transition period or will not have the opportunity to buy a car with a digital tuner. This means that in-car adaptors for digital services need to be provided. The aftermarket can be served by the manufacturers themselves or by the free market. It is a new business opportunity for them so they will embrace it. Like other radio sets, affordable adaptors with minimum quality requirements are necessary.



NATIONAL EXPERIENCE 2 **UK aftermarket**

The United Kingdom has been particularly active in targeting the in-car aftermarket. In the summer of 2014, entry-level prices started at GBP 50 (around EUR 65). Prices may vary according to the quality of the product chosen, the antenna and the cost of installation. Adaptors available include head sets, units fitted into the dashboards, hidden units behind the dashboard and units integrated into the dashboard.

KEY SUCCESS FACTOR 3 **Ensure a seamless in-car radio experience**

One of the main concerns of the car industry is to ensure digital radio coverage of major roads, including tunnels, a key challenge in countries such as Norway and Switzerland. The objective is to guarantee that car drivers do not lose coverage during their journeys. Many digital receivers are able to switch automatically between FM and DAB depending on the quality of reception. Hybrid systems could add IP delivery to this shared reception.



NATIONAL EXPERIENCE 3 **Tunnel coverage**

In both Norway and Switzerland, tunnel coverage is the responsibility of the local roads administration since it is part of their safety policy. In Norway, it plans to achieve full coverage in tunnels through a bid to select the best provider. In Switzerland, where this administration currently funds FM coverage in tunnels, negotiations are under way to keep this status for digital signals.



Volume

ANNEXE

LIST OF EXPERTS INTERVIEWED

NORWAY

Øyvind Christensen (Kulturdepartementet / Ministry of Culture)

Hans Petter Danielsen (P4, WorldDMB)

Petter Hox (NRK)

Jørn Erik Jensen (NRK, WorldDMB)

Line Langnes (Medietilsynet / Norwegian Media Authority)

Svein Larsen (Norsk Lokalradioforbund / Association of Local Radios)

Torbjørn Østli (Norkring)

Jarle Ruud (Digitalradio Norge)

Ole Jørgen Torvmark (Digitalradio Norge)

Knut Henrik Ytre-Arne (NRK)

SWITZERLAND

Juerg Bachmann (Verband Schweizer Privatradios / Association of Swiss Private Radios)

Daniel Gamper (Automobil- und Motoren AG – AMAG)

Thomas Gilgen (Digris)

Marcel Regnotto (Federal Office of Communications)

Thomas Saner (SRG SSR, WorldDMB)

Marc Savary (SRG SSR)

Rolf Schurter (SwissMediaCast)

Lukas Weiss (Union nicht-kommerzorientierter Lokalradios / Association of Non-commercial Local Radios – Unikom)

Ernst Werder (Marketing and Consulting for Digital Broadcasting Technologies – MCDT)

Philippe Zahno (Radios Régionales Romandes / Regional Radios of Romandie)

UNITED KINGDOM

Lindsay Cornell (BBC, WorldDMB)

Peter Davies (Ofcom)

Ford Ennals (Digital Radio UK)

Adrian Fitch (Bauer Media)

Mark Friend (BBC, WorldDMB)

Laurence Harrison (Digital Radio UK)

Glyn Jones (Arqiva)

Graham Johnson (The Society of Motor Manufacturers and Traders – SMMT, Connects2)

Lindsey Mack (BBC)

Ian O'Neill (Department of Culture, Media & Sport – DCMS)

Nick Piggott (Global Radio, RadioDNS, WorldDMB)

INTERNATIONAL BODIES

Gunnar Garfors (International DMB Advancement Group, NRK)

Patrick Hannon (WorldDMB, Frontier Silicon)

Bernie O'Neill (WorldDMB)

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