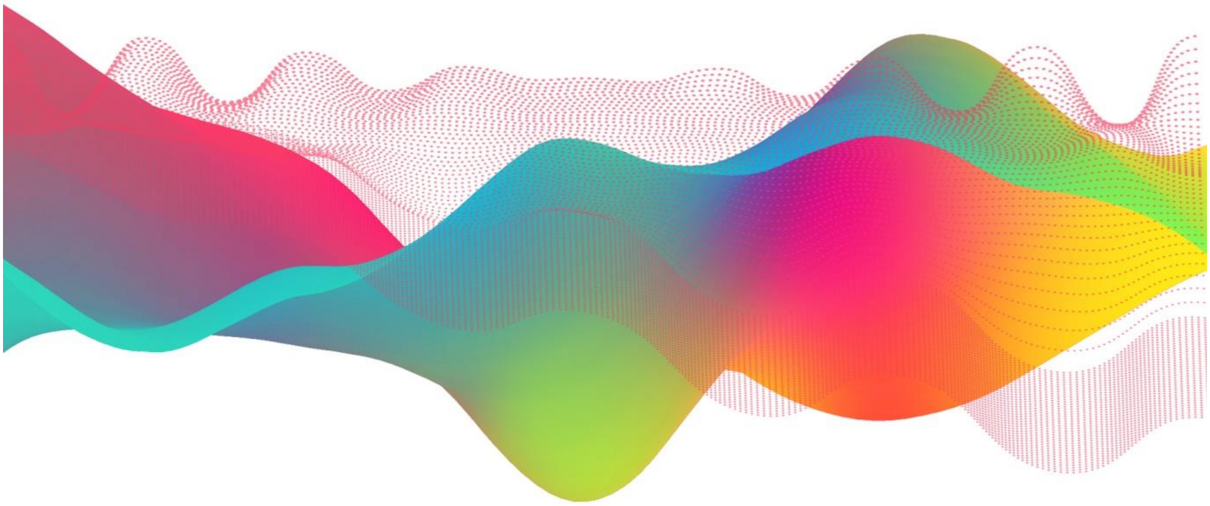
digitalradioUK



RADIO AND AUDIO REVIEW: INTERNATIONAL MARKET REPORT

Prepared for the Listener Working Group

Updated version 21 September 2021

DIGITAL RADIO AND AUDIO REVIEW: INTERNATIONAL MARKET REPORT

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1. EXECUTIVE SUMMARY

The following report '*Radio and Audio Review: International Markets Report'* has been prepared by Digital Radio UK as part of the remit of the Listener Group of the Digital Radio and Audio Review.

The headline finding is that radio remains a resilient and robust mass-market medium in relatively good health ahead of COVID-19 with high levels of audience reach, engagement, and listening levels.

However, in all markets there is evidence of a shift in the audio market that is being accelerated by the advance of digital technology and global online competitors. This has blurred the line between radio and audio on demand and stimulated international broadcasters to increasingly focus on developing audio content across multiple platforms. The most immediate impact of this shift has been a change in the listening behaviour of younger audiences who in most markets have decreased their levels of music ownership and their time spent listening to radio and increased their time spent listening to music streaming services and podcasts.

These trends are seen across all international markets surveyed but most acutely in the most advanced digital technology markets, such as the US, where radio listening levels have decreased across all ages. The international broadcasters are alert to the shift and seeking to maintain listening levels and engagement by extending their radio brands and presenters into audio on demand formats delivered online.

The rise of the global audio competitors Spotify, Amazon, Apple, and Google/YouTube are seen in all markets, where they are competing for share of audio time against live radio and using their scale to invest to acquire audio content and distribution across markets. Amazon and Google's successful introduction of smart speakers in homes has been welcomed by broadcasters albeit with a tension given their position as smart speaker platform gatekeepers and aggregators, which could represent a future threat.

The report identifies the following ten interrelated conclusions and areas of commonality across the international markets studied.

Market shift from radio to audio
Most international broadcasters recognise that they now operate in a multi-platform audio market with new global competitors in a highly-dynamic landscape which offers challenges and opportunities for radio broadcasters.

Live radio listening under pressure
In all international markets there is growth in listening to music streaming services and podcasts. The growth in these categories share of audio time puts pressure on live radio, and in the US there is evidence of loss of time spent listening to live radio.

Decline in radio listening among young audiences
The pressure on radio listening is greatest amongst young audiences who are most likely to listen to other forms of audio on demand, and most international markets are seeing a decline in live radio listening among younger audiences. The growth of music streaming use among young audiences is led principally by the growth of Spotify across major international markets and the increased usage of Amazon music prompted by smart speaker penetration growth.

Growth of digital listening across multiple platforms

Digital listening growth in international markets is seen across multiple platforms including online and HD Radio in the US, online and DAB+ in Australia and European markets, and is viewed as a positive development that helps make radio more competitive. Despite the growth and importance of listening online, all markets continue to project that radio listening via broadcast will remain greater than IP in the near to medium term. Most markets expect to maintain FM distribution, except Switzerland which has a timetable for FM switch-off and potentially Germany where broadcasters would like to capture future FM transmission cost-savings if possible. It is a limiting factor that DAB+ broadcast is not supported in North America. DAB broadcast is only supported in the UK.

Increased focus on podcasts as part of the radio offer
Podcast listening is growing in all international markets and is accepted as an organic extension of the radio market and a natural area for radio broadcasters to extend into.

Competing and partnering with global IP players
The new audio competitors in international markets are global online entities, such as Spotify, Apple Music, Amazon Music, and Google which owns YouTube. Amazon and Google also have a role as smart speaker gatekeepers, and international broadcasters are keen to partner with them to ensure access and prominence for their services. There is a potential tension between these two roles and a possible threat for broadcasters.

Local and personality: music radio's competitive edge
The US and Australian broadcasters emphasised the importance of local market engagement and the power of big radio personalities as a way of differentiating and competing effectively with music streaming services. One of the leading US radio researchers expressed scepticism about music radio's ability to compete in the future with music streaming services.

Radio device sales shift from radios to smart speakers
Smart speakers are a factor in all international markets and overall outsell traditional radios in the US (as they do in the UK). Futuresource project that the growth of smart speakers will be sustained but will slow and potentially peak in 2022. Traditional radio sales are in sustained decline across European markets, prompted by strong decreases in FM radio sales not offset by the increase in digital radio sales seen in most markets (excepting the UK).

Increased connectivity in automotive
In-car listening is of critical importance in international markets accounting for 30-40% of radio listening (compared to 24% in the UK). Radio remains the primary choice in the car even where there is IP connectivity in cars.

Importance of measurement
There is a range of different measurement systems used for live radio listening across international markets. The broadcasters emphasised the importance of being able to measure radio audio on demand content consumed online, and the value of tracking podcast performance at an industry level, which they believe will help them monetize this content.

2. BACKGROUND AND APPROACH

The *'Radio and Audio Review: International Markets Report'* has been prepared by Digital Radio UK as part of the remit of the Listener Group of the Digital Radio and Audio Review.

The objective of the international report is to understand the international digital and audio listening landscape, and trends in key markets, which may have an impact in the UK. The report will be submitted to the Review Steering Board as part of the work of the Listener Group to inform the findings and recommendations arising from the Review which are expected to be published in March 2021.

The report was compiled following a series of interview with broadcasters, researchers and industry bodies operating in the key international markets in North America, Australia and Europe.

Radio and Audio Review
The Radio and Audio Review was set in progress following the achievement of the 50% digital platform listening criteria, with Government and the radio industry working collaboratively to define the scope and put in place an organisational structure and implement the project.

In February 2020, Media Minister John Whittingdale confirmed the scope and timescale of the Review, with the DCMS formally publishing the Terms of Reference and the intention to complete and publish recommendations by March 2021.

The Review will examine future trends and consider how radio should adapt to the growing challenges and opportunities from the latest audio technologies, as well as the impact of new consumer behaviours such as streaming.

The Review is chaired by DCMS, and overseen by a Steering Board of key industry organisations including the BBC, Bauer Media, Global, Arqiva, Radiocentre, techUK, and the Society of Motor Manufacturers and Traders, with the work being undertaken by three dedicated Working Groups – the Devices, Automotive and Supply Chain Group; the Listener Group; and the Distribution and Coverage Group.

International Report scope
Digital Radio UK was commissioned by the Review's Listener Group to report on key international markets, and set out to engage with and collect data from ten major markets across three continents: North America (the US and Canada); Australia; and Europe (Germany, Switzerland, Norway, Sweden, Spain, France and Italy).

The US is the most advanced audio and technology market in the world. The researchers for the international online audio research study The Infinite Dial described the US market as '*what happens in Australia in two years' time and in Germany in four years' time.'*

As such, we believe developments in the US radio market best suggest future impacts on the UK radio and audio markets, and therefore is the principle focus of this report. However, US radio has a number of unique characteristics, which differentiate it from the UK radio market, as follows:

- Absence of a strong public service broadcaster
- The presence of subscription satellite service Sirius XM in cars
- Free to air broadcast digital radio (HD Radio), limited predominantly to cars
- Local market focus, with no national stations

Australia and Germany more closely resemble the UK in terms of the mix of public service and commercial stations, and the presence of DAB/DAB+, although Australia has very different geographical characteristics, and adoption of digital technology, principally smart speakers, is less advanced in Germany. We feature in depth reviews of both of these markets.

Switzerland and Norway are advanced digital markets having been DAB pioneers along-side the UK, and we comment on their digital switchover progress.

COVID-19

All international markets reported significant impact caused by COVID-19 lockdown. This was particularly disruptive in international markets because of a higher dependency on in-car listening (30-40%). The markets believed that the loss of car journeys initially created a reduction in listening hours but in time this was offset by a strong surge in in-home listening.

As lockdown has eased and people have returned to using cars rather than public transport, the belief is that radio listening has returned to normal levels. It remains to be seen if increased levels of online listening will be sustained. There were many comments about how the radio industry has increased engagement with local communities during the pandemic by providing relevant local news, updates and support.

There was a major loss in commercial revenue in international markets during lockdown of 45%-70% due to the closure of key market sectors and the withdrawal of advertisers. Commercial radio groups have sought to reduce their expense base and while there is evidence of a return of advertisers there is a view that it is likely to take 12-18 months to fully recover.

The feedback on radio market performance relates to pre COVID-19.

3. KEY COUNTRY FINDINGS

3.1. NORTH AMERICA

- 3.1.1. The USA - a market in transition

In the US, radio remains a very powerful medium with extremely high levels of audience reach of over 90% and strong regional broadcasting groups and brands.

The radio market in the US can be broken into two distinct segments - live free to air broadcast radio and subscription-based satellite radio service. The relative Share of Ear of the two types of radio is shown in the chart Share of Time to Audio Sources on pg 8.

90% of broadcast radio is listened to on an AM/FM/HD radio receiver in home, at work or in car, while 10% of free to air radio is listened to online. Approximately 95% of satellite radio is listened to in cars and c.5% is listened to online via the Sirius XM app.

In the US, over 40% of radio listening takes place in the car, compared to 24% in the UK. This is driven by the fact that, at 29 miles, the average US car journey is three-times longer than the UK, and there is proportionally less radio listening in home. The market for new domestic radios is limited with US electrical retailers stocking a very restricted range. Hence broadcasters have welcomed the launch and consumer take up of smart speakers as they see the devices as a way of boosting radio listening in the home. In interviews, US broadcasters described smart speaker listening as mostly 'additive.'

The make-up of the radio and audio market in the US is different to most major markets, dominated by commercial radio with no strong public service broadcaster[1], no national stations, with broadcast digital radio (HR Radio) in cars but not homes, and with a very strong subscription satellite service (Sirius XM) in cars.

According to Edison Research Share of Ear[2], US listeners' time spent listening to radio has declined by 28% over the last 5 years from 2 hours 10 mins to 1 hour 34 mins.

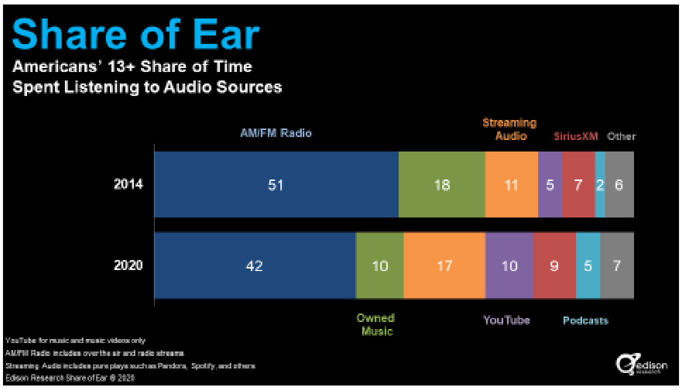
Time spent listening to AM/FM radio

[1] National Public Radio (NPR) is a national syndicator to a network of 1000 member stations but not a broadcaster.

[2] Share of Ear is an audio listening diary survey conducted and owned by Edison Research. Share of Ear data is used with permission of Edison Research. https://www.edisonresearch.com/share-of-ear-research/

Live radio Share of Ear in the US has declined from 51% to 42%. The US Share of Ear data typically does not include Sirius XM. If we include Sirius XM listening we see a decline in radio's Share of Ear from 58% to 51% over the last 5 years.

Share of Time to Audio Sources



As in most markets, listening to live radio skews older with listeners 55+ listening to twice as much radio per day as younger listeners. Radio listening time spent levels have declined across all age groups over the last 5 years, by -33% for 13-34s, -30% for 35-54s, and -21% for 55+, as has Share of Ear across all age groups - to 26% for 13-34s, to 45% for 35-54s, and to 56% for 55+.

Despite the US market differences there are a number of areas that are directly relevant to the UK including developments online and in car.

Online audio market and listening growth

Evidence that audio on demand content and distribution is increasingly valued in the US can be seen in recent investments and acquisitions, including:

- The acquisition by Liberty Media, also owner of Sirius XM, of leading US music streaming company Pandora for $3.5bn, and podcast company Stitcher for $325m
- Spotify's $500m acquisition of podcasting companies Gimlet, Anchor, Parcast and the Ringer, and their $100m exclusive licensing deal for the market-leading podcast *The Joe Rogan Experience*
- The New York Times $25m acquisition of podcast company Serial Productions.
- Significant investment in audio content by iHeartRadio and Entercom, the two leading radio broadcasters in the US[3]

Edison Research's The Infinite Dial[4] shows that in the US there is strong presence and awareness of online audio brands - Pandora (83%), iHeart Radio (72%), Spotify (76%), Apple Music (71%), Amazon Music (70%), and Google Play/YouTube Music (68%).

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[3] See Charts 'Investments' and 'Exits' in *What you should know before investing in the podcast industry: A guide to the audio ecosystem* by John Delfau: https://blog.usejournal.com/what-you-should-know-before-investing-in-the-podcast-industry-a-guide-to-the-audio-ecosystem-32c2e25875cf

[4] Edison Research, The Infinite Dial 2021: https://www.edisonresearch.com/the-infinite-dial-2021-2/

68% of people listen to online audio every month, increasing to 88% of 12-34 year olds. Spotify has now overtaken Pandora as the No 1 music streaming service with listening levels twice those of Apple Music, Amazon Music and iHeart Radio. For 12-34 year olds, Spotify is almost twice as likely to be used in the last month as Pandora (48% v 26%).

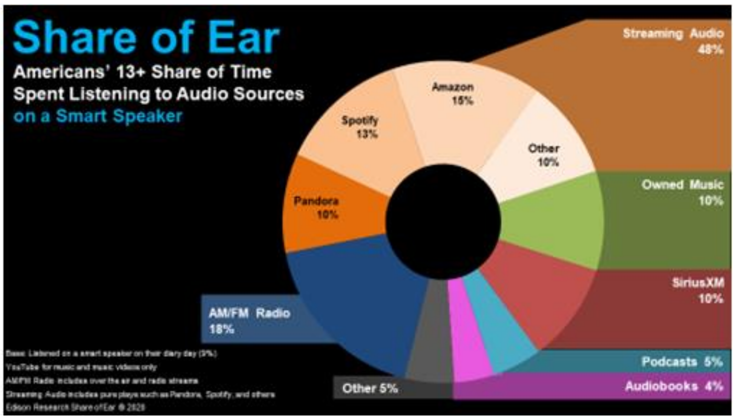
Voice-controlled devices are well accepted in the US with 62% claiming use of personal assistants on online devices - 48% smartphones, 31% laptops, 26% smart speakers, 20% tablets.

According to Futuresource estimates (see Pg 21), over 100 million smart speakers have been sold in the US and household penetration has risen to 33% with the number of smart speakers per household increasing to 2.3. The market is dominated by Amazon Alexa with 71% market share vs Google 11% and Apple 1%. In the past year during the Covid-19 pandemic, smart speaker household penetration has grown strongly to 33% from 26% in 2020, with the average number of smart speakers owned increasing to 2.3.

This suggests that smart speakers have valued functionality, and are not a 'novelty' item, and the expectation is that household penetration will continue to grow.

As shown in the smart speaker Share of Ear chart below, US radio (broadcast + satellite) only accounts for 28% of listening on a smart speaker, with online streaming of broadcast radio services accounting for 18% and streaming of satellite services accounting for 10%. This compares with 64% for live radio listening on a smart speaker in the UK. In the US, 48% of audio listening on a smart speaker is music streaming services and 5% is podcasts

Time spent to Audio Sources on Smart Speaker



Edison estimate that smart speakers account for 25% of all online radio listening which in total is c. 10% and only accounts for c. 3% of total radio listening. Edison are unconvinced that smart speaker radio listening is additive and believe is likely replacement listening from other online devices.

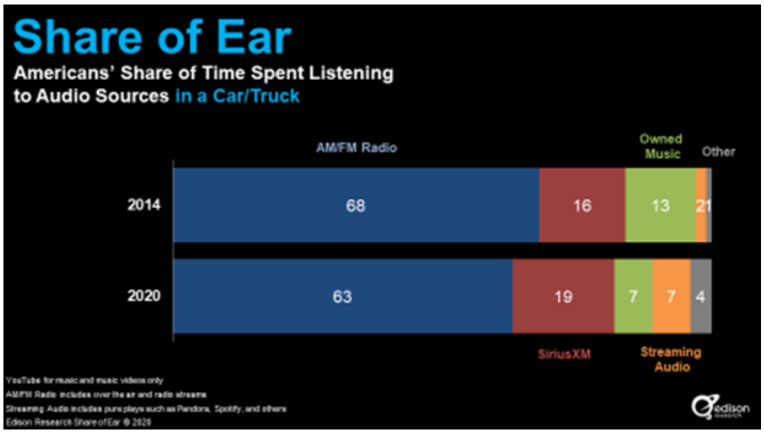
Spotlight: iHeartRadio app – Local stations, playlists and podcasts

iHeartMedia is the largest radio group in the US with 858 stations and an audience of 280 million listeners every month. Previously called Clear Channel, the station group was rebranded with the umbrella brand name iHeart 5 years ago to signify the central role of digital platforms.

All its stations use the local station names but are promoted as part of the iHeartRadio network and push to the iHeartRadio app. This offers live local radio stations, podcasts from iHeart and third parties, playlists, and the ability to create free artist stations from 20 million songs and 800,000 artists. iHeart see this app as competing directly with Spotify and Pandora.

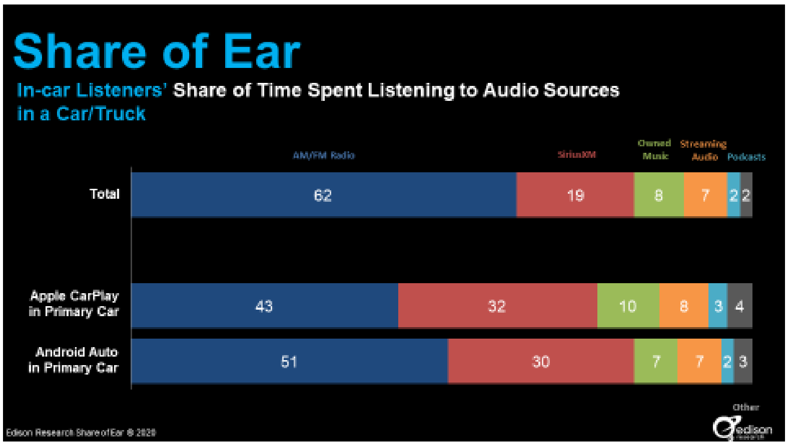
Increased connectivity in car

As previously stated, in car listening is very important in the US and accounts for c.40% of all radio listening. Radio's Share of Ear in car has been resilient with 63% of all listening in car being to AM/FM radio, 82% if you include the 19% for Sirius XM. This is comparable to the level of 84% in 2014.



According to The Infinite Dial research, 18% of cars in the US are connected with in-dash information and entertainment systems, with 9% having Apple CarPlay and 5% Android Auto.

Interestingly, in cars with CarPlay or Android Auto systems in the dashboard, overall radio's share of listening in cars is relatively stable at 75% and 81% respectively including Sirius XM. Sirius XM appears to be the beneficiary of these connected systems with its share increasing from 19% to 32% and 30% respectively, with limited growth in listening to streamed music.



Spotlight: Sirius XM Satellite Radio and Online Services

Satellite subscription service Sirius XM is a major player in the North America automotive audio market and overall accounts for 9% Share of Ear and 19% in the car. The total Share of Ear for radio, however, only includes AM/FM radio services and does not include Sirius XM.

Sirius XM is owned by Liberty Media and operates in the US and Canada providing a unique range of subscription satellite radio services for cars and online audio services. The service is potentially available in 75% of all new cars and currently has 35 million subscriptions with customers paying between $7-$17 per month for 300 channels, offering 'music, talk, sport, comedy, news and Howard (Stern)'. Annual revenue is nearly $8bn.

Sirius XM services are now available online via the Sirius XM mobile app and on smart devices with a Google voice assistant.

Spotlight: HD Radio

HD Radio is a free-to-air broadcast digital radio technology used by FM and AM stations in the US, Canada and Mexico which allows the rebroadcast of existing stations with higher sound quality and the ability to broadcast additional stations within the same frequency allocation. This technology is highly-efficient in its use of spectrum and infrastructure, with marginal transmission cost to broadcast additional stations, although additional capacity may be required as well as additional equipment.

There have been some criticisms of the technology, in particular the impact the digital signal has on the reception of analogue services, and the relatively low power, and hence low coverage, of the digital signal to mitigate interference.

There have been discussions between broadcasters and the US regulator, the Federal Communications Commission (FCC), about the potential for some analogue AM/MW stations to switch off their analogue broadcast and broadcast the HD Radio digital stream in MW. This proposal is supported by the National Association of Broadcasters (NAB) and the FCC are considering the impact on people with analogue-only receivers and the fact that of the 70 million existing HD Radio receivers in circulation 90% of them are in cars.[5]

- 3.1.2. Canada

The radio market in Canada is similar to its North American neighbour, the US, with a few critical differences, namely:

- The presence of a strong public service broadcaster, the CBC
- The Maple Music Policy requiring 30-40% Canadian music
- High CRTC regulation
- The requirement for French language content in certain markets
- The absence of Pandora music streaming
- A weaker position of Amazon Music and Echo due to a later launch than in the US

DAB was initially deployed and licenced in Canada in the 2000s with 60 DAB stations launching in major markets by 2006. However, DAB development subsequently stalled, with no regional and national networks established due to the automotive industry's reluctance to fit DAB in new cars and low take up of domestic DAB receivers.

Given the proximity to the US and the success of satellite radio there, the Canadian automotive industry increasingly chose to support the fitment of satellite radio capability in cars rather than

[5] http://www.insideradio.com/free/broadcasters-make-their-case-for-allowing-digital-only-am/article_17bc4a84-6ce6-11ea-b858-abf4ce61d3b8.html

DAB. Ultimately, DAB was phased out by the CRTC around a decade ago due to low take-up and satellite radio and then HD Radio adopted as they were both supported in cars in the US.

As in the US, listening in car is pivotal and accounting for c. 35% of all radio listening. Both Sirius XM and iHeartMedia operate in Canada but with lower levels of adoption.

The Canadian radio market is dominated by AM/FM with 69% of adults claiming to have listened to AM/FM in the last week (68% in the US). Online audio consumption is high and on The Infinite Dial study is shown at 70% (in last month), higher than the US and Australia and nearly twice the German level. The leading music streaming service is Spotify which like other music streaming services does not have to adhere to the Canadian music policy.

As in the US, online radio listening is c. 9% and listening to podcasts is 37% monthly. Smart speaker household penetration in Canada has increased to 27% which represents a slower growth rate than the US. As per the US there are low levels of traditional domestic radios sold.

AM/FM's position in cars in Canada is still strong with 78% of drivers using it in the car. 20% of drivers, a relatively high level, have a car with a connected dashboard. HD Radio is being rolled-out to Canada and is now available in 36% of new cars sold in Canada, with 80 stations on air.

Overall the Canadian radio market is exhibiting similar overarching trends as the US with the same levels of adoption of online audio, and the same pressure on young audience listening but with a slower rate of radio listening decline. Smart speaker household penetration in Canada has increased to 27% which represents a slower growth rate than the US.

- 3.1.3. Opinion: Music radio at risk in the US

A key source of data for the US in our report was Larry Rosin, Co-Founder and President of Edison Research in the US, which created and operate the Share of Ear studies in the US and The Infinite Dial in the US, Canada, Australia, South Africa and Germany.

As a highly-experienced and knowledgeable commentator on US radio, Rosin's view on the future of US radio warrants specific note. He claimed himself to be 'deeply bearish' about the future of music radio in the US due to the success of music streaming services and is critical of the US radio industry as having neglected talent development, running 'jukebox' services, and being laden with 'immense levels of debt.' He said that in the US '*if you want music then Spotify or Pandora is a better option*.'

Rosin was more positive about speech-based radio content (news, sports, sports-talk, talk shows, and other speech) which he considers should 'last longer.'

We talked to leading radio broadcasters in the US who took a different view and saw US radio as highly-resilient with the brand and local market strength to grow across digital platforms and resist the challenge of music streaming.

3.2. AUSTRALIA

The Australian radio market is long-standing and well-established with the first commercial radio stations launching nearly 100 years ago. Australian radio has largely been able to sustain levels of radio listening and is adapting quickly to digital technology.

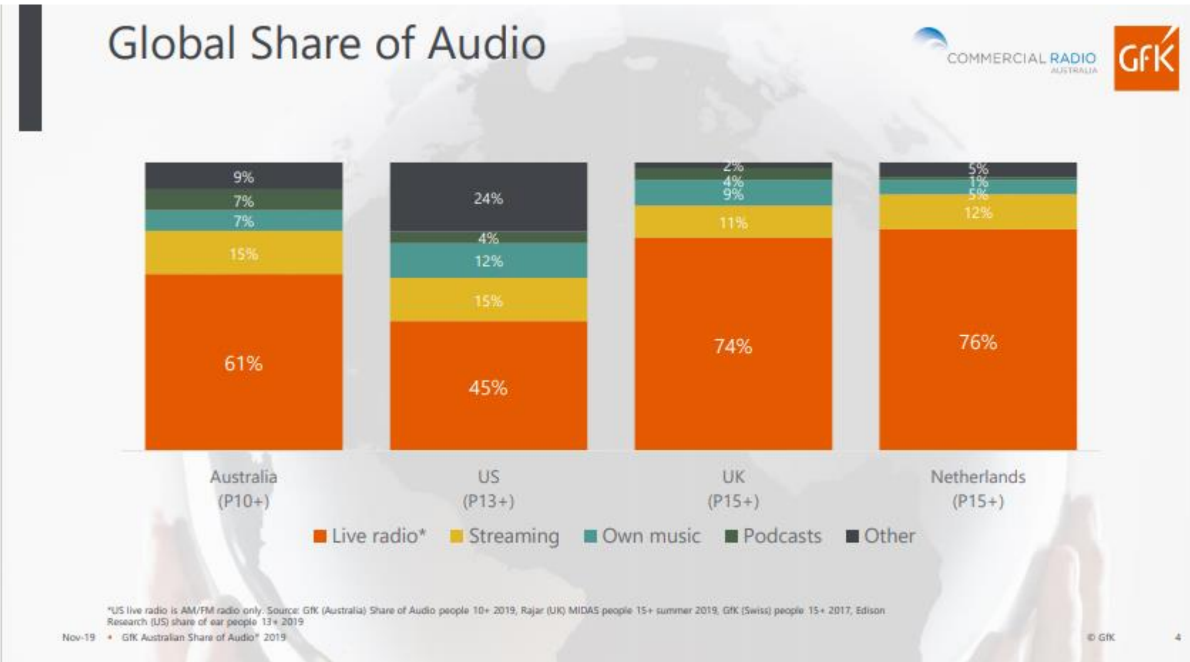
It is dominated by the commercial radio groups but there is a strong public service broadcaster, ABC, that commands c.23% of radio listening. There are essentially two radio markets in Australia - the capital city radio markets which have DAB+ coverage and expanded choice; and regional radio which has no DAB+ and less choice. AM is strong in both.

The Australian radio market is distinct in the remoteness of some audiences and the scale of the geography it covers, including areas where there is no AM, let alone FM or DAB+. This led to political debate following the closure of ABC's short wave domestic broadcasts in 2017. At the time, the opposition said they would look at reintroducing the short wave broadcasts as while these remote audiences could get TV and radio services via satellite, the satellite receivers were not portable in the manner of a short wave handset, presenting a problem for farmers who could no longer listen to the radio while away from the home station.

Because of the geography and distances travelled, twice the average journey length than the UK, listening to radio in cars is very important and accounts for 34% % of radio listening.

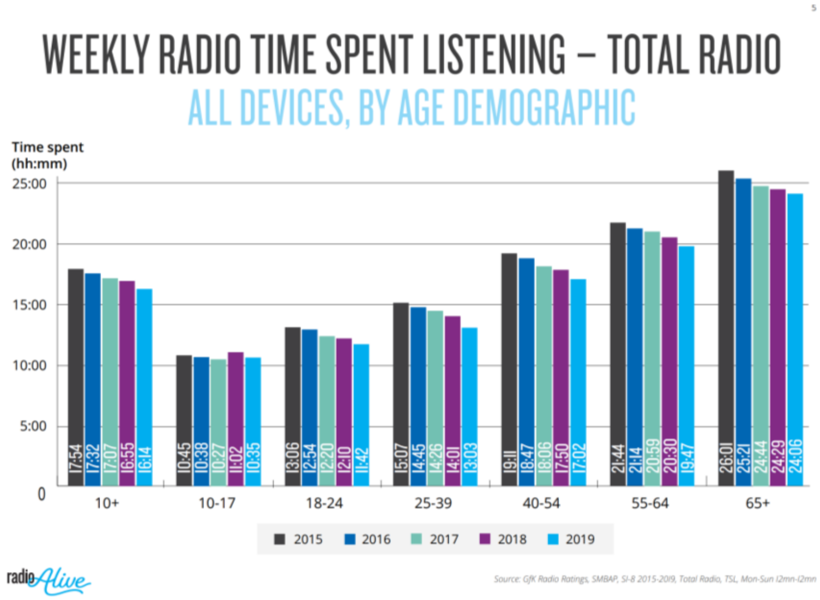
Radio's share of audio is strong at 61%, but has been in slow decline from 65% in 2016. The share of audio of music streaming services and podcast has increased to 16% and 8% respectively.

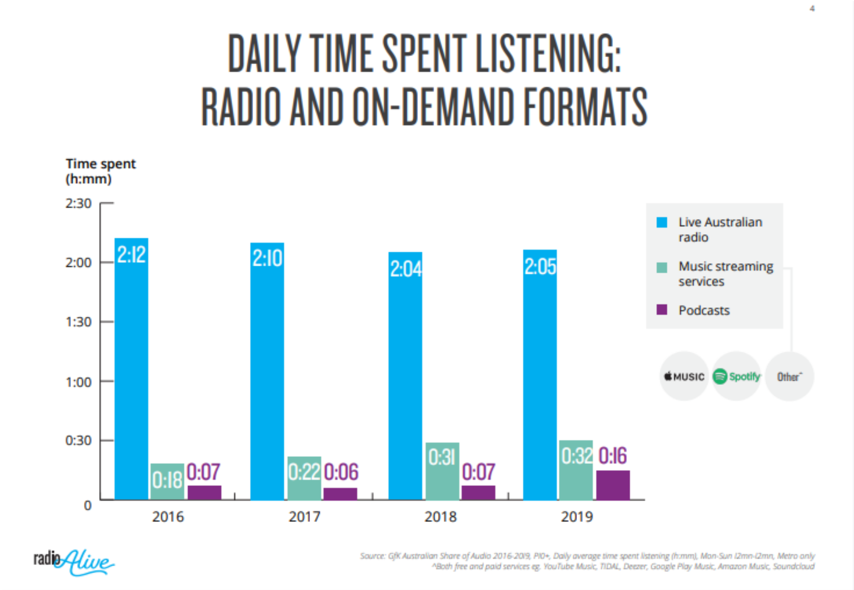
Commercial Radio Australia report that the share of audio results for 2020 show a recovery to 65% for live radio. The bar chart below (**Global Share of Audio**) compares share of audio for four international markets – Australia, the US, the UK, and the Netherlands.



Music streaming's share of audio is 15%, comparable to the US and UK. Spotify is the leading music streaming service and, as in the US, use of YouTube as a listening platform is high.

Overall radio listening time spent has declined 9% over the last 5 years with reductions seen across all age groups and the highest decline of 13% being amongst 25-39 year olds. Time spent listening amongst 18-24 year olds declined by 11%.





Radio listening is dominated by AM/FM, with 82% of people listening to AM/FM in the last week which compares with 65% in the US, 62% in Germany and 62% in the UK.

DAB+ is well established in Australia with 391 digital stations operating across 8 major markets with 65% coverage. The most successful DAB+ stations are brand extensions of well-known FM stations offering targeting specific audiences and genres.

In the last year, with more time spent at home, Edison have reported that smart speaker household penetration in Australia has grown strongly to 26%, in line with Canada but behind the US and UK. The smart speaker device market in Australia is dominated by Google Nest, which represents 90% of smart speakers sold, while Amazon has a relatively small market share at 9%.

Radio listening online is comparable to other major international markets at 10-12% of total radio listening.

In car, 7% of drivers claim to have a connected in-dash system, and while listening to AM/FM in cars is high, with 83% of respondents having listened in the last week, it is in gradual decline, and online audio listening in cars is growing with 33% of respondents having listened in the last week.

As per the US, around 40% of people claim to be listening to audio in their car on their smart phone.

These observations and trends are in line with other international markets although the decline in radio listening is less than the US.

However, there are distinct learnings from the Australian radio market shared by the broadcasters.

John Musgrove of leading commercial broadcaster SCA, emphasised the importance of big radio personalities and stars, knowing and engaging with local markets and local communities, commenting ‘localisation will be our saviour.’

He highlighted that on the major local stations’ breakfast and drivetime shows, the emphasis is on personality and talk, rather than music, and this offers clear differentiation from music streaming services.

Joan Warner of Commercial Radio Australia emphasised two key initiatives led by CRA that could have relevance and impact in the UK.

These are:

- Direct liaison with Google and Amazon on behalf of the radio industry on ensuring Australian stations are easily accessible on smart speakers
- The creation of an Australian Podcast Tracker which provides a common industry view of the most popular podcasts in Australia from the radio broadcasters and third parties

3.3. EUROPE

Radio across Europe reaches 85% of people and 80% of young audiences (15-24s), with people listening to 2 hours 23 mins of radio a day and with young audiences listening to 40% less at 1 hr 26 mins.

Radio listening in terms of reach and time spent is in gradual decline in European markets with time spent declining over the last 5 years by 7%, and 20% among 15 -24 year olds.

Major radio markets identified to be declining include France, Italy, Holland, Spain, Russia, Denmark, Finland, although not Germany.

According to the EBU, FM is the dominant platform for radio listening and stations. Of the estimated 12,245 stations in Europe, 11,600 are FM with 1697 DAB+/DAB stations and 285 exclusive online public service stations.

There are still 206 AM stations but 19 of the 58 EBU markets have now switched off AM.

There are now 30 countries broadcasting stations on broadcast digital, mainly in DAB+. Of these digital stations, a third are digital-only (exclusive) and two thirds are simulcast on FM.

Two thirds of digital stations are commercial radio stations and 80% of these stations target local or regional markets.

It is estimated that online listening to radio across Europe is c.10%.

The EBU forecasts that *'FM will remain the main distribution network for radio broadcast in the short to medium term*.' They also highlight in their Radio Distribution report[6] the increasing influence of third party aggregators, observing that '*the growth of on-demand audio and consumption is making broadcasters more vulnerable to the diktats of third-party aggregators.*'

- 3.3.1. Germany

Germany is the leading radio market in Europe in terms of listening and radio device sales and has a strong impact on the direction and policy of its European neighbours.

Live radio share of audio (**see ARD Share of Audio chart below, Pg 17**) is high at 80% of total audio (149 mins out of total of 186 mins) but is lower among young audiences at 45% compared to music streaming share of 41%.German broadcasters report that radio listening is in good shape with audience reach and listening time stable.

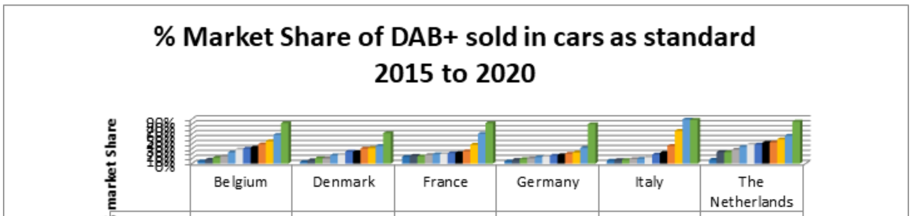
[6] EBU Market Insights: Radio Distribution Networks, Media Intelligence Service, April 2019
https://www.ebu.ch/media-intelligence

Share of Audio, Germany (Source ARD)

Germany launched DAB+ in 2011 and the platform has progressed significantly now accounting for more annual digital radio sales than the UK. DAB+ radios are in 23% of homes, and there are 260 digital stations across one national multiplex, 26 regional multiplexes and 4 local multiplexes. Germany launched a second national DAB+ multiplex at the end of 2020 including stations from private radio groups previously opposing DAB+.

There has been strong growth of DAB+ radio sales in Germany in the last year of +24.8%, with household penetration rising to 25%. DAB+ radios have been well-supported by the public service broadcaster ARD and the adoption of a German-designed marketing logo for DAB+ which is now widely used by manufacturers and at retail.

With the implementation of the EU EECC directive mandating digital radio receivers in new cars, the proportion of new cars sold in Germany with DAB+ fitted as standard grew to 80% in H2 2020 from 32% in H1 2020, as seen in the chart by automotive data specialists, JATO, shown below.



	Belgium	Denmark	France	Germany	Italy	The Netherlands
H1 2015	5%	3%	14%	5%	6%	8%
H2 2015	8%	7%	16%	7%	7%	23%
H1 2016	12%	11%	15%	9%	7%	23%
H2 2016	15%	10%	17%	11%	9%	28%
H1 2017	23%	17%	19%	13%	10%	34%
H2 2017	29%	18%	19%	14%	13%	39%
H1 2018	30%	24%	21%	16%	18%	39%
H2 2018	32%	23%	21%	17%	21%	42%
H1 2019	39%	30%	25%	20%	36%	43%
H2 2019	45%	31%	38%	22%	66%	49%
H1 2020	58%	36%	60%	32%	89%	56%
H2 2020	82%	62%	82%	80%	89%	85%

In parallel with the growth of DAB+ radios, smart speaker household penetration is reported to have grown to 24%, which puts Germany 1-2 years behind the most advanced English-speaking smart speaker markets US and the UK. However, there remain widespread concerns among German technophiles about the privacy impact of smart speakers.

No political decision has been made yet about a future FM switch-off but the German broadcasters do not expect there to be the required funding available in 10 years' time to support two different terrestrial networks.

In terms of technology adoption and online audio listening, Germany appears to be at the level the US was in 2017 with monthly listening to audio online, including live radio and online content such as music streaming and YouTube, at 60% compared to monthly audio listening online in the US now at 80%.

There are equally lower levels of listening to podcasts every month of 17% compared to 33% in the US. Radio listening on a traditional radio remains strong in the car with it being the most used audio source for 67%. The proportion of people who claim to have listened to audio in their car in Germany via a smart phone is relatively low at 20%, approximately half the levels claimed in the US and Australia.

- 3.3.2. Norway and Switzerland: Switchover markets

Following their 2017 digital radio switchover **Norway**'s radio market has now broadly recovered in listening terms and the next critical point will be the December 2021 switch-off of the remaining local stations on FM.

Public service broadcaster NRK in Norway commented that radio listening had broadly returned to pre-switchover levels[7] but that the switchover process was a challenging and controversial period for the Norwegian radio industry and suggested it did some reputational damage for the sector.

One of the commercial radio groups active in Norway commented on the negative impact on commercial revenue and claimed that the key learning was 'not to switch off FM.'

Switzerland, where digital listening is c. 70%, has studied the results of the Norway switchover and is proceeding with its plans for a FM switch-off at the end of 2024 to coincide with the expiration of the FM licences at the end of 2024.

The driving force for switching-off FM in Switzerland is the belief that digital radio is so well advanced that it will be possible to capture the analogue transmission savings without losing many listeners. While FM accounts for 30% of radio listening there are only 17% of listeners only listening to FM.

The other factor giving the Swiss confidence is the relatively low level of listening in cars of 14% and the fact that 60% of cars on the road already have digital capability.

The Swiss broadcasters previously announced a provisional timetable for an earlier switch-off of FM with the public service stations switching off in August 2022 followed 6 months later by the private

[7] Further detail on Norway's DSO is in 'Norway - One Year After', Updated Feb 2020 https://www.worlddab.org/system/news/documents/000/011/365/original/One_Year_After_-_report_and_appendices_-_2nd_update.pdf?1584541307

commercial stations in January 2023. However it was decided to delay the switch-off to the end of 2024 following public criticism in French-speaking Switzerland and due to a desire to give listeners and particularly drivers more time to get ready and transition to digital technology.

- 3.3.3. Other European Markets

Sweden has coverage of 42% for local DAB stations and has seen an expansion of stations on the Nordic Entertainment Group (NENT) commercial radio multiplex with Bauer planning to launch DAB+ stations this summer 2020.

Swedish Radio (SR) has also applied for permit to launch 10 DAB+ stations nationally. The Swedish broadcasters say that these developments are important for the future health of the Swedish radio market as in their opinion the Swedish radio offering is too narrow to withstand the competition from Spotify and to sustain engagement with young listeners.

Spain has limited access to 18 DAB stations in the metropolitan areas of Madrid and Barcelona, and the radio market is strongly dominated by FM/AM stations where there is seen to be considerable choice and competition. It is not anticipated that Spain will look to expand digital radio but both Spain and Sweden are required to introduce the EU directive mandate to fit broadcast digital radio in all cars over the next two years which will extend the access for and possibly the consumer demand for digital stations.

France is a well-established and traditional radio market with a strong public service broadcaster in Radio France which including the France Bleu local and regional network of 44 stations accounts for 26% of listening. The leading commercial broadcasters are NRJ and RTL, with their stations being the most listened to in France.

Radio listening in France is pre-dominantly via AM/FM. DAB+ is un-developed and coverage is low at 25%, with no major national stations currently broadcasting in DAB+.

Over the last 5 years, total radio reach has been stable at 79% compared to 82% 5 years ago, but reach among 13-29 year olds has declined to 72% from 79%. In terms of time spent listening to radio, total radio listening amongst all adults has declined by 7%, while amongst 13-29 year olds it has declined by 16%.[8]

Broadcast radio's share of audio in France is relatively low at 48% compared to music streaming at 16%. Penetration of smart speakers in France is accelerating and 11% of all adults, and 22% of 13-24 year olds, now have a smart speaker. 20% of people cite the smart speaker as one of the three most commonly used ways of listening to radio.[9] Additionally, Futuresource project that smart speaker penetration will increase to 40% of households in France by 2024.

At 3.1 million units, France's annual radio receiver sales are the second largest in Europe, behind only Germany with 3.3 million units, and 800,000 units greater than the UK's 2.3 million units. DAB+ radio sales are low, with analogue accounting for 94% of radio sales, and DAB+ radio household penetration is just 13%.[10]

With the implementation of the EU EECC directive at the end of 2020 it is projected that the proportion of new cars sold in France fitted with DAB+ has risen to 82%. France is planning to launch

[8] Source: Mediametrie Radio Panel 2015-2020 https://www.mediametrie.fr/
[9] Source: Mediametrie Radio Equipment study: 2019 wave
[10] Source: Mediametrie Radio Equipment study: 2019 wave

its first national DAB+ multiplex in 2021 and with the plans to legally mandate digital radio sales DAB+ radio sales have increased by 69.8% in the last 12 months. In Italy where similar legislation against the sale of new FM radios (without digital capability) has been passed into law, DAB+ radio sales have increased by +93.6% in the last 12 months.

4.1. SMART SPEAKER GROWTH AND PROGRESS

Smart speakers and voice-control are already strongly present in the major international markets. We commissioned retail consultancy Futuresource to assess the number of smart speakers sold to date in major markets, the level of household penetration, and then forecast the future level of sales.

The Futuresource smart speaker market estimates and projections reinforce a number of points highlighted within this report, with key observations being:

- Smart speakers outsell the level of traditional radios across the US and UK
- The rate of smart speaker growth is projected to slow but the level of sales is expected to be sustained with the peak year being 2022
- In the US, UK, Australia and the Nordics the level of household penetration for smart speakers is projected to rise to 75% -100% in the next 5 years
- It is projected that smart speaker take-up and penetration will be slower in Germany, France and Spain where it is forecast to be 27%, 40% and 20% respectively by 2024

FutureSource Consulting Smart Speaker Forecasts

Shipments (M Units)	2018	2019	2020 (f)	2021	2022	2023	2024
Australia	0.8	1.4	1.8	2.1	2.2	2.2	2.0
Canada	0.3	3.4	3.7	3.9	3.9	3.7	3.5
France	1.0	1.7	2.0	2.3	2.6	2.8	2.9
Germany	1.2	1.7	1.8	2.0	2.3	2.5	2.7
Italy	0.0	0.3	0.6	0.8	0.9	1.0	1.0
Norway	0.0	0.2	0.3	0.4	0.4	0.4	0.4
Spain	0.0	0.4	0.7	0.8	0.8	0.9	0.9
Sweden	0.1	0.5	0.6	0.8	1.0	1.1	1.0
UK	4.3	4.9	5.3	5.7	5.8	5.7	5.6
USA	32.0	37.2	42.0	44.0	44.5	44.0	43.0
Installed Base (M Units)							
Australia	0.9	2.3	4.0	5.7	7.4	8.7	9.4
Canada	0.4	3.7	7.2	10.6	13.6	15.8	17.0
France	1.2	2.9	4.7	6.6	8.5	10.3	11.8
Germany	1.6	3.2	4.8	6.4	8.0	9.5	10.8
Italy	0.0	0.3	0.9	1.7	2.6	3.5	4.1
Norway	0.0	0.3	0.6	0.9	1.3	1.6	1.8
Spain	0.0	0.4	1.0	1.7	2.5	3.4	3.8
Sweden	0.1	0.6	1.2	1.9	2.7	3.5	4.1
UK	7.7	12.2	16.4	20.3	23.5	25.6	27.0
USA	60.9	93.9	127.7	157.9	182.0	198.7	208.5

Smart Speakers Definition

Wi-Fi speaker positioned as an audio device, with cloud connection and integrated microphones that enable it to respond to voice commands e.g. Amazon Echo, Google Home
Includes bridging devices that can playout music or act as a bridge to other audio devices
Includes speakers with interactive displays that enable search, discovery and viewing of content. eg Amazon Show and JBL Link View
Excludes devices purely to control smart home applications.

Household Penetration Definition

Penetration data reflects the total installed base of a product divided by the number of households in any given country or region. Penetration can - and often does - exceed 100%, as it does not take account of multiple ownership

In the UK Futuresource estimate that the installed base is 12.2 million - about half the level of DAB radios sold but achieved in a fifth of the time.[11]

The implications of international smart speaker business of this scale for the UK market is the pressure it puts on traditional radio manufacturers and the retail stocking of traditional radio devices.

Potentially the sustained scale of the smart speaker market could enable other global audio companies to invest and carve out share in a market currently dominated by Amazon and Google.

[11] Further commentary and analysis of the FutureSource data is available here.

One area of innovation that is expected to become a significant factor is the development of smart speakers with screens, such as the Bose Home Speaker 500 and Portal from Facebook, which are reported to be selling well. The combination of voice and vision in smart audio devices could provide opportunities for radio broadcasters to support station and content discovery.

4.2 TRADITIONAL RADIO SALES

During the 12 months from April 2020 to March 2021, which coincided with the timing of the pandemic, across the 12 leading European markets overall radio unit sales held up well with a decline of -8.7%, with the majority of sales during this time being transacted online.

European digital radio sales increased by +14.4% during this period and FM radio sales decreased by -18.6%. The digital radio sales growth was prompted by strong increases in Germany (+ 24.8%); France (+69.8%); and Italy (+ 93.6%). In the past and future FM switch-off markets of Norway and Switzerland overall radio sales were stable at -1.7% and -0.1% respectively. In the UK, overall radio sales declined by -20.8% and digital radio sales by -16.9% reflecting the maturation of the DAB market and the sustained success of smart speaker sales.

The two charts below, seen on pg 23, (**GfK Panelmarket EU12, March 2021**) show the traditional radio (analogue and digital radio) sales trends across 12 leading European markets for the 12 months to March.

Radio manufacturers in European markets lack scale and are principally relatively small, national suppliers, rather than global entities. In some cases, such as Technisat in Germany, the radios are rebadged generic units manufactured in China.

The leading global electrical goods companies LG and Samsung do not manufacture radios, and for Sony and Panasonic radio is not a major priority. There is a perceived lack of innovation in traditional radios and the category is seen as expensive in comparison with smart speakers and Bluetooth speakers

The global manufacturers of smart speakers have significant scale and, in some cases, a different business model which makes it hard for traditional radio manufacturers to compete with them, particularly on price.

GfK Panelmarket EU12, March 2021

AHS , TUNER, RECEIVER, RADIO DEVICES (TABLE TOP), CAR AUDIO — Panelmarket EU12 — April 2020 - March 2021, Sales Ths.Un.

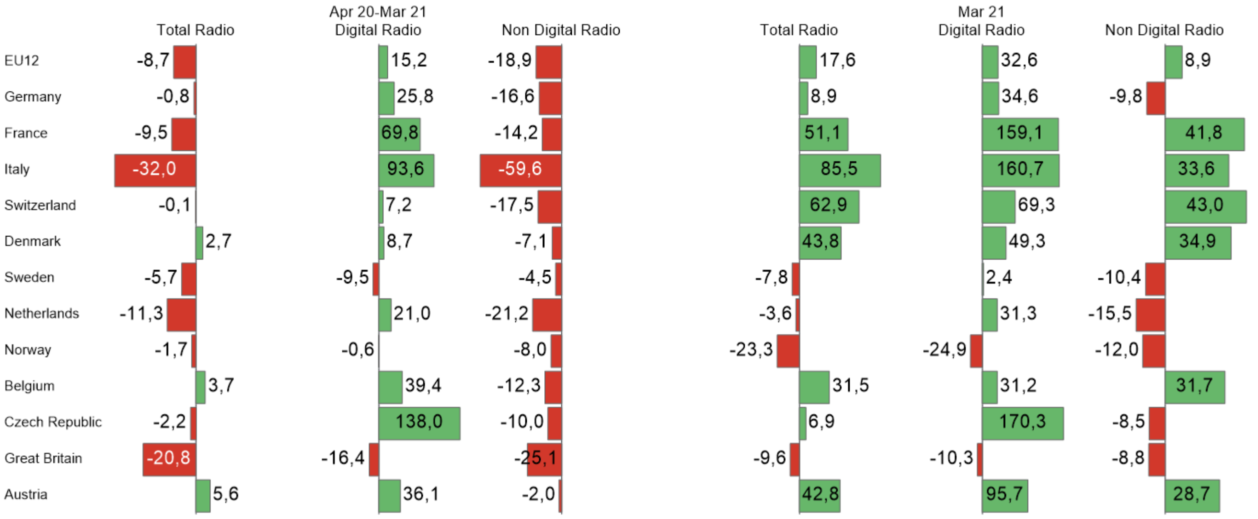
Apr 20-Mar 21

	EU12	Germany	Switzerland	France	Italy	Denmark	Sweden	Netherlands	Norway	Belgium	Czech Republic	Great Britain	Austria
Digital Radio Abs.	4.340,5	1.646,7	335,8	297,8	243,9	91,2	36,8	244,2	131,6	209,1	48,7	956,1	98,5
Digital Radio +/- % PY	15,2	25,8	7,2	69,8	93,6	8,7	-9,5	21,0	-0,6	39,4	138,0	-16,4	36,1
Non-Digital Radio Abs.	7.221,9	1.846,0	109,8	2.535,0	232,0	47,9	128,8	519,8	21,4	294,9	329,8	870,2	286,3
Non-Digital Radio +/- % PY	-18,9	-16,6	-17,5	-14,2	-59,6	-7,1	-4,5	-21,2	-8,0	-12,3	-10,0	-25,1	-2,0

- For the year to March 2021, we have seen Digital Radio grow +15.2% in volume
- EU12: Volume grows to 4.3m units, with only 3 out of the 12 countries showing a decline on last year; 41% of total March sales were from Digital Radios
- DE: DAB pushes through the 50% barrier for the first time in volume share with March '21 showing a noticeable growth on March '20
- FR: Slow but steady gains for DAB share in FR in Q1 2021, with DAB seeing the 3rd highest growth rate in EU12
- IT: With the 2nd highest growth rate for DAB in EU12, Italy has seen a very strong start to the year – Analogue radios post the largest decline though, -60% YoY
- CH: One of the slowest growing countries in EU12, CH saw only a 7.2% growth for DAB over the last 12 months, however March 2021 saw record sales of 32,000 units
- NL: 2020 will prove a difficult year to beat for DAB sales, although March has posted a +4,000 increase from March last year; Analogue sees the 3rd worst decline
- BE: DAB share reached 46.6% in Belgium in February, but March saw a small reversal at only 43.1%
- DK: Modest growth in DK for DAB with just under 9% growth over the year, with February showing the lowest DAB share for over a year
- SE: One of the 3 countries to show declines in both DAB and Analogue, SE saw DAB gain share in Q4, but in Q1 retreat again with March finishing at 22.7%
- NO: Another country to show declines across the board, Norway saw Analogue share reach a 2-year high in January, before returning to normal levels in February
- CZ: CZ posts the highest growth rate for DAB out of EU12 with an incredible 138% growth YoY, with DAB share in Q1 2021 seeing a significant jump to over 20%
- GB: The worst performer for DAB sales with -16.4% decline as well as a -25.1% decline for Analogue, GB sees DAB share remain very flat with little movement at all
- AT: A confident year for AT with DAB growing over 36%, with Q1 2021 also showing siginificant growth for DAB over Q1 last year

CZ: Tuner/Receiver tracked until 2016 only
For the availability of data for all other countries / categories per year please refer to page 5

Digital Radio Fusion — Panelmarket EU12, Growth Rate PY — Mar21, Sales Units %



CZ: Tuner/Receiver tracked until 2016 only
For the availability of data for all other countries / categories per year please refer to page 5

5. KEY FINDINGS AND CONCLUSIONS

All international markets surveyed reported the position of radio in their market as a resilient and relevant mass-market medium in relatively good health ahead of COVID-19.

However, in all markets there is evidence of a shift in the audio market that is being accelerated by the advance of digital technology and global online audio competitors. This has both prompted a decline in radio listening by younger audiences and stimulated international broadcasters to increasingly focus on developing audio content across multi-platforms.

The 10 conclusion points below were common to all international markets reviewed.

5.1. Market shift: From radio to audio

Most international radio broadcasters recognise that they now operate in a multi-platform audio market with new competitors in a highly dynamic landscape which offers challenges and opportunities for the radio broadcasters.

The share of listening time for other forms of audio content like music streaming and podcasts is growing supported by the shift to online distribution platforms such as smartphones and smart speakers.

International broadcasters are increasingly active in the podcast market as a means of leveraging their brands and talent and engaging with younger audiences.

There is evidence of the blurring lines between radio and podcasts with some markets measuring and tracking podcast performance and in the case of Germany including downloads in radio share of listening data.

Spotify continues to show subscription growth[12] and Amazon Music is increasing share across the markets on the back of the growth of household penetration of Amazon Echo speakers.

One senior European broadcaster commented, however, that he thought there was unlikely to be any sharp further disruption as the major music streaming services led by Spotify were all present in the major markets and relatively highly-distributed..

5.2. Live radio listening under pressure

In all international markets there is growth in listening to music streaming and podcasts. The belief is that this listening initially gained share at the expense of 'owned music' listening, but now there is evidence that in some markets live radio's share of audio and time spent on listening is declining.

This is the most extreme in the US where over the last 5 years radio Share of Ear has decreased from 52% to 42% in the last 5 years (or from 59% to 51% including Sirius XM), and radio listening minutes have fallen by 28%.

As indicated the US is in some ways an atypical radio market - without a strong 'ad-free' public service broadcaster, without free-to-air broadcast digital radio in homes, with a strong subscription based satellite 'radio' service Sirius XM in cars and with the culture of strong local radio markets and

[12] Statista data on Spotify subscribers: https://www.statista.com/statistics/244995/number-of-paying-spotify-subscribers/

no national stations. It also has high digital technology adoption ahead of other international markets. Nevertheless we believe that the prevailing radio and audio trends seen in the US with the increasing consumer take up of alternative forms of audio on demand content are relevant to all markets.

Australia listening data shows a minor decline in live radio's share of ear in the last 5 years from 65% to 61%, while EGTA listening data for Europe[13] shows many European markets declining in overall time spent listening to radio. However, German radio listening levels are seen to be stable and this is confirmed by the German public service broadcaster, ARD.

This compares to the decline in the UK radio share of audio from 77% to 72% in the last 5 years.

5.3. Decline in radio listening among young audiences

The decline in live radio listening is generally greatest amongst younger audiences (13 -34s) who have the greatest take up of music streaming and podcasts.

In the US live radio Share of Ear among 13-34 year olds has declined to from 35% to 26% in the last 5 years - while Share of Ear for music streaming has grown from 17% to 24% and YouTube from 11% to 17% in the same time period. The US broadcasters believe that their radio stations continue to engage and be relevant for young audiences but that the content is being consumed on other digital platforms which are not fully captured by traditional radio listening measurement.

In Europe, younger audiences have a lower reach and around half the levels of listening than the total market. EGTA listening data[14] shows that reach and time listening among young audiences has been declining over the last 5 years, including:

- in France where reach among young listeners has declined by -8.9% and time spent by -15.8%
- the Netherlands where reach among young listeners has declined by -15.3% and time spent by -11.1%
- in Norway where reach among young listeners has declined by -29.6% and time spent by -10.6%
- in Spain where reach among young listeners has declined by -13.6% and time spent -10.7%
- in Finland where reach among young listeners has declined by -18%, time spent -10%

5.4. Growth of digital listening across multiple platforms

All international markets are seeing growth in digital listening with gradual growth in listening to live radio online and strong growth in broadcast digital radio where it is present.

Online digital radio
Most broadcast stations are streamed online and offer station apps and many markets have an industry aggregator app such as RadioApp in Australia or Radioplayer. Increasingly station groups are offering audio on demand content on these apps in addition to live streaming such as podcasts and playlists - as exemplified by the iHeartRadio app in the US and the ARD Audiothek in Germany.

[13] Source: EGTA Radio daily listening time evolution 2011 – 2019 **(**See PDF here**)**

[14] Source: EGTA dynamics of radio listening across different age groups, 7 May 2019. http://www.egta.com/

In North America and Australia, the issue of music rights costs and the higher royalty payable on streaming music was raised and is cited as a reason that some local stations chose not to stream their FM stations online.

On average across international markets online listening accounts for c.10% of overall listening but there is not an expectation that IP-based listening is likely to overtake listening via broadcast radio - whether that be AM/FM or DAB+.

Across the international markets surveyed no broadcasters cited any online-only stations they believed to be successful in terms of audience reach or commercial contribution though there are examples of services tested online and then expanded to DAB+.

Broadcast digital radio
A number of the international markets surveyed are well-advanced with broadcast digital radio (DAB+) including Norway, Switzerland, Australia and Germany. These markets report that the launch and expansion of DAB+ digital radio has been a positive factor in the overall health of radio through the capability provided to increase the range and diversity of stations available. The new stations have generally been provided by existing radio broadcasters rather than new entrants and the most successful model has been the expansion of existing radio brand franchises to cover additional music genres.

In Germany, historically radio has been organised along regional lines and the emergence of DAB+ has supported the growth of national digital stations with a further 14-16 private stations to be launched on a new national multiplex at the end of 2020.

The public service German broadcasters expect there to be a switch-off of FM transmitters in the next 10 years as the funding for two systems of terrestrial distribution is removed. Deutschland Radio has already switched off some FM transmitters in Bavaria and Rhineland Palatinate. The start of the FM switch-off at the end of 2022 in neighbouring Switzerland will help provide learning and potentially build the political case for a FM switch-off in Germany.

5.5. Increased focus on podcasts as part of the radio offer

Podcast listening is growing in all international markets and is accepted as an organic extension of the radio market and a natural area for radio broadcasters to extend into.

To date there is little evidence of significant revenue being generated by commercial radio broadcasters from podcasts but it is seen as an opportunity to target younger audiences.

In most international markets, radio broadcasters have increased their focus on developing podcasts featuring radio talent and content and many have developed apps featuring both live radio and audio on demand.

US radio broadcaster iHeart Radio claims to be the No 1 podcaster in the US, and said that its podcast revenue grew 103% year on year in Q2 2020 while unique podcast listeners grew by 30% year on year and downloads by 62%. Also in the US, broadcasters quoted that NPR are now generating more ad revenue from podcasts than on-air advertising on its member stations and podcast revenue is seen as a growth opportunity. Another important US development is the significant recent investment in podcast content and distribution companies by Liberty Media, Spotify and the New York Times.

In a number of international markets there are independent podcast rankers including Australia, created by Commercial Radio Australia, in Sweden by PoddIndex, Norway, and the US which has two, one run by Triton and one from Podtrac.

5.6. Competing and partnering with global IP players

The new audio competitors in international markets are global entities such as Spotify, Apple, Amazon, and Google which owns YouTube. They are global in terms of distribution and technology and can deal directly with global device and automotive manufacturers.

The international radio industry liaises with device and audio manufacturers at a national and regional level and there is little read across/liaison between European and USA radio broadcasters, and the NAB in the US highlighted this as a potential opportunity.

US broadcasters highlighted that the radio broadcasters are heavily regulated yet the online digital competitors were not subject to regulation, and could behave accordingly. The role of Amazon and Google as smart-speaker platform gatekeepers and aggregators is understood by the broadcasters and organisations like the EBU, which in its Radio Distribution[15] report highlighted this as a potential threat. A number of the broadcasters cited the importance of maintaining a direct relationship with the listener and of ensuring access across all digital platforms.

There are a range of approaches to interfacing with to Amazon and Google in the international markets with an interesting contrast between the large radio groups like US market-leader iHeartRadio, who deal with Amazon directly, and the smaller groups like the regional Beasley Group, who go through a third party as they cannot 'get Amazon's direct attention.'

One of the most successful examples is Commercial Radio Australia who launched an industry initiative working with Amazon and Google on local station access on smart speakers.

A number of broadcasters cite the frustration about the inability to access relevant data on station listeners which Amazon and Google are holding but do not share, which is seen as 'a goldmine.'

Another concern expressed is the ubiquity of TuneIn as a default radio provider on online platforms. TuneIn does provide information via a broadcaster dashboard but is not seen as a true partner by broadcasters, and a number said they are considering withdrawing services from TuneIn.

5.7. Music radio's competitive edge: Local and personality

The US and Australian broadcasters all emphasised the importance of local - local brands and local connection - and personality - the power of big radio personalities and stars. This combination is seen as what separates live radio from music streaming and there was scepticism expressed in both markets about the ability for radio 'jukebox' stations to survive.

While international market broadcasters are all interested in diversifying into audio on demand they all have confidence that live radio is sufficiently distinct from music streaming. US market leader iHeartRadio characterised radio's competitive edge as *'discovery, surprise and companionship'* and was confident that '*radio will always survive.*'

[15] EBU Market Insights: Radio Distribution Networks, Media Intelligence Service, April 2019 https://www.ebu.ch/media-intelligence

European radio broadcasting group Bauer Media described live radio as being about personality, engagement and companionship compared to the more functional offering of music streaming.

A counter view about the vulnerability of music radio in the US market is in Section 3.1.3.

It should be stressed that both the US and Australian markets have very different geographic make up than the UK or most European markets (i.e. size and separation of individual markets).

5.8. Radio device sales shift from radios to smart speakers

Smart speakers are present and a factor in most international markets. Household penetration is highest (26%-33%) in English-speaking markets such as US, Canada and the UK. According to industry analyst Futuresource, smart speaker sales are still growing across all markets surveyed and now outsell traditional radios in the US and UK with this category growth expected to be sustained. Futuresource project that smart speaker penetration will grow to all homes in the US, Australia and the UK over the next 5 years.

Amazon dominates the market in the US (and the UK) with over 70% share but is second to Google in Canada, Australia and Germany where it was slower to market.

The rate of adoption elsewhere depends on the speed of development of the specific local language and Amazon's presence in the market.

Amazon does not operate in Norway or Switzerland which the local markets rationalise as being due to being relatively small markets, and outside the European Union. There is also a perception that Amazon has been more reluctant than Google to overcome the complexities of translating the different local dialects. Switzerland and Norway offer distinct challenges for smart speaker voice assistants due to the number of languages and local dialects in common use in both markets.

In Germany, Amazon is present despite having launched later but smart speaker penetration has increased strongly to 24% despite concerns regarding security.

Smart speakers are seen as a positive development by international broadcasters - *'an exciting opportunity to help radio improve its position in the home'* - with live radio seen as the best 'audio usage case.'

The US is the most developed smart speaker market in the world and the average number of speakers per home at two devices is higher than domestic radios. Research indicates that overall smart speakers are being used by owners more over time which suggests that their primary functionality, including audio capability, is appreciated and widely used and that they are not seen as a 'fad' by owners.

In the US smart speakers are seen by broadcasters as providing potentially additive radio in the home as there are low levels of sales of domestic radios - however, live radio's share of audio on a smart speaker is 28% including satellite radio compared to streaming services' share of audio at 46%.

The strong growth of smart speakers and the steep decline of traditional radio sales suggest that ultimately the traditional radio category may not be supported by retail stores.

5.9. Increased connectivity in automotive

In car listening is critically important in international markets, accounting for 30-40% of radio listening. The higher proportion of radio listening in car in international markets is a factor of higher average car journeys plus a stronger culture of radio listening in homes in the UK.

In most international markets, AM/FM, or DAB+ where it is present, remains the primary source of radio listening and has proved resilient in the face of the introduction of connectivity into new car dashboards. In some new electric cars, such as BMW and Tesla, AM is being removed because of interference with the electric engine and in the US, Tesla offers customers the facility to upgrade their infotainment systems to give them video services, but this means they can longer listen to AM/FM or satellite radio.[16]

Radio usage in car remains high and was chosen as the most used audio source by two thirds of people in Germany and Australia but at a lower level (50%/57%) in the US and Canada where c.20% of cars have a connected dash system.

US Share of Ear research shows that radio retains its importance in connected cars and in cars with Apple Car Play and Android Auto, and that while AM/FM radio had a reduced Share of Ear, the overall level of radio listening in connected cars was maintained with satellite radio service Sirius XM seeing an increase in listening share rather than streaming audio.

In the US and Australia, a high proportion (45%/40%) of listeners have used their smartphone to listen to online audio in the car.

In Europe, the EU EECC directive mandating broadcast digital radio in cars is being implemented across member states effective December 2020 and will support greater take up of digital radio.

In Norway, where the digital switchover took place in 2017, c. 70% of cars on the road have digital radio capability and in Switzerland, which is planning a digital radio switchover in 2022, 50% of cars on the road have digital radio.

5.10. The importance of measurement

The revised focus of international broadcasters on creating and distributing audio content online and the rise in non-linear listening raised the question of the appropriateness of current measurement surveys and tools for radio in international markets

Markets with a PPM system are concerned that this does not reflect radio content consumed on digital platforms and there is a recognition that radio podcasts and downloads are not typically counted as radio.

The shift in international audio markets also reinforced the value of measuring share of audio and tracking performance of music streaming services and podcasts.

In the UK, RAJAR's MIDAS report measures non-linear radio to an extent agreed by the UK radio industry, and also tracks music streaming and podcast listening. Although the UK does not yet have a Podcast Ranker, a trial with a third party is currently underway.

[16] https://www.radioworld.com/tech-and-gear/tesla-infotainment-upgrade-2020

The Infinite Dial and the Share of Ear studies conducted by Edison include listening on YouTube and in the US this has a significant 10% Share of Ear, and 17% for 13-34 year olds.

In the UK, Ofcom research indicates that YouTube should be considered as a direct competitor in the audio market, as opposed to simply another media competing for time, and uses TouchPoints data to understand its impact. According to the Ofcom Media Nations Report 2020, YouTube listening among 15-24 year olds has grown to 12% share of audio.[17]

RAJAR's MIDAS report also captures YouTube in some detail, measuring consumption of YouTube - Music; YouTube - Non-music; and YouTube - Premium, although this data is not generally publically reported.

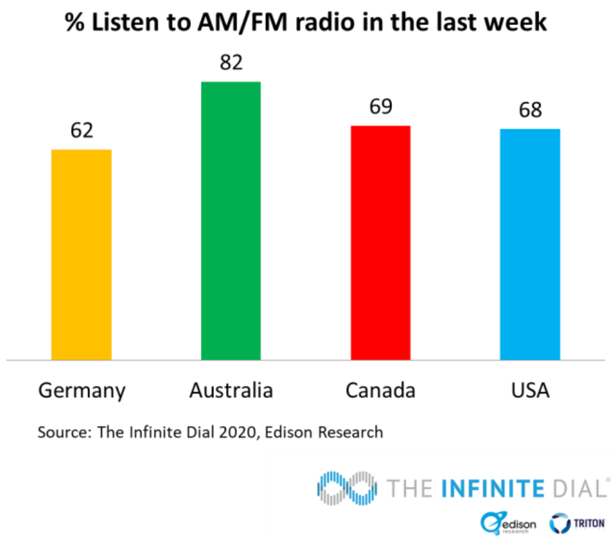
RAJAR and the UK broadcasters have had discussions with Edison Research regarding The Infinite Dial. Currently, however, the view is that the MIDAS report covers the data and areas that the UK radio industry needs, and has strong advantages and benefits, including its large sample size and the ability to agree and make changes directly with the UK broadcasters.

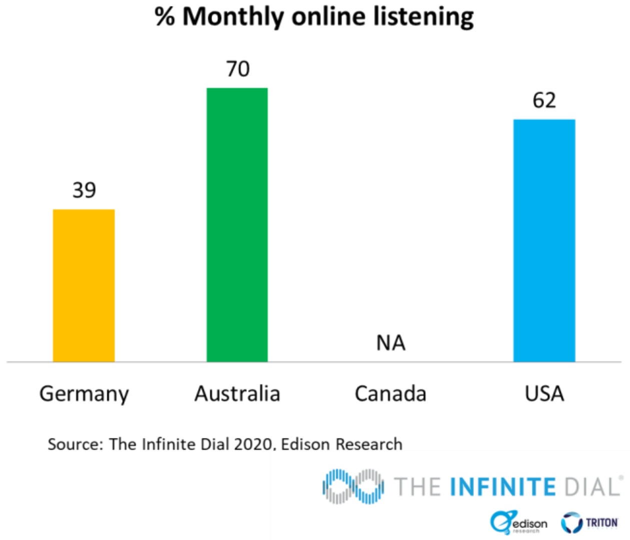
[17] Ofcom Media Nations 2020, Page 39: https://www.ofcom.org.uk/research-and-data/tv-radio-and-on-demand/media-nations-reports/media-nations-2020

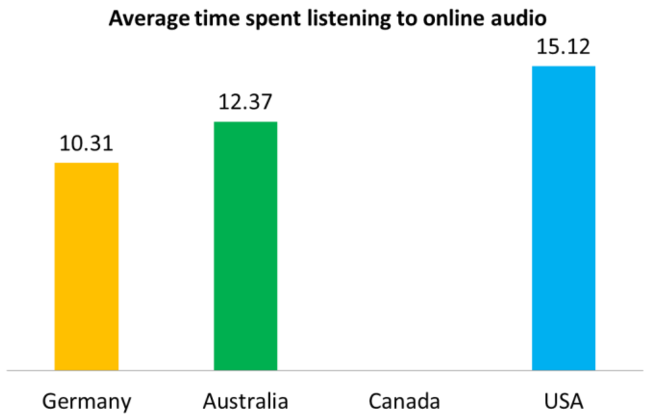
6. APPENDIX

6.1. ONLINE AUDIO MARKET COMPARISONS: THE INFINITE DIAL

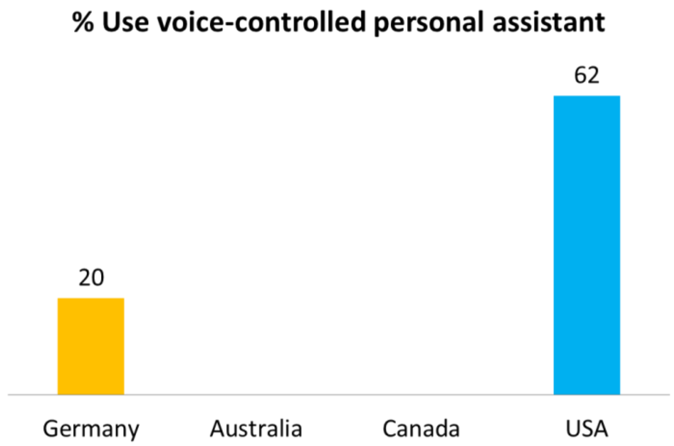
Source Edison Research and Triton Digital



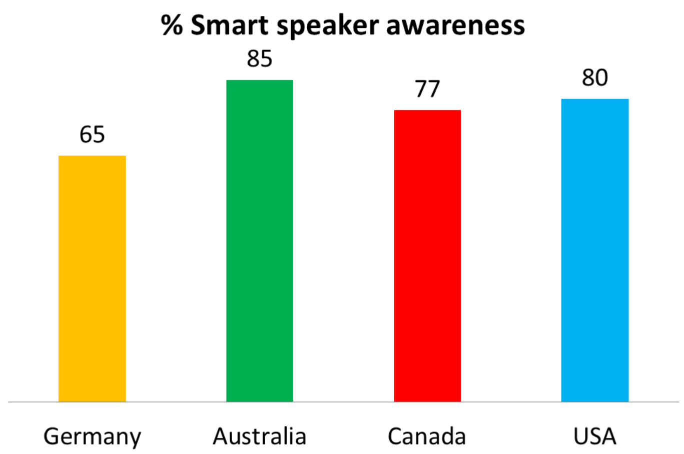




Source: The Infinite Dial 2020, Edison Research

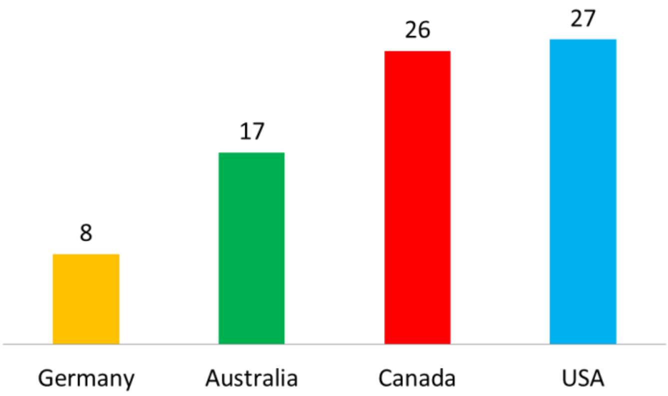


Source: The Infinite Dial 2020, Edison Research



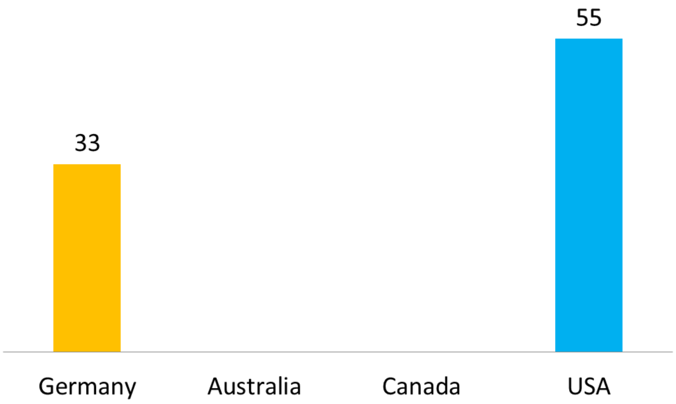
Source: The Infinite Dial 2020, Edison Research

% Smart speaker ownership



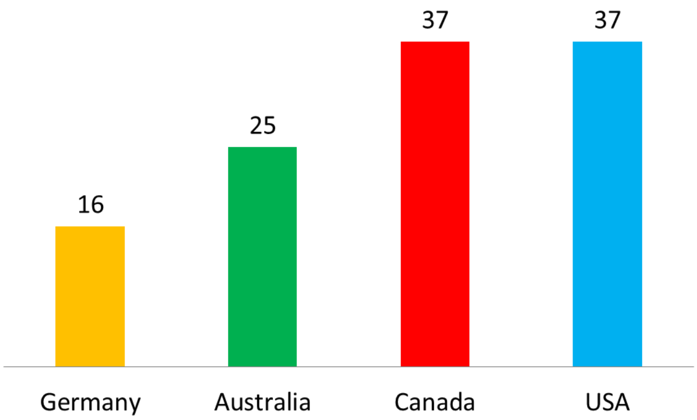
Source: The Infinite Dial 2020, Edison Research

% Podcast listening (ever)

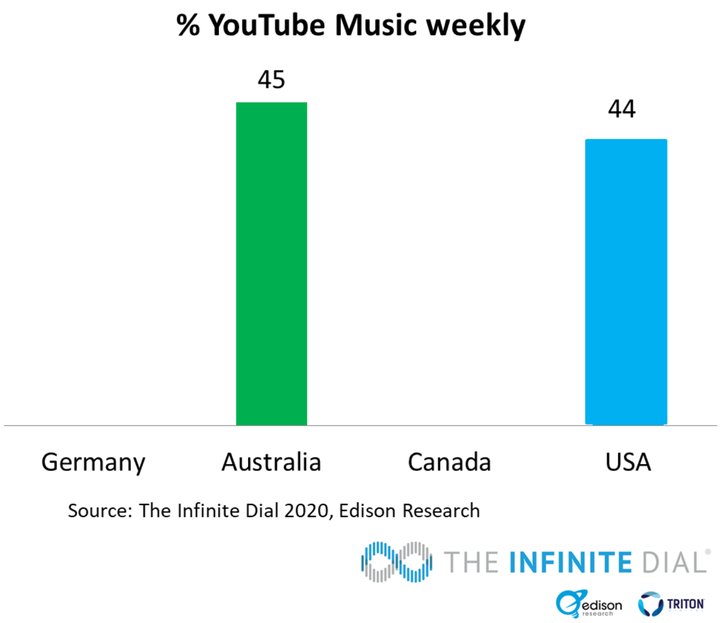


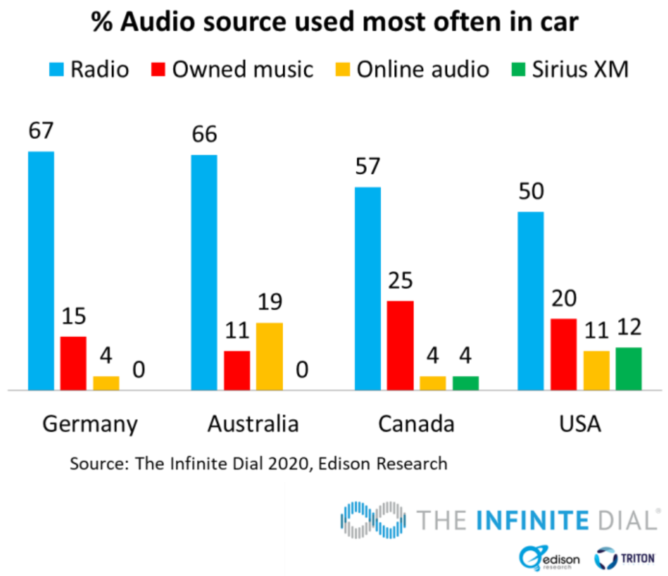
Source: The Infinite Dial 2020, Edison Research

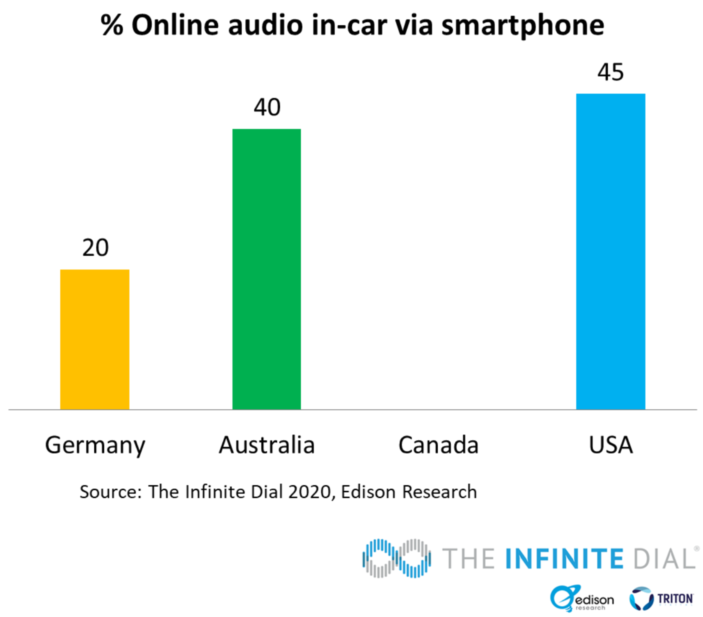
% Monthly podcast listening

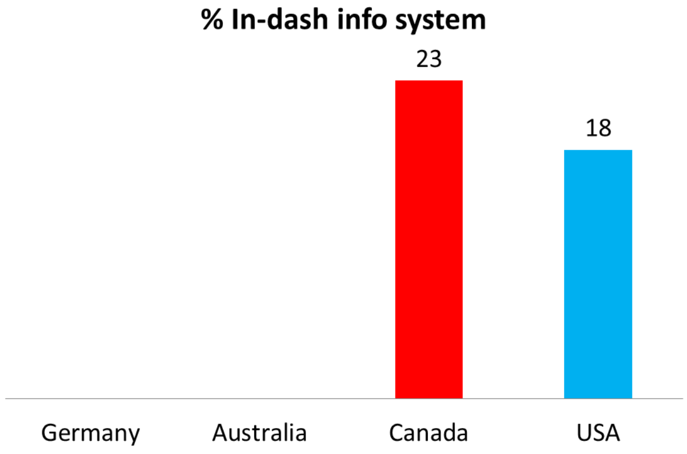


Source: The Infinite Dial 2020, Edison Research


% YouTube Music weekly
45
44
Germany
Australia
Canada
USA
Source: The Infinite Dial 2020, Edison Research
THE INFINITE DIAL
edison
TRITON


% Audio source used most often in car
Radio
Owned music
Online audio
Sirius XM
67
15
4
0
66
11
19
0
57
25
4
4
50
20
11
12
Germany
Australia
Canada
USA
Source: The Infinite Dial 2020, Edison Research
THE INFINITE DIAL
edison
TRITON


% Online audio in-car via smartphone
20
40
45
Germany
Australia
Canada
USA
Source: The Infinite Dial 2020, Edison Research
THE INFINITE DIAL
edison
TRITON



Source: The Infinite Dial 2020, Edison Research

6.2. LIST OF CONTRIBUTORS

International markets:
We have looked at 10 International markets that we believe could have the greatest impact on radio in the UK: North America - USA, Canada; Europe - Germany, Switzerland, Norway, Sweden, France, Italy, Spain; and Australia.

We have spoken to broadcasters, researchers and trade associations.

International data sources:
The Infinite Dial: Online Audio, Market listening Data, Edison Research; Share of Ear, Edison Research; GFK; and Futuresource.

International contacts:
We are extremely thankful to all the international contacts that were so generous with their time and sharing information.

North America
Larry Rosin, Edison Research; David Layer & Sam Matheny, National Association of Broadcasters; Jon Zellner, iHeart Radio; Caroline Beasley, Beasley Media; Erica Farber, US Radio Advertising Bureau (RAB), and Jeff Vidler, Signal Hill Insights Canada.

Australia
Joan Warner, Commercial Radio Australia; John Musgrove, SCA; James Cridland.

Europe
David Fernandez Quijada, EBU; Yuri Loburets, EGTA; Paul Keenan, Bauer Media; Patrick Hannon from, WorldDAB.

European country management
Helwin Lesch & Wolfang Wutschner, Bayerischer Rundfunk Germany; Thomas Saner, Radio Switzerland; Tor Eide, NRK Norway; Christer Modig, Nent Sweden; Javier Sanchez Perez, Consultant (Spain); Jean-Michel Kandin, Radio France; Claudia Baretto, Consultant (Italy).

Radio devices
John Carroll, GFK; Jack Wetherill & Simon Bryant, Futuresource.

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