

NORWAY - ONE YEAR AFTER

A REPORT WRITTEN ON BEHALF OF



MARCH 2019,

UPDATED AUGUST 2019

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AUGUST 2019 UPDATE

This is an updated version of the report where key graphs are updated with figures per August for PPM and per July for CATI (all marked with *). More about the surveys on page 29. The rest of the report is unchanged.

Since the report was written in February, the main pattern is stabilized listening levels around 63 – 64 % daily and 88 % weekly reach. These are numbers close to the levels from before the FM switch off. The summer has shown a similar fall in radio listening that we have seen previous years, but still higher figures than in 2018. July this year showed 52 % daily coverage, compared to 49 % last year.

The debate about the FM switch off and the political discussions have not yet ended. Although listener numbers are good, the commercial part of the industry is still struggling with a weaker reputation among advertising buyers.

This fall a final political decision is expected on the possible extension of local radios' FM distribution. The Norwegian Media Authority has proposed to give most local radios more time to switch to digital distribution. Today's FM licenses is suggested to be extended by 5 years to 2026. In the big cities, which already have strong local DAB networks, no kind of analogue commercial local radio will be allowed. The Norwegian Media Authority will neither grant new licenses nor transfer existing licenses in the major cities. Both the main commercial radio group, P4, and the Norwegian Local Radio Association have responded positively to the proposal.

- This is something that strikes a balance between finalizing the digitisation and taking into account the situation for local radio, says Kenneth Andresen, CEO, P4 Group.

- We were facing such large investments in DAB that it became difficult to get the industry involved in further investments without knowing the conditions after the next two and a half years, says Aslak Sommerfelt Skretting, Chairman, Norwegian Local Radio Association.

The radio industry hopes this can lead to a shift in focus, from a debate about an already implemented technology shift, to the positive features of the radio and the great selection of content that the Norwegian radio listeners can choose from.

EXECUTIVE SUMMARY

In 2017, Norway became the first country in the world to switch off national FM radio. It was a long process starting in 2009 with final decisions taken in 2015. All national stations and big local commercial stations completed the switch-off between January and December 2017. Most local stations are remaining on FM to 2021.

The main reasons for the radio industry to want a digital switchover were to provide a better radio offering to listeners across the whole of the country and have a stronger position in the competition with other media and online services. DAB made it possible to increase the number of free-to-air national services available to the Norwegian population from 5 to 32 stations – greatly extending the choice available to listeners across all geographic and demographic groups.

The switchover was conducted based on a clear and detailed plan, with a broad political support. Through requirements and various milestones digital radio was well established in Norway. The Government put forward demands to secure the coverage, availability of equipment, digital use and content offered (all requirements are described on page 6). The need for a cost-effective distribution strategy made it difficult to support simulcast on both FM and DAB for a long period, especially since the decaying FM infrastructure would require significant investment to keep it operational. (More about the Norwegian radio history in Chapter one, page five.)

Highlighted numbers before the switch-off, in the end of 2016:

- 68 % listened to radio daily, 93 % weekly.
- 55 % of the daily listeners used DAB.
- Listeners used 127 minutes per day listening to radio.
- 71 % had one or more DAB radios. 32 % had DAB in their car.

Highlighted numbers after the switch off, by the beginning of 2019:

- 67 %* listened to radio daily, 88 %* weekly.
- 86 % of the daily listeners used DAB.
- Listeners used 146* minutes per day listening to radio.
- 88 % had one or more DAB radios. 58 % had DAB in their car.

** From 1 January 2019 an improved version of PPM (Nielsen) was introduced. Details about the different radio surveys are provided in Chapter five, pages 29–31, and all listening figures and results in the Appendices from page 34.*

Even though the switchover period and, in particular, the following the year (2018) were challenging, total radio listening in 2019 is back to similar levels as achieved in 2016. Younger and older listeners have recovered fastest. The penetration of DAB radios, and in particular the proportion of cars equipped with DAB, has risen considerably. With almost all new cars sold with DAB, the level of cars with DAB is expected to approach 80 % within three years.

Some parts are still challenging. Not everyone has followed the rules. A few commercial radio stations are still broadcasting via FM in the Oslo area, slowing down the conversion of car radios in the most populated area.

What can be learned from the process in Norway? The transition for the individual listener should have been easier to accomplish. Instead of being an excitement for new content and stations, the transition became for many listeners more an issue of cost and effort. A burden which in turn mobilized transition resistance and negative publicity around the FM switch-off. As a consequence, radio's reputation and advertising revenues are still suffering, even though the listeners are back.

Going first in a technology shift will always be hard. While converting the existing car pool was the single most difficult part, the most positive outcome was the content revolution providing listeners with a much wider range of stations - new stations which already counts for almost 36 % of all listening. Both the listeners and the collective Norwegian radio industry got through the digital switchover, and in this report, the Norwegian broadcasters share their experiences and learnings (read more in Chapter three, pages 21–26).

INTRODUCTION

ABOUT THE REPORT

This report summarizes the Norwegian radio market - focusing on the results after the FM switch-off and lessons learned from the digitization process in general. The report is put together by Core Agency on behalf of World DAB, with support from the Norwegian broadcasters, NRK (public service), P4 Group (a part of Nordic Entertainment Group) and Bauer Media Norway. The main purpose of the report is to provide stakeholders in emerging digital markets insight to the progress in the first digital-only country. There are complementary results and more detailed figures in the appendices.

THE SHORT STORY OF THE WORLD'S FIRST DIGITAL SWITCHOVER

In 2017, Norway discontinued national FM broadcasting, as the first country worldwide – and was the same year nominated as the most digital country in the world¹. A key driver to achieve digital growth on other platforms, either broadcasting-based technology such as DAB or mobile phones, is focusing on abolishing old analogue technology.

Norway has approximately five million inhabitants and a topography that make rolling out nationwide infrastructure expensive, and therefore to focus on both FM and DAB was never a relevant way forward. This was further emphasized by the aging FM infrastructure which needed significant investment if it was to be maintained. Consequently, DAB had to replace FM as a nationwide infrastructure. Old technology would then be phased out faster fuelling rapid digital growth. The broadcasters then had necessary assurances to invest in the new infrastructure and content. But it still had taken 20 years from the first digital trial broadcasts until the process was completed.

The digitization of radio in Norway had from the beginning been industry driven. The authorities were only to facilitate the process while the broadcasters, both public and commercial, had to carry all the risk. At the same time, the broadcasters clearly stated that full deployment of DAB could only happen if a binding plan to terminate FM was agreed.

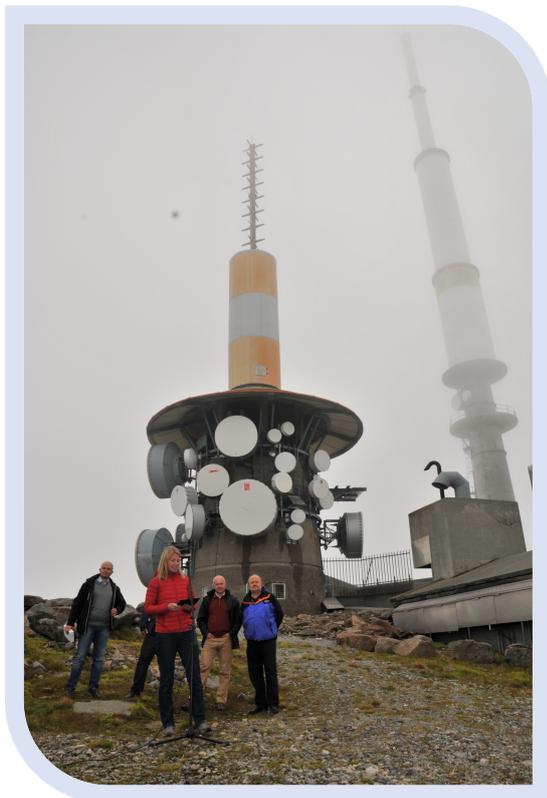
After several years of trial DAB broadcasts, and the gradual expansion of DAB-network infrastructure, the digitization process gained momentum when former Minister of Culture, Trond Giske (Labor Party), announced a separate parliamentary report on DAB with a time perspective and a strategy for discontinuing FM broadcasting during the election campaign of August 2009. Amongst other things, the White Paper (Report to the Parliament) from the Minister of Culture described in what way the authorities would actively contribute to the digitization process. At first, The Minister of Culture perceived the broadcasters' idea of full digital transition discontinuing FM as soon as 2014 would happen too quickly. The Minister of Culture therefore asked for a more realistic way to carry out the transformation a few years later. This clear political initiative from the Minister was crucial for the process, without this mandate it is not likely that Norway would have become the first country to complete a digital radio transition.

1

Annual survey from the Finnish company Etlatiето.
https://borsen.dk/nyheder/generelt/artikel/1/346755/norge_er_nu_verdens_mest_digitale_land.html

The Norwegian authorities have seen the need for radio broadcasting to go digital sooner or later, and the question was more about timing and at what criteria it should be based on. In 2005, a working group led by the Norwegian Media Authority, including the broadcasters, put forward a report on digitization of the radio media on behalf of the Ministry of Culture. Digitization of the radio was recommended in the report, using DAB as the technology and shutting down FM in 2014.

In the autumn of 2009, the work concerning the White Paper began. It was founded on the principle of an industry-driven process as stated in the report from the working group in 2005, taking into consideration input from other stakeholders during various hearings that had been conducted. February 2011, the White Paper was put forward. The government proposed that the national channels could be discontinued in 2017, provided that the NRK DAB-network was completed with a reach of minimum 99,5 % of the population, and the commercial network by January 1st should have a reach of 90 %. Furthermore, the broadcasters had to offer new digital content, to add value for the listeners. In addition, at least 50 % of the radio listeners had to use a digital platform daily and there should be satisfactory solutions for converting cars to receive DAB broadcasting. If the last two conditions were not achieved, the shutdown process should be postponed until 2019. That spring the White Paper was reviewed by the Parliament, receiving support from all parties except Fremskrittspartiet (The Progress Party).



From an event in 2013 when the first county outside Oslo completed the DAB-expansion. Photo: Digital Radio Norway

When the Parliament concluded, the work to expand coverage from 80% to 99.5% could commence. The tender was submitted and won by the Telenor-based company, Norkring. The commercial channels also chose Norkring as the supplier for the commercial DAB network, and a coordinated development effort for the two DAB networks was put into effect. The broadcasters developed new content and launched new dab-only stations that quickly increased the digital listening. NRK launched a station for senior citizens (50 years +) called NRK P1 +, which quickly became a success. From having five national channels on FM, listeners could now enjoy around 30 different stations targeting various groups of listeners.

The broadcasters were able to reach all the government's requirements by January 1, 2015. In April, the red-green Parliament parties that initially had given the go-ahead for the digital transition, were replaced by the conservative parties who decided that five national channels and major commercial local stations should shut down FM in 2017, while local radio stations outside the metropolitan areas could continue on FM throughout 2021. The reason for the extension was based on the local station's economic viability, and that they probably would not be able to handle the transition.

To professionalize the undertaking of the digital transition, the broadcasters decided to establish a separate organization, Digital Radio Norway, in 2009. The industry body was an arena for collaboration between the broadcasters but aimed also to become a network operator offering DAB capacity locally, regionally and nationally. Broadcasters should compete on content and collaborate on distribution. In addition, Digital Radio Norway would drive and coordinate the digital transition information campaigns to the public. Digital Radio

Norway collaborated closely with all broadcasters throughout the transition process and was a key arena for this effort and a driving force for the entire project.

When the decision to go through with the transition process were taken in 2011, Norway was far behind e.g. UK regarding digital radio listening. UK, Sweden and Denmark all had plans and objectives to move from FM to DAB, but constant delays moving with these plans forward, affected the Norwegian transition. It is not until the last few years that EU has come forward by regulating the car market stating that all cars must have reception for digital broadcasting. If a commitment had existed between the neighbouring countries concerning digital transition, it would have helped the Norwegian project tremendously.

At 11:11 am, January 11th, 2017, FM was shut off in the first region. As part of the agreement between the broadcasters, NRK was to be the first broadcaster to shut down FM for most of the regions. This was supported by the idea that it would reduce the risk for the commercial stations and thereby ensure that the transition proceeded according to plan. The last months before the first FM shut-off and during the whole switchover year, the radio industry was on the road visiting vast parts of Norway to provide information about the transition to the public. DAB coverage was improved in some areas and DAB was installed in all tunnels beyond 500 meters as an emergency response measure.



From the Bodø event 11 January 2017 when the first switchover was conducted in Nordland county. Photo: Digital Radio Norway

The listening numbers decreased as expected the period following the shut-down, a process that was completed December 2017, and the expected re-bounce didn't materialize quite as quickly as some had expected. Today the broadcasters have 32 channels and can tailor listening experiences to various targeted groups of listeners. A completely new digital infrastructure has been developed with a nationwide coverage and The Norwegian Public Roads Administration (Statens Vegvesen) has modernized radio reception in all tunnels beyond a certain length, such tunnels exist in the hundreds across Norway. A distinct plan followed by both the authorities and the broadcasters ensured that DAB was installed in all new cars and that the electronics industry stopped selling radios without DAB, which was the case before the shut-off process was commenced. Such a coordinated and distinct plan was crucial and necessary for a successful digital radio transition in Norway.

TIMELINE

Early years "Chicken and egg" 1991 - 2008

- 1991: DAB trials
- 1994: NRK on DAB in 3 cities
- 1995: World's #1 DAB-only station, NRK Klassisk
- The commercial station, P4 starts DAB trials
- 1996: White Paper #62, the radio industry must make the digitization happen
- 1997 - 2000: Additional NRK stations on DAB
- 2004: The industry creates the Digital Radio Group
- NRK decides to continue onwards replacing FM with DAB
- 2005: A working group led by the Media Authorities presents measures to accelerate transition
- 2007: White Paper #30, a FM shut-off date can be set when 50 % of the households have access to a DAB radio from FM to DAB

2000:
50 % DAB coverage
8 stations

The policy is shaped 2009 - 2011

- 2009: The digital transition process gains momentum when former Minister of Culture, Trond Giske (Labor Party), in August announces a separate White Paper on DAB. The Parliamentary report should among other things include a strategy and time frame for a final FM switch-off, and point out how the authorities could contribute more actively to the process
- 2010: The company Digital Radio Norway (DRN) is established by the broadcasters (NRK, P4 Group and SBS Radio, now Bauer Media)
- Main tasks for DRN: be an information hub and network operator, aiming for a smooth digital switchover for listeners and the radio industry
- The first DAB+ stations is aired
- 2011: The Parliament passes White Paper #8, a base for the digital switchover and FM shut-off with 5 conditions. The shut-off planned for 2017, or latest in 2019

2009:
80 % DAB coverage
13 stations

Preparing for the Digital Switchover 2012 - 2016

- 2012: The broadcasters sign contract with Norkring to build the national DAB networks
- 2013: DRN increases staff, boosting information activities
- NRK P1+ is launched, a DAB only station: an immediate success
- 2015: Both the communications and media authorities conclude that all requirements for FM shut-off in 2017 have been met
- White Paper #24, the DSO framework for local radios
- Continued expansion of the DAB networks, even with all coverage requirements being met
- 2016: The Directorate for Civil Protection states the DAB networks are more robust than the FM networks
- One Parliament party wants to postpone the FM shut off. The Parliament states all requirements are indeed met and FM shut off will progress as planned

2017:
99,7 and 92,8 % DAB coverage
30 stations

RESULTS

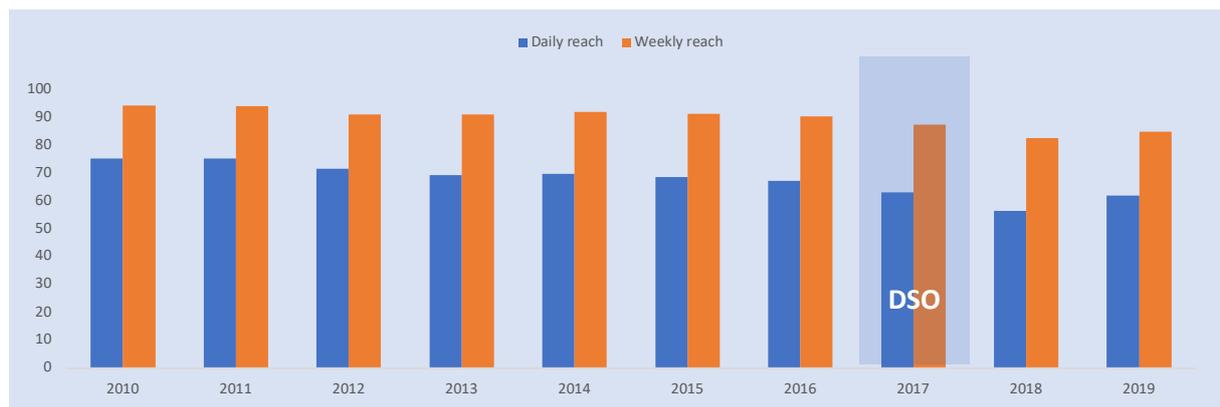
OVERALL

EXPECTATIONS: TEMPORARY DECLINE AND NEW HABITS

When the switch-off commenced in 2017, a large proportion of the radio sets in the population had not yet been replaced or upgraded to receive digital transmissions. The Digital Radio Survey (DRS) showed that several listeners had decided to wait until FM in fact had been switched off before they would act on converting to digital. Already in 2016, the radio industry therefore expected a decrease in listening numbers in the period following the switch-off dates. At the same time, they expected growth for the new services at the expense of the established FM stations, that would soon switch-off their analogue networks.

STATUS TODAY: RECOVERING AND FRAGMENTED

One year after the FM switch-off the radio market is slowly recovering - the listening figures are increasing after an all-time low in the summer 2018.



Reach in %. Source: PPM, Kantar Media 2010 – 2018, Nielsen 2019 (Jan–Aug) *

The number of national radio stations available for Norwegians is more than 6-fold in a few years, and the listeners are using the new offering.

From 5 to 32 stations

2017: THE SWITCH-OFF

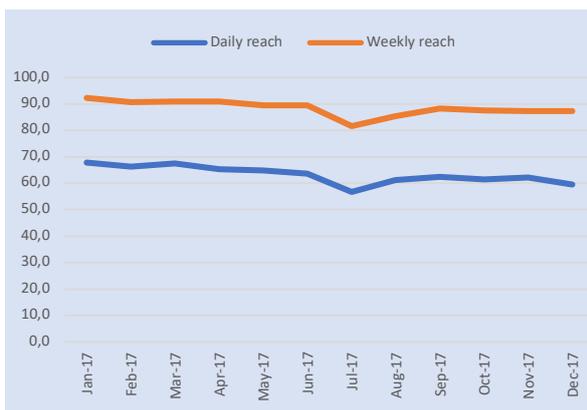
REGION BY REGION

The national stations and the big commercial local stations switched off FM, region by region throughout 2017, following an agreed plan between the broadcasters. The NRK stations left FM two to three months before the commercial stations in the four most populated areas.

- | | |
|---|---|
| 1. Nordland | 4. Sogn og Fjordane, Hordaland, Rogaland, Agder |
| a. All: 11.01.2017 | a. NRK: 21.06.2017 |
| 2. Trøndelag, Møre og Romsdal | b. Private: 15.09.2017 |
| a. NRK: 08.02.2017 | 5. Østfold, Vestfold, Oslo, Akershus |
| b. Private: 21.04.2017 | c. NRK: 20.09.2017 |
| 3. Telemark, Buskerud, Hedmark, Oppland | d. Private: 08.12.2017 |
| a. NRK: 26.04.2017 | 6. Troms, Finnmark |
| b. Private: 16.06.2017 | e. All: 13.12.2017 |

Timetable for FM switch-off, region by region.

TOTAL RADIO LISTENING



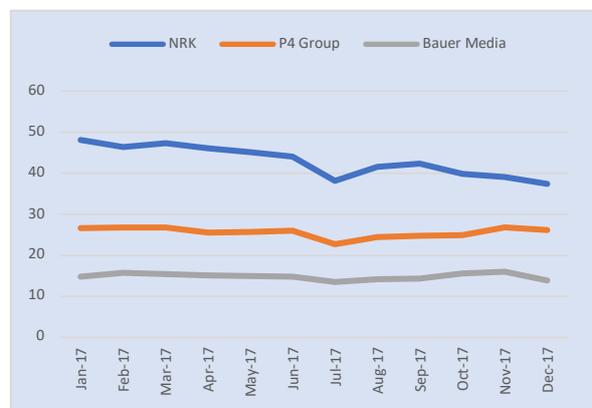
Reach in %. Source: PPM, Kantar Media

Total radio listening experienced a smaller decrease in the first half of 2017 (details in Appendix one, page 34). Q1 was equal to the year before, but during Q2 the national radio market started to see a limited decline as an effect of the switch-off in the first three regions. Still, it was first in the beginning of Q3, after NRK switching off region 4, combined with the summer holidays, the decline became clearer. From August to November the figures were somewhat stable - between 61.1 and 62.3 % daily reach.

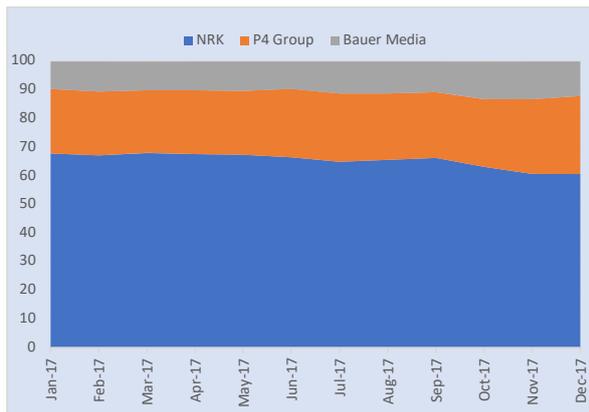
NATIONAL MARKET SHARES

NRK experienced a greater fall in listening in the last quarter after switching off the Oslo region in September.

FM listeners “borrowed” from NRK and popular Christmas stations offered during the holidays kept listening figures on a normal level through the last months for the private broadcasters, despite commercial switch-off was conducted in 4 of 6 regions.



Reach in %. Source: PPM, Kantar Media



Market share. Source: PPM, Kantar Media

The switch-off plan was aimed, among other things, at reducing the decline of listeners and the immediate impact this would have on lost revenue for the commercial broadcasters. NRK, as a non-commercial public service broadcaster, was not affected in the same matter. The plan worked and resulted in a positive, however small, increase of market share for the commercial broadcasters, while being the only national broadcasters still on FM in the regions.

For 2017 overall, commercial radio increased the market share (details in Appendix two, page 45) and kept both listeners and revenue.

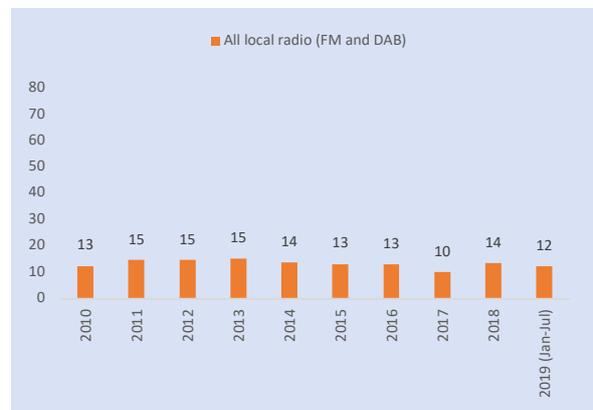
LOCAL RADIO LISTENING

The radio market in Norway has historically been dominated by national radio, with an estimated market share of more than 95 %. A poorly established political framework and a small and scattered population, combined with challenging topography, have made the establishment of strong local radios or niche radios generally challenging. Listening figures from the last 8 years show a daily reach between 12 and 15 % for local radio in total.

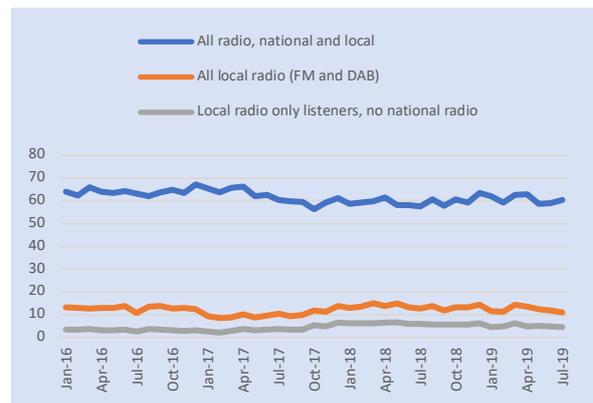
Several local radio stations experienced a long-awaited boost when the national stations left FM, since a part of the population had not yet replaced their FM radios or upgraded their cars, resulting in an increase in listening figures for local radio. In 2016, 3.3 % of the population only listened to local radio during an average day, in 2017 it was 3.8 % and in 2018 this number had increased to 6.1 %. The total daily reach for local radio is nevertheless back at a similar level as normal for the last decade.

In most regions, the level of local radio's total reach normalized after a few months, while in others, some stations have stabilized at a higher level. In particular Region 3 stands out with local broadcasters having invested heavily in local content and expanded their coverage on both FM and DAB. In other parts of the country, there are examples of small stations having gained a few hundred or thousand more listeners, thus experiencing up to 50 % or perhaps even 100 % growth.

Region 5, covering mainly the Oslo area, also sticks out, but in a different way. In the four big cities, there were supposed to be only non-commercial local radios on FM, according to the authorities' plan. This has not happened in Oslo. After national stations and most of the local commercial radio stations switched off FM in Region 5 in December 2017, the country's largest group of commercial local radio stations have continued to



Reach in %. Source: CATI, Kantar Media *



Reach in %. Source: CATI, Kantar Media *

transmit on FM in Oslo, contrary to the plan. The authorities have announced measures to put a stop to this practice, but more than one year after the shut-off, the stations in question are still broadcasting on FM.

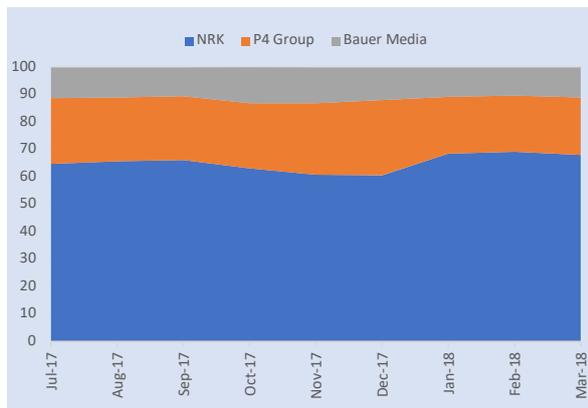
Please find more details on how local radio listening has developed before, through and after the digital transition, in total and in all switch-off regions, in Appendix one, pages 37 – 40.

2018: THE IMMEDIATE CONSEQUENCES

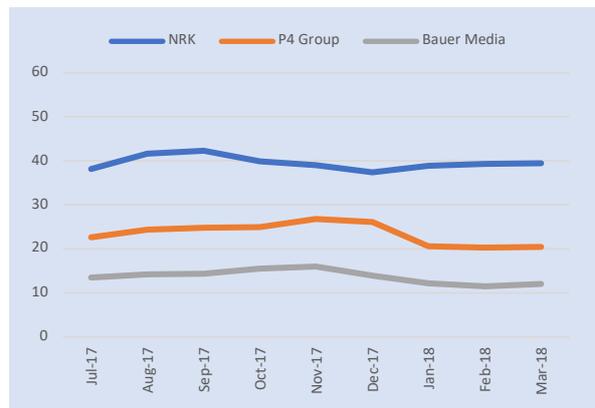
DECLINE IN LISTENING

After the commercial stations switched-off December of 2017, the listening numbers continued to decline into 2018. In January 2018 56.9 % of the population listened daily to radio, compared to 67.8 % in January the year before, approximately making up a 15 % fall. Looking at weekly listening, 81.4 % used radio in January 2018 and 83.2 % one year earlier (details in Appendix one, pages 34 - 35) - a decline of only 2 %. Comparing the previous year, from January 2016 to 2017, the fall was 6 %. The decline in daily listening was greater than the decline in weekly listening. People listened to radio in fewer situations (daily) than previously, probably because a significant part of the listening population had not yet replaced their FM radio sets nor established new digital listening habits.

OLD MARKET SHARE LEVELS RETURNS



Market share. Source: PPM, Kantar Media



Reach in %. Source: PPM, Kantar Media

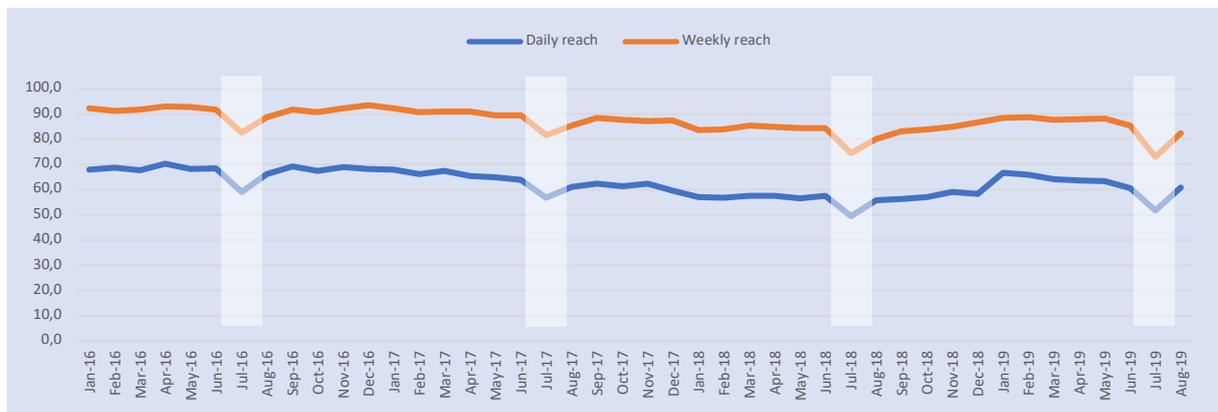
The other significant change at the beginning of 2018 was the market share turning back to similar levels as before the switch-off. NRK won back most of their old market share when all the regional shutdowns were completed, and distribution was more equal again between public service and private stations.

While NRK got most of the downturn during the switch-off year, looking at daily reach, it became tougher for the commercial broadcasters from 2018. See the detailed development in reach for all three broadcasters from 2010 - 2019 in Appendix one, page 35.

THE BOTTOM IS REACHED

After the drop in the beginning of the year, the listening numbers were quite steady during the next 5 months. That lasted until July when Norway experienced one of the warmest and best summers ever. The summer of 2018 was the first without FM radio for more than half the population. Radio listening figures dropped to its lowest numbers during the summer like any other year, but the summer of 2018 stands out as the worst. Many Norwegians spent their holidays in locations and surroundings where they not yet had upgraded to digital radios, like in the car, at the cabin, at the beach etc.

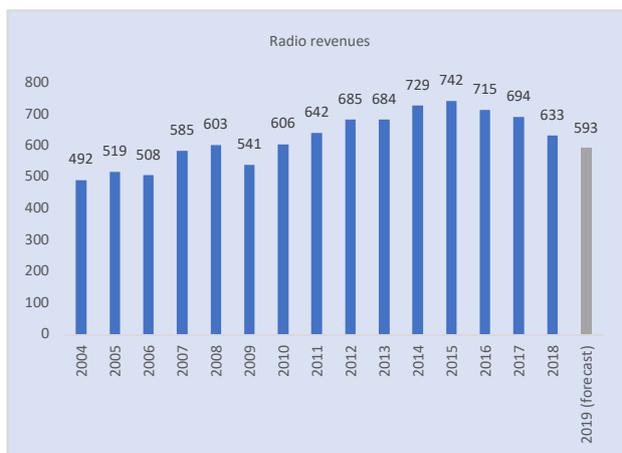
The summer figures made the headlines and restarted the debate about the digital switchover. Some politicians even suggested FM to be turned back on again. Both in Norway and abroad one could get the impression of an emerging radio crisis. This may have had a negative effect on the digital conversion for the part of the population who still had not upgraded their car or bought new radios to their homes. This might have prolonged the broadcasters' efforts to get the "lost" listeners back to radio listening. The radio industry had to remind journalists, politicians and other stakeholders, how the summer listening always is lower and that the figures will rise yet again, and that FM will not be turned back on. The graph below depicts listening figures for the last three summers, showing an obvious dip during the holidays.



Reach in %. Source: PPM, Kantar Media 2016 – 2018, Nielsen 2019 (Jan–Aug) *

DOWNTURN FOR REVENUES AND REPUTATION

Like the listening numbers, the revenue and reputation also took a downturn in 2018 after the FM switch-off, strengthened by political debate and negative publicity.



Commercial radio's yearly revenues in MNOK. Source: IRM *

The advertising revenues for commercial broadcasters peaked in 2015 with 742,400,00 NOK, which corresponds to approximately 76,000,000 Euros.

Commercial radio did quite well in 2017, largely because of the switch-off plan where they "borrowed" FM listeners, since NRK turned off their FM networks first.

2018 became a more challenging year. Revenues fell due to lower listening figures and the accompanying negative public attention.

NRK has asked Norwegians, how important it is for them to listen to radio? The graph shows the share who answered, "very or fairly important" by age groups.

From February 2017 to February 2018 less people said radio were important. But for the whole of 2018, there was a significant increase in the proportion who answered listen to radio is important. Especially the share among older groups were increasing – almost back to the 2017 level.

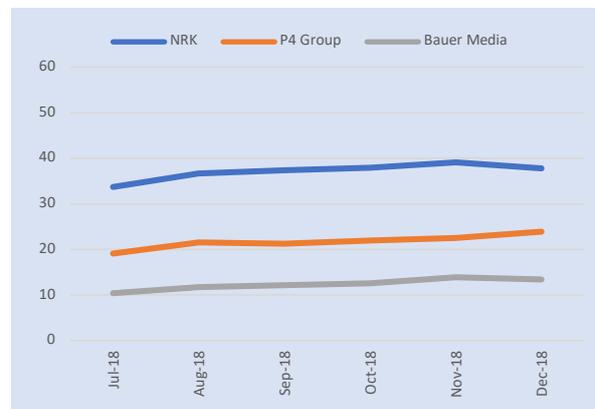


Importance of radio in %. Source: Profile tracker (NRK/Norstat)

It is likely to believe that the FM switch-off contributed to the decline in the previous period – but now these age groups seems to have managed the technology shift during the last year and rediscovered the importance of radio.

THE YEAR ENDS WITH INCREASING NUMBERS

After a challenging summer, radio listening showed a slow but steady growth during the months in the fall. Daily reach increased from 55.6 % in August to 59.1 % in November. The last 4 weeks before Christmas all were above 60 %. The total for December was slightly reduced by the last week of the holidays. The year ended especially well for the P4 Group. The group's annual Christmas channel - P7 Klem - contributed strongly to good numbers in November and December. Read more about the Christmas channels and other successful new stations in Appendix one, pages 43 - 44.



Reach in %. Source: PPM, Kantar Media

BACK TO A NEW NORMAL

Through the digital switchover process the radio market has changed completely. It now consists of 32 stations (divided almost 50/50 between public service and commercial broadcasters) distributed nationwide via DAB, Digital TV and IP. At the same time Norwegians have upgraded their radios, more than 6 million radios were sold during the last years.

UPGRADED LISTENING SURVEY

From 2006 the survey for national radio has been based on electronic passive measurement, Personal people meter (PPM). The system, which has been operated by Kantar Media until the end of 2018, was set up and customized to fit the national radio market of that time, consisting of 5 stations (3 public and 2 commercial) and with more than 95 % of the listening done via FM.

To better pick up and understand the new, fragmented radio market, the broadcasters decided to invest in an improved version of PPM, doubling the number of panellists. Nielsen was commissioned to handle the new survey from the 1st of January 2019. Read more about the changes in PPM and the new Nielsen survey in Chapter five, page 29.

After Q1 this year we will be able to better see the contours of how the new, all digital, national radio market look like when we have a complete quarter with data from a survey, fit to measure an advanced radio reality. When this report is written we have only figures for January and February as the base for the following analyses.

A HIGHER LISTENING LEVEL



Source: PPM, Kantar Media 2010 – 2018, Nielsen 2019 (Jan–Aug) *

The second half of 2018 finally provided the radio market a long-awaited growth. 2019 started even better for the broadcasters when the first reports from the new radio survey were released. Daily reach in January 2019 was 66.7 % (88.4 % weekly). In January 2016, the year before the FM switch-off, 67.8 % listened to radio daily (92.2 % weekly) according to the old PPM survey.

Time spent on radio in the whole population (TSL) has fallen as a consequence of the decrease in reach. But the ones who listen to radio, listens longer. Since 2010 time spent among listeners (TSL listeners) has gone down from 133 minutes per day to 126 in 2017. In 2018 the average listening time increased by 2 minutes, up to 128. The new Nielsen survey picks up more fragmented listening and counts 146 minutes so far in 2019.

Read more about TSL listeners per age group in Appendix one, page 42.

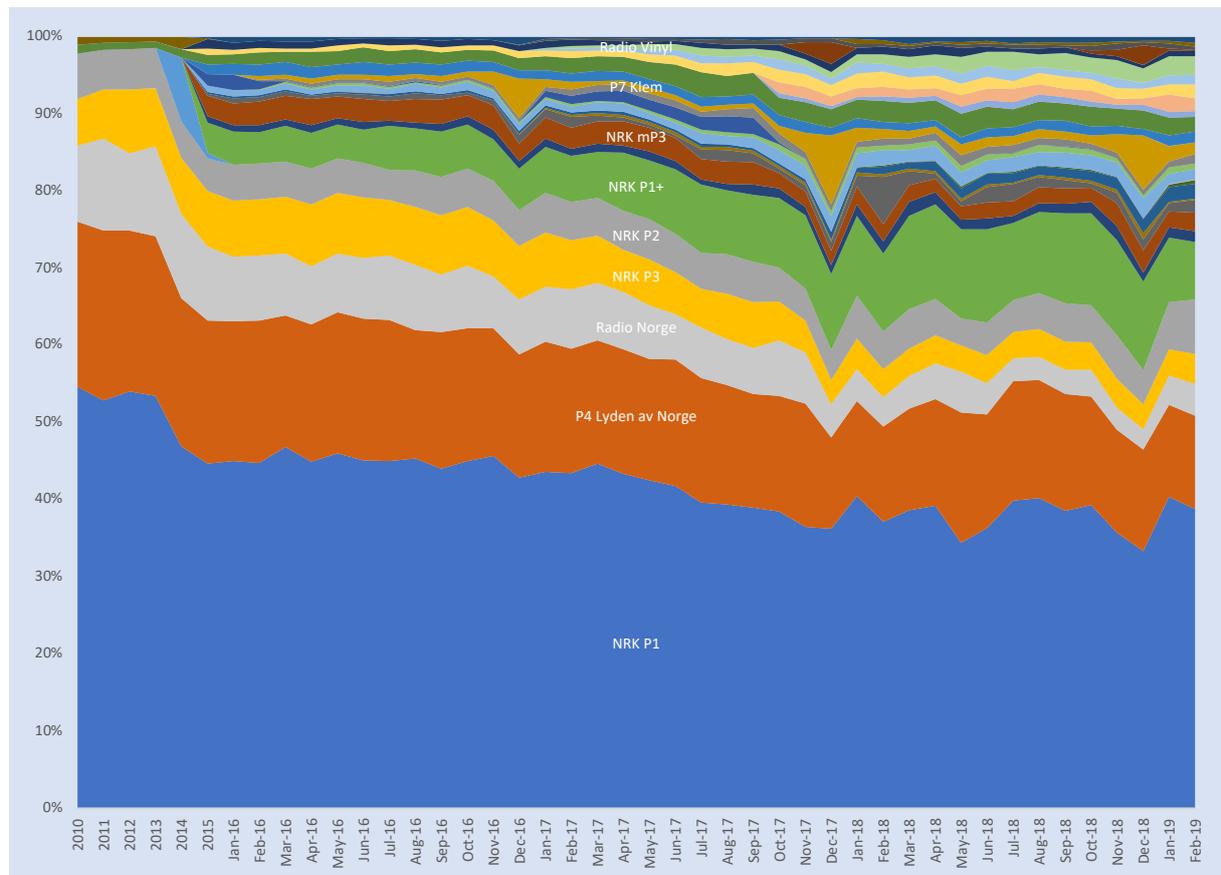
DIVERSITY

One of the major arguments for the digital transition has been to increase the radio diversity and be able to offer it to the entire Norwegian population. In the battle for the listeners' time, a wider content offering is expected to make radio better positioned in the competition with other media offerings.

NRK		P4 Group	
NRK P1	Public service programming for a broad audience, including regional programs	P4 Lyden av Norge	Adult contemporary, news and entertainment
NRK P1+	Music, news and entertainment for elderly people	P6 Rock	Rock
NRK P2	News, documentaries, culture and science	P5 Hits	Hot adult contemporary and entertainment
NRK P3	Music and entertainment for young adults	P7 Klem	Soft adult contemporary
NRK mP3	Music and entertainment for teenagers	P8 Pop	80s music
NRK P13	Rock and entertainment	P9 Retro	60s and 70s music
NRK Alltid Nyheter	News	P10 Country	Country
NRK Sport	Sports	NRJ	Hits and entertainment
NRK Radio Super	Children's programming and music		
NRK Klassisk	Classical music	Bauer Media	
NRK Jazz	Jazz	Radio Norge	Adult contemporary, news and entertainment
NRK Folkemusikk	Norwegian folk music	Radio Rock	Rock
NRK Sapmi	Public service programming for the Sàmi minorities	Radio Topp 40	Top 40
NRK Trafikk	Traffic announcements	Radio Vinyl	50s, 60s and 70s music
NRK Vær	Weather announcements	Radio 1	Hot adult contemporary
		P24-7 Mix	Adult contemporary
		Norsk Pop	Norwegian pop
		Kiss	Club & dance
		Big HipHop & RnB	HipHop & RnB

National stations in Norway by February 2019. Stations in grey are the old five which had FM networks.

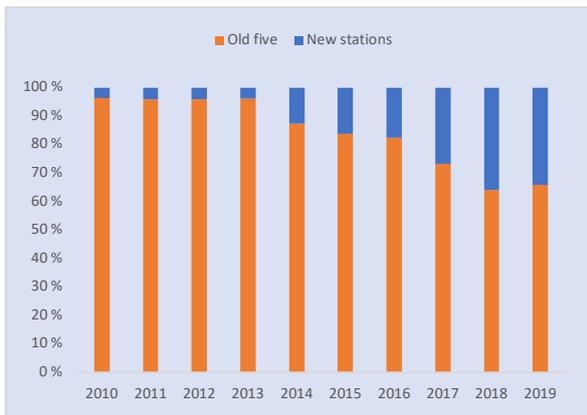
The digital transition has changed the Norwegian market. The illustration below shows the development of variety in radio content throughout the last 9 years, based on market shares for national stations.



Changes in Norwegians' use of radio the last 9 years. Source: PPM, Kantar Media 2010 – 2018, Nielsen 2019

See more details about how the market has changed in Appendix two, pages 45 - 50.

NEW STATIONS MAKE UP MORE THAN ONE THIRD OF TOTAL TIME SPENT

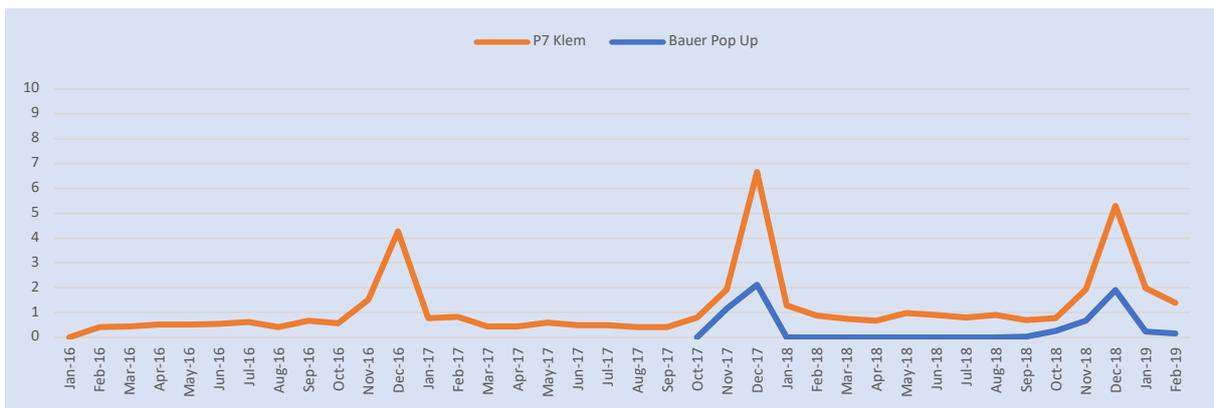


Throughout 2018, the market share of the new radio stations increased to almost 36 % of total time spent listening to radio. These are the stations that could not go nationwide due to capacity restrictions on FM. Without national coverage, Norway is too small to operate niche stations and targeted formats. At the end of 2018 there were 32 national radio stations on air. Some of these have been more successful than others.

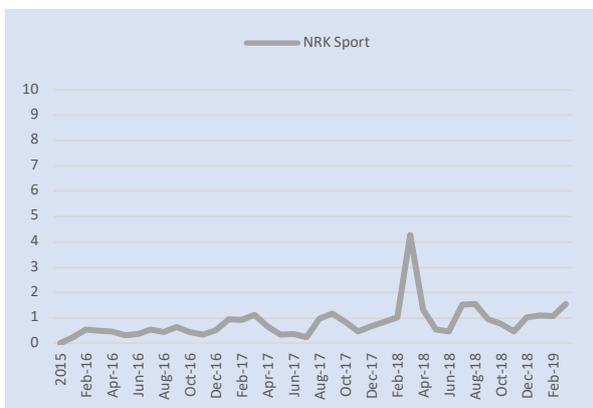
Market share. Source: PPM, Kantar Media, Nielsen 2019 (Jan–Aug) *
 “Old five” points to the stations being national before the digitization.

SEASONAL CONTENT AND TARGETED FORMATS

In the last years broadcasters have offered several Christmas stations - pop up stations and stations playing only Christmas music for a couple of months during an extended Christmas season. P7 Klem is such a station becoming fascinating popular during this time of the year. Some days in December this station has been the second biggest in the country.



TSL minutes. Source: PPM, Kantar Media 2010 – 2018, Nielsen 2019



TSL minutes. Source: PPM, Kantar Media 2010 – 2018, Nielsen 2019

Norwegians love sports. The Olympic Winter Games and the FIFA World Cup attracted a listening volume making NRK Sport grow from a usual share of 1 or 2 % to more than 20 % some days, making it the third largest station during the events.



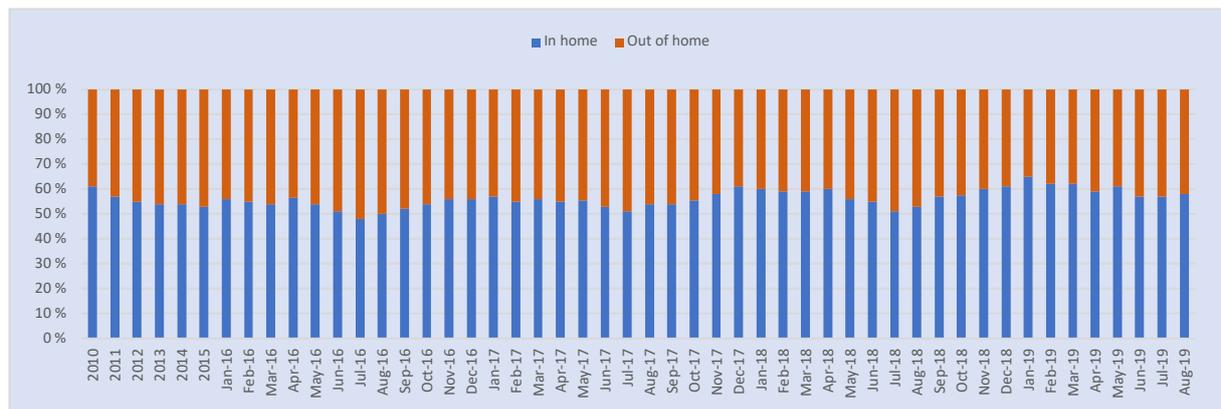
The greatest success among the new channels, measured in listening audience and loyalty, is by far NRK P1+, a station mainly targeting elderly listeners above 50 years. The station launched October 2013 and just after a couple of weeks positioned itself among top 5 stations.

See the development of more new stations in Appendix one, pages 43 – 44.

TSL minutes. Source: PPM, Kantar Media 2010 – 2018, Nielsen 2019

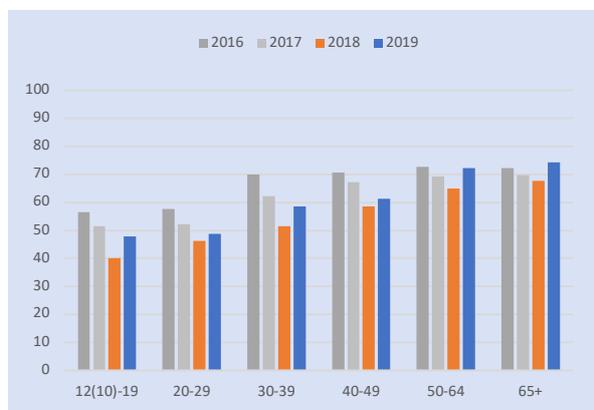
IN AND OUT OF HOME

The PPM survey detects whether listeners are listening to radio at home or out of home. The share of listening in home has grown slightly since the end of 2017, likely a consequence of several cars without DAB reception capabilities, while most Norwegian homes even before the switch-off acquired one or more new domestic radios.



Share of TSL in and out of home. Source: PPM, Kantar Media 2010 – 2018, Nielsen 2019 *

YOUNG AND ELDERLY LISTENERS RECOVER BEST

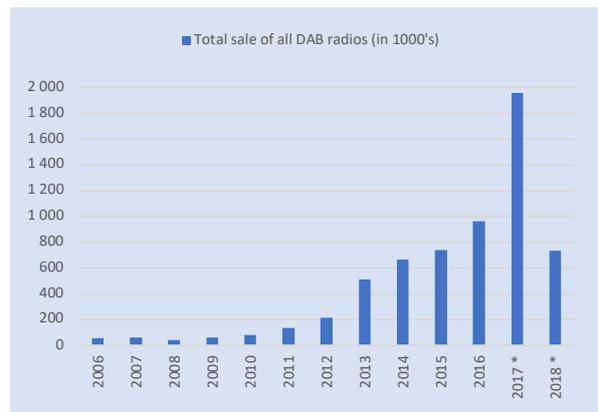


Reach in %. Source: PPM, Kantar Media 2010 – 2018, Nielsen 2019 (Jan–Aug) *

Comparing daily reach among the different age groups, before and after the switchover (2016 vs 2019), depicts a better recovery among the youngest and elderly. While the 30 – 39 years old seems to need a little more time. The remaining cars with only FM radios may be party an explanation (details in Appendix two, page 35).

SALES OF RADIOS

For two decades, until the switchover policy was finalized in 2011, the sale of DAB radios had been slow. For many years, the range of devices was too poor and the prices too high. The absence of full DAB coverage, together with a very limited added value in terms of new radio content, did not contribute to a higher sale. Following the White Paper in 2011, both the offered content and DAB coverage expanded yearly from 2012 until FM was switched off. Sales increased significantly each year (details in Appendix three, page 51).



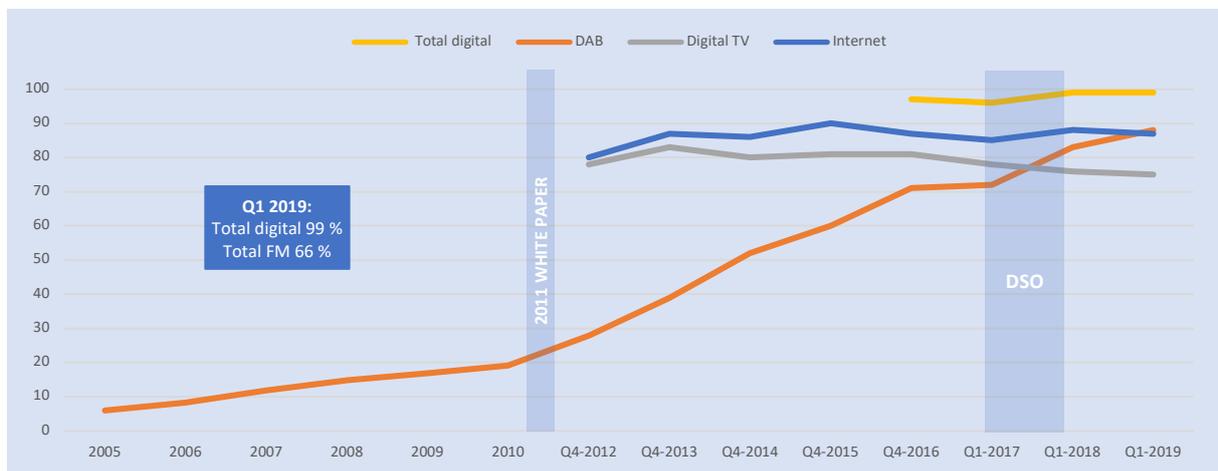
Sales of DAB radios. Source: The Electronics Trade Association

The electronics industry's expectations for the sale during the shutdown year 2017 were collectively enormous. So, despite a record sale of 2 million radios, many retailers were left with large inventory once the process was finalized. The Electronics Trade Association's figures for 2018 depict that sales are back to normal. The annual sales of radios (analogue and digital in total) before the beginning of the technology shift have historically been around 700,000 – 800,000 units.

The annual sales of new cars in Norway is around 200,000. Since 2017, almost all cars are sold with DAB. Of the 2 million radios sold in 2017, approximately 900 000 were in cars, line fit or DAB-adapters. Read more about the yearly sales of cars with DAB in Appendix three, page 51.

AVAILABILITY OF PLATFORMS

ACCESS TO PLATFORMS

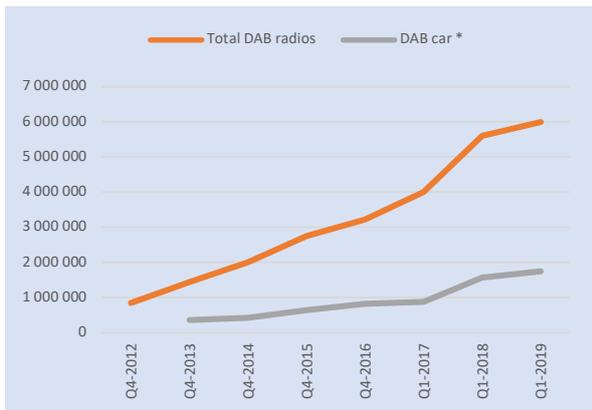


Digital equipment available for radio listening. Source: Digital Radio Survey, Kantar Media

The public's access to DAB has grown steadily and sharply since the White Paper in 2011 and reached 88 % of population in Q1 2019. Combined with the other digital radio platforms, such as digital TV and Internet, 99 % of Norwegian households have access to digital radio through at least on platform. As a reference, only 66 % state that they have access to an FM-only radio.

75 % says in the Digital Radio Survey that they have one or several DAB radios in their home, while 58 % have a DAB radio, line fit or adapter in their car. See more details in Appendix three, pages 51 – 52.

RADIO OWNERSHIP



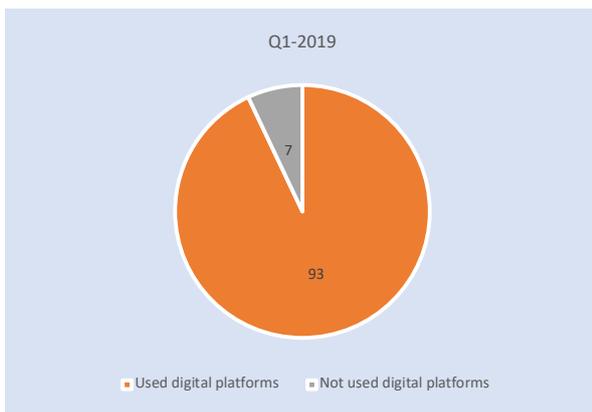
Total number of radios. Source: Digital Radio Survey, Kantar Media

In Q1 2019 there is 6 million DAB radios in Norway. 3.1 million are in peoples' home, 1.8 million in their car, while the rest are typical leisure radios in cabins, boats, etc. The total number of FM only radios is 3.6 million.

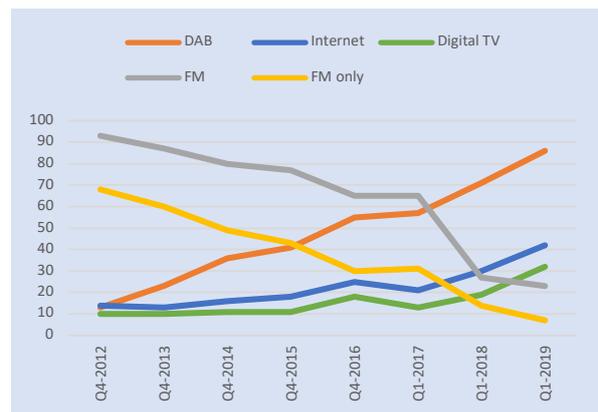
Almost half of the DAB owners have 3 or more DAB radio. See more details in Appendix three, page 52.

These figures indicate that the total number of radios are just under 10 million. Through the last years, since people start buying more DAB radios to prepare for the switchover, this has been approximately the level of digital and analogue radios in total. In the previous decade, the normal level was around 7 - 8 million. Today we have 6 million DAB radios plus a huge number of other digital devices that are suitable for radio listening.

USE OF PLATFORMS



Total digital use among daily listeners. Source: Digital Radio Survey, Kantar Media



Equipment used for radio listening among daily listeners. Source: Digital Radio Survey, Kantar Media

93 % of the daily listeners use one or more digital platforms. It entails 7 % are only using FM, which in reality means that they are solely listening to local or foreign FM radio.

The use of DAB has grown steady since 2011, and in 2015 more than half of all the daily listeners used DAB. The figure in the Q1 report of the Digital Radio Survey is 86 % for DAB. Listening via Internet and Digital TV have developed slower. The real growth for these two platforms came when FM was shut off in 2017. Today 42 % of the daily listeners use at least one Internet device for radio, and 32 % use a digital TV to listen to radio.

60 % of the listeners use DAB at home, while 49 % use DAB in the car. Corresponding figures for FM are respectively 14 % and 6 %. See more details on the platforms' development and the digital users' demographics in Appendix three, pages 53 - 54.

LEARNINGS

FROM THE HEADS OF RADIO

We have asked the Norwegian radio directors about their view of the period after the FM switch-off and what learnings they believe can be worth bringing on to markets planning their own digitization process.

MARIUS LILLELIEN, NRK



Marius Lillelien, former Radio Director, NRK.
Photo: NRK

In one sentence, how would you describe the year following the transition?

- This became a challenging year - the fact that the listening numbers dropped was anticipated, but the timeline between the drop and the re-bounce went on longer than expected.

Regarding operations, which areas have been the most challenging in 2018?

- The most challenging part was the slow pick-up rate in listening volume, which sparked a media debate about the transition as such in 2018.

Have you encountered challenges you were not prepared for?

- Converting the existing car pool was the most difficult part, especially regarding DAB adapter quality and the available DIY (Do It Yourself) installation kits. A large population of motorists would conceive a poorly executed DIY DAB-adapter car installation as evidence of insufficient DAB network coverage, which was surely not the case.

What has been the most positive aspects of the transition?

- The new “DAB-only stations” have at large been received with great enthusiasm – the stations have made our mission as broadcasters easier to fulfil.

What would you have done differently if you got the opportunity to do it over again?

- We could have suggested to extend the timeline from the decision to discontinue FM to the point when FM broadcasting in fact was shut down. A longer period to prepare would probably have made the DAB conversion pick-up rate greater, and in effect made the transition at large run smoother.

In what way is the listening habits affected by the increased number of stations offered?

- Listening is spread out across several stations and listening sessions – TSL increases amongst the population with access to DAB in multiple listening situations.

How do you and your organization perceive the future of radio in Norway – in general terms, and for you as a broadcaster?

- Post transition, a transition that surely was challenging, we perceive radio and other usages of audio now have a unique platform to enable growth in Norway and we see that happening these days

Is it important to you as a broadcaster that other countries carry out similar transitions?

- The single most important thing for us is that DAB+ becomes a major distribution platform in as many countries as possible. If FM is discontinued or not in these countries will have to be founded on individual market considerations.

How do you go about sharing information and lessons learned with broadcasters and relevant organizations outside of Norway?

- We will share information directly with anyone approaching us, and through various international collaboration arenas such as Radiodays Europe, EBU etc.

Any recommendations to countries about to embark on a similar journey?

- Broadcasters and radio authorities will have to collaborate to put forward a long term, firm plan to provide a clear direction, hence offering predictability to the market.

KENNETH ANDRESEN, P4 GROUP



Kenneth Andresen, Vice President and Head of Radio, Nordic Entertainment Group. Photo: NENT Group

In one sentence, how would you describe the year following the transition?

- As expected, it has been a challenging year due to the transition taking place, but on the other hand been a year filled with numerous pleasant radio experiences. In fact, more than any other previous years.

Regarding operations, which areas have been the most challenging in 2018?

- By far the single most challenging aspect was the slow listening pick-up rate following the transition.

Have you encountered challenges you were not prepared for?

- Being a first mover putting forward a technology shift to this extent will certainly include risk. In such a situation

one cannot rely on past experiences and similar lessons learned, and the risk of unforeseen events increases. In my mind we came prepared, but surely we did run into unforeseen challenges. However, it would have been strange if we did not.

What has been the most positive aspects of the transition?

- The transition has renewed the radio as a medium and sparked a content revolution providing listeners with a wider selection of stations. In addition, it has also given the whole country a more equal radio offering than before. This is an attribute we will bring along moving forward to uphold the competitiveness of radio as a medium in a challenging market.

What would you have done differently if you got the opportunity to do it over again?

- We should have made the transition for the individual listener easier to accomplish. To me, one of the key lessons learned was that the listeners themselves ended up with the responsibility of making the transition happen. Instead of the transition being about the excitement of new content and stations, the transition became more of a cost and effort issue for the listeners going through the transition. In addition to buying new radios at home, many had to go through installing DAB equipment in their cars. Summarized it became a

burden to the average listener which in turn mobilized transition resistance and negative media coverage. In hindsight we asked too much from the listeners, and for some listeners it ended up being too much.

In what way is the listening habits affected by the increased number of stations offered?

- Today we see a more diverse radio market than prior to the transition. The new stations have acquired substantial market shares and are now making up one third of the market. Another aspect is that time spent listening to radio among listeners has increased. To us, this is evidence that the increase in stations and the more widespread content offering has fuelled the increase in listening numbers. The fact that as much as one third of the population is listening to the new stations is a tell-tale sign that the listeners are using and appreciating the new radio offering.

How do you and your organization perceive the future of radio in Norway – in general terms, and for you as a broadcaster?

- We are strong believers that radio will continue to play an important role for the population, and that radio will be an efficient communication platform for advertisers. There are several exciting things happening with audio these days, and new platforms and ways to distribute will enable new ways to provide new and exciting radio offerings to the public going forward.

Is it important to you as a broadcaster that other countries carry out similar transitions?

- First and foremost, to me the broadcasters need to make sure that they are in control of their own distribution. Several powerful market players are working hard and purposefully to gain access in the void between the broadcasters and the listeners. If that happens it will have a negative effect for the broadcasters. Therefore, this is something the broadcasters, on a European level, should collaborate to make sure does not happen. One step in the right direction is at least broadcasted radio, and yes, I hope to see more countries realize the benefits of a digital transition and join in.

Any recommendations to countries about to embark on a similar journey?

- The transition must be easy to accomplish for the listeners, and easier than it was for the listeners in Norway. A decisive factor is the new mandatory digital radio reception at home and in cars put forward by the EU. This will increase the market distribution of radio receivers and in effect make the transition going from one technology to the next to more seamless. A greater penetration of radio receivers will demand less from the listeners, and transition efforts can focus more on the positive sides of the transition, for instance more and new content.



Lasse Kokvik, former CEO, Bauer Media Norway.
Photo: Bauer Media Norway

In one sentence, how would you describe the year following the transition?

- I would describe it as the first year of exclusively digital transmissions for national radio in Norway, where the audience still adapts to the new and exciting radio landscape of existing and new nationwide radio stations.

Regarding operations, which areas have been the most challenging in 2018?

- The efforts seeing through the White Paper regarding the protection and security aspects in and around the largest cities in Norway had an impact on

operations throughout 2018. We believe the premise for discontinuing FM has not, to a satisfying degree, been enforced, resulting in continued FM broadcasting in areas where no commercial stations should broadcast. The transition time at large would have been reduced if the premise for the FM switch-off would have been fully carried out. The reduction in listening volume following the transition was expected, since the transition itself presupposes a vast volume of radio devices would need to be replaced by digital devices, which in turn would take time. That said, there is still reason to believe that the reduction could have been greatly reduced if the premise for the plan in and around the larger towns had been followed.

Have you encountered challenges you were not prepared for?

- The political resolution regarding the FM switch-off is still not clarified, even though local FM broadcasting was given a 5-year grace period before being discontinued. We were by no means prepared for this.

What has been the most positive aspects of the transition?

- Being a commercial broadcaster, we were positive to the digitalization and the option of offering more national stations to the Norwegian public. National distribution itself has now been neutralized as a competitive factor in Norway – the broadcasters now have equal capacity and the competition is focused on the content. It has been an absolute joy being able to introduce several new station formats that before the transition would have been impossible. So far, we see the listeners both are trying, choosing and are putting down more time than they did previously – this has been a fantastic starting point for a long and prosperous future for commercial radio in Norway.

What would you have done differently if you got the opportunity to do it over again?

- In a market as small as Norway, where the reason for switching off FM revolves around the fact that it is not economically viable to duplicate broadcasting on DAB and FM in parallel, one could question if a transition period of only 12 months was adequate. Even though the fact that the political resolution was in place long before 2017, it stands to reason that many listeners did not believe we would go through with this right up to the point where we switched off FM broadcasting in the first region. There was a lot of chatter on the political side right up to this point. In hindsight one could wonder if we had spent somewhat more time between discontinuing the various regions – perhaps the conversion had moved along even better.

In what way is the listening habits affected by the increased number of stations offered?

- Today 35 % of the volume is carried out on stations which would not have existed if we had not gone through with the transition. And this number is in fact still growing. Today Bauer Media Norway has 9 national stations and have gone from a flagship to a multi-channel strategy in growth. The introduction of these stations has been done in record time and in cooperation with Bauer Media UK, who have supported us in this effort having vast experience from a more mature and fragmented market.

How do you and your organization perceive the future of radio in Norway – in general terms, and for you as a broadcaster?

- We have a positive view on the future, audio in general is growing and we have a good position to take part in this growing market. Radio is more important than ever to establish reach for Norwegian advertisers. Our stations are overall experiencing growth and we are capturing market shares. In addition, radio is growing in other comparable countries and we are experiencing strong growth entering 2019.

Is it important to you as a broadcaster that other countries carry out similar transitions?

- How other countries go about approaching the digital universe must be based on local considerations, since there most certainly will be local concerns that needs to be evaluated locally. One can argue the rationale for switching off FM in a market where the economic foundation for supporting both FM and DAB exists. What is important is that everyone accepts DAB as the broadcast standard and that suppliers enables DAB in their products. We are happy EU has enforced DAB as standard in all cars from 2020.

How do you go about sharing information and lessons learned with broadcasters and relevant organizations outside of Norway?

- We have over the last 3 years held close contact with principals and competitors regarding input and various outcomes throughout the transition. We, together with the other broadcasters, have participated in several seminars and other gatherings in the effort to share experiences and provide information concerning the process of discontinuing FM.

Any recommendations to countries about to embark on a similar journey?

- Set aside plenty of time, cooperate with commercial and public broadcasters. Get help from the government, be sure the prerequisite for switching off FM is sound and do not underestimate the degree of negativity discontinuing FM will bring along.

ASLAK SOMMERFELDT SKRETTING, THE LOCAL RADIO ASSOCIATION



Aslak Sommerfeldt Skretting, Chairman, Norwegian Local radio Association. Photo: Norwegian Local radio Association

In one sentence, how would you describe the year following the transition?

- This year has provided local radio broadcasting both opportunities and challenges – parallel distribution on FM and DAB have led to increased listening volumes, but the cost aspect of digitalization is at the same time demanding for local radio broadcasters.

In what way have the national broadcaster's transition to digital radio affected local radio?

- Local radio has faced economic challenges acquiring complementary parallel DAB distribution in order to also be available on the same platform as the national stations. Local stations broadcasting on DAB are struggling to maintain market shares since the number of stations offered on DAB is far greater. For local radio we see an increase in listening volumes in several areas on FM, these volumes are what is subsidizing the cost for building parallel distribution on DAB.

How many local radio stations are moving forward with DAB (web and/or DAB)?

- Today 30 % of the local stations transmitting on FM have parallel distribution on DAB. Approximately 90% are available on web/internet. Numbers from the first user survey states that 73 % answer they are listening to local radio on FM, 23 % on DAB, 3 % on the web, and 1 % use other platforms.

Which benefits could derive from local radio stations going digital?

- Making themselves available on the same platform as the national stations.

What would it take to have the local stations becoming fully digital?

- To achieve sound business models local stations will need to acquire certain market shares, which has not been achieved on DAB. The challenge is that local radio is made available amongst 30-40 other channels on DAB, as opposed to 5-6 on FM. Local radio does not have the capacity to follow the same multi-channel strategy observed from the national broadcasters. Should all local radio be fully digitalized today, one would most likely see a discontinuation of the commercial side of the industry.

How do you and your organization perceive the future of radio in Norway – in general terms, and for local radio in general?

- The Local Radio Association sees the future as bright if there is acceptance for continued use of FM as means of subsidizing parallel distribution on DAB for local radio. This is a model where the commercial broadcasters finance their parallel DAB distribution themselves. For the smaller local radio stations FM will still be the preferred platform due to financial limitations, with parallel distribution on DAB fully dependent on availability of subsidy schemes.

FINAL REMARKS

The key reason for the digital transition was founded on the radio industry's need to keep radio relevant and robust going forward. The industry has clearly stated that the technology transition was not carried out to win listeners in the short term, but to secure the radio listening in the long run. They believe the results and the gain for the industry from the digital switchover will emerge to a greater degree in the time to come.

The most important prerequisite for the Norwegian switchover process has been the efforts put into collaborating. Collaboration that took place across several arenas such as internally within the radio industry, between radio and politicians/authorities, with the automotive industry and with the electronics trade industry.

When the plan for digitization was announced by the government in 2011 everyone, including the radio industry, believed other markets would conduct a similar process more or less simultaneously. This was based on similar ongoing debates and initiatives emerging in several countries at that time.

The cost of being a first mover and going through this transition process alone, has been high. Almost no international aid in the form of digitization plans in other countries that could have eased this burden materialized. It made it especially challenging in the area of product development to help drive the transition. A small market as Norway could never attract the same attention from the electronic manufacturers as other larger populated countries would have, resulting in slim pickings for consumers shopping for digital radio equipment and a lot of "unfinished products" went on sale, resulting in frustration. Especially for the DIY (Do It Yourself) kits for converting cars which resulted in difficult installations, bad user experiences and in the end negative publicity.

The communication process also suffered from the first years of introducing DAB in the market. The "chicken and egg" period from mid 90s and up to when DAB could be properly launched, with necessary coverage, more content and a wide range of radios in different price categories, did not make Norway's most comprehensive technology shift throughout history easier to sell to the public.

The main part of the radio listeners, the heavy users, accounting for 70 - 80 % of the radio listening, converted relatively fast and before the FM shutdown began. They were mostly driven by an interest in the new wider offer, a better radio experience, or simply recognizing, "I know this will happen soon, so my next radio will be digital". Those with slightly less radio consume and/or interest disliked, to a greater extent, the notion of coercion when the switch-off dates approached.

For the last converting segments, the information challenge was considerable. The lack of knowledge for the new technology caused many rightfully to blame lack of coverage to be the problem, while it usually was a use-related problem or simply poor consumer products.

Although the radio industry was not prepared for all the challenges, they knew the process would take time. The public needed time to upgrade their radios and establish new listening habits. The Norwegian radio market is now modernized, and most of the listeners have come through the transition, but it will take some additional time to rebuild the radio's reputation.

With the digital switchover finalized, and with the knowledge that a national, digital, free to air backbone for radio distribution is secured, the Norwegian radio industry is now focusing on the best way forward controlling the remaining digital distribution of radio. In the coming years they believe the development of more user friendly and advanced IP platforms will even further strengthen radio's possibilities. But there are also great

challenges the industry must deal with in the near future. Not only in Norway, but across the world. Radio needs, to a greater degree, gain control over own distribution and the ever so important user data.

Norway was the first country in the world to switch off FM. Going first in a technology shift will always be hard, and especially if the first mover represents one of the small markets. However, both the listeners and the collective Norwegian radio industry got through it. Crucial figures are showing a positive trend. As of March 2019, radio as a platform in Norway is thoroughly prepared for the future. A future with a constant increase in competition for the public's attention. Now Norway are awaiting the rest of the radio-family to continue and finalizing their own digitalization of radio.

SOURCES AND SURVEYS

SOURCES

- Sources in the report
 - Marius Lillelien, Radio Director, NRK
 - Kenneth Andersen, Vice President and Head of Radio, Nordic Entertainment Group
 - Lasse Kokvik, CEO, Bauer Media Norway
 - Aslak Sommerfeldt Skretting, Chairman, Norwegian Local radio Association
 - Øyvind Vasaasen, Former Head of DAB project, NRK
 - Jon Branæs, Former Acting Head of Radio, NRK
 - Bjarte Øgrey, CMO, Bauer Media Norway
 - Kristian Tolonen, Head of Audience Research, NRK
 - Tor Eide, Media Analyst, NRK
 - Aslaug Kalve, Analysis Manager, P4 Group
 - Åse Marit Linberg, Senior Market Analyst, P4 Group
 - Ole Jørgen Torvmark, Former CEO, Digital Radio Norway
- Sources for supplementary info
 - Digital Radio Norway report 2018: “The Story of Radios Digital Switchover”, www.radiodso.com

SURVEYS

PERSONAL PEOPLE METER (PPM)

In 2006, Norway was the first country worldwide to start using electronic passive measurement for radio, PPM. The system, which has been operated by Kantar Media, was set up and customized to fit the national radio market, consisting of 5 stations (3 public and 2 commercial), and with more than 95 % of the listening via FM. At first PPM had 400 panelists, increasing to 800 in 2010 and 1000 from 2014. The survey was owned by the national broadcasters, NRK (public service), P4 Group and Bauer Media. PPM reported the official figures for in and out of home listening for national stations on all platforms (FM, DAB, IP, Digital TV), with a sampling frequency set at one-minute intervals.

Through the digital switchover process the radio market has changed completely. It now consists of 32 stations (divided 50/50 between public service and commercial broadcasters) distributed to the whole country via DAB, Digital TV and IP. At the same time Norwegians have upgraded their entire collection of radios, more than 6 million radios were sold the last few years.

To better understand the new, fragmented radio market, the broadcasters decided to invest in an improved version of PPM, doubling the number of panellists. Nielsen was commissioned to handle the new survey from the 1st of January 2019. See figures in Appendix one and two. For PPM, this version of the report is updated with figures per August 2019 (graphs marked with *).

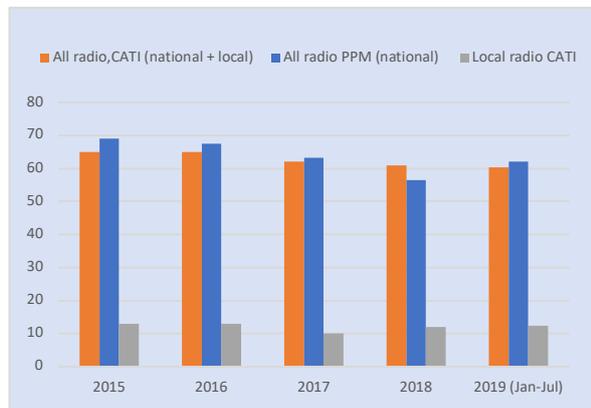
CHANGES FROM OLD TO NEW PPM

- New watermark technology makes it easier to insert audio watermarks for the stations. This allows to increase captured listening
- 2000 reporting respondents, up from 1000
- The panel starts at 10 years, not 12 years as before
- More stations are measured

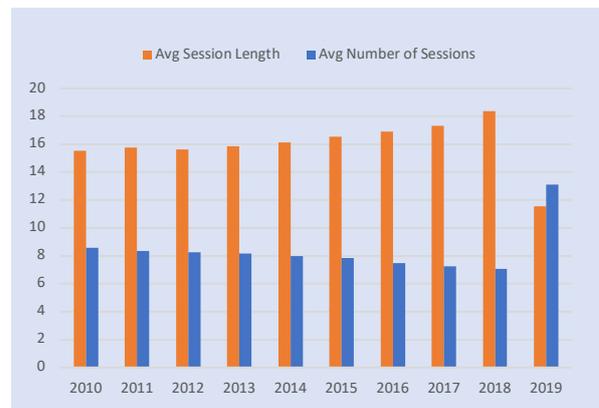
COMPUTER ASSISTED TELEPHONE INTERVIEWING (CATI)

Since 1993, Kantar Media has also measured all radio listening in a telephone-based survey (CATI). From 2006, the CATI survey's primary mission has been to measure local radio stations. Local radios are in general too small to be included in the PPM. CATI consist of 45 000 interviews per year, reported monthly and quarterly on a 15 minutes level (depending on size of the station). See figures in Appendix one, pages 37 - 40. For CATI, this version of the report is updated with figures per July 2019 (graphs marked with *).

COMPARING THE FIGURES



Reach in %. Source: PPM and CATI, Kantar Media *



Length and number of sessions. Source: PPM, Kantar Media 2010 – 2018, Nielsen 2019 (Jan–Feb)

Traditionally, PPM has picked up more listening than CATI, despite the fact that PPM does not measure local radio. As the radio market became more and more complex (more stations and lot of new digital devices) and listening habits changed, it may seem like the old PPM did not capture all the listening sessions. The listening declined more in PPM, than in CATI and changes in the local radio listening could explain that only to a small extent (details in Appendix one, pages 37 - 38). Looking at the relationship between the number of listening sessions and their length, the old PPM has over several years showed fewer, but longer sessions, despite a growing selection of content for the listeners to choose from. With a larger panel and improved technology, the new PPM detects more, but shorter sessions.

DIGITAL RADIO SURVEY (DRS)

When the Norwegian authorities made the plan for the transition from analogue to digital radio distribution in 2011, one of the requirements for a FM switch-off was at least 50 % of the daily listeners should use one or more digital platforms. To follow this development, as well as Norwegians' access to digital radio equipment, the radio industry decided to follow the development in a separate survey, the Digital Radio Survey (DRS).

DRS conducted by Kantar Media was reported four times a year, based on approximately 1000 telephone interviews each time. The two last reports were released in February 2018 and March 2019 (Q1 2019). The

predecessor of DRS was a survey called Radio Equipment Survey, conducted by TNS Gallup / Opinion. This survey consisted also approximately 1000 telephone or web interviews in every report.

See figures in Appendix three, pages 52 - 54.

IRM

The IRM Institute for Advertising and Media Statistics collects, analyses and publishes data about the advertising and media markets in the Nordic region. The figures in this report is based on IRM's Norwegian Advertising Market Annual Report. See figures in Appendix five, page 56.

THE ELECTRONICS TRADE ASSOCIATION

Every year in February The Electronics Trade Association releases the figures for total sale of radios during the previous year. See figures in Appendix three, page 51.

PROFILE TRACKER (NRK/NORSTAT)

Norstat has conducted a profile survey for NRK every year in February since 1995. In 2018 the new Profile Tracker was carried out throughout the whole year with 200 respondents every month. See figures in Appendix four, page 55.

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* Graphs updated per August 2019 for PPM and July 2019 for CATI.

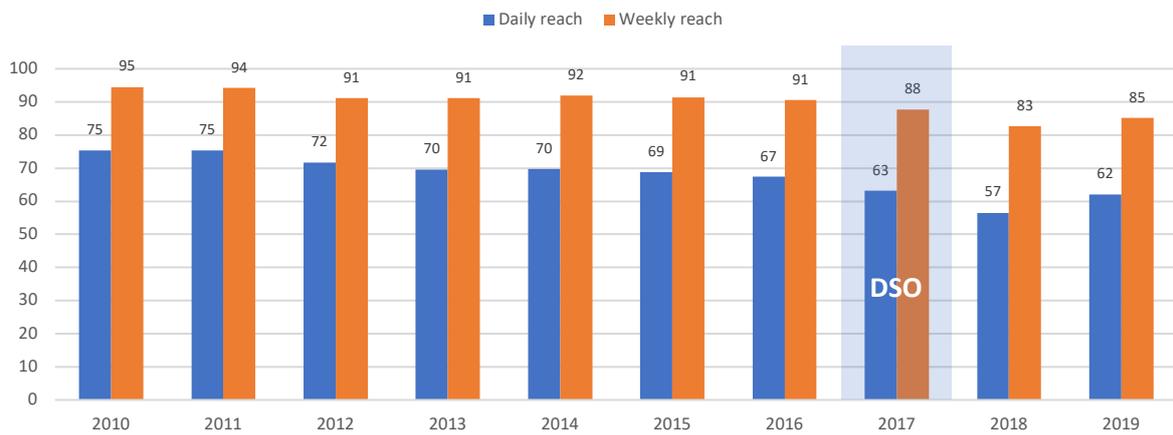
MAIN LISTENING FIGURES

SOURCES

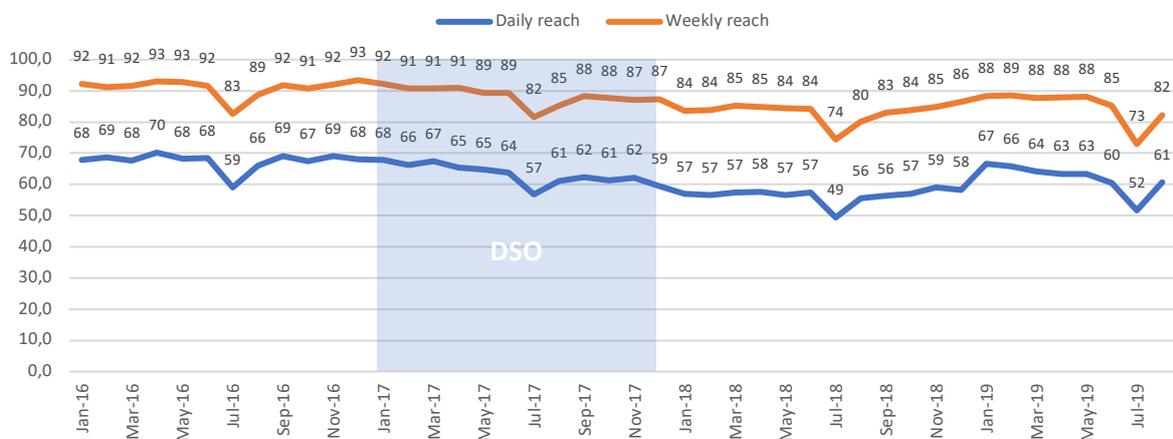
- 2010 – 2018:
 - Kantar Media, PPM, 1000 panellist, population 12+ (standard)
 - Kantar Media, CATI, population 12+ (marked)
- 2019
 - Nielsen, PPM, 2000 panellist, first two months, population 10+ (standard)
 - Kantar Media, CATI, January, population 12+ (marked)
- More details in Chapter Five, Sources and Surveys

REACH

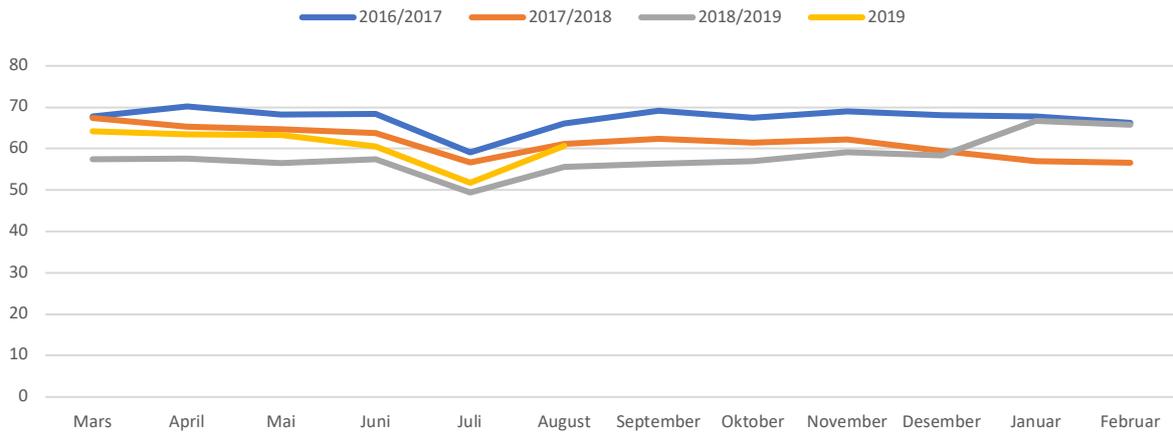
REACH 2010 – 2019 (JAN-AUG), YEAR BY YEAR, % *



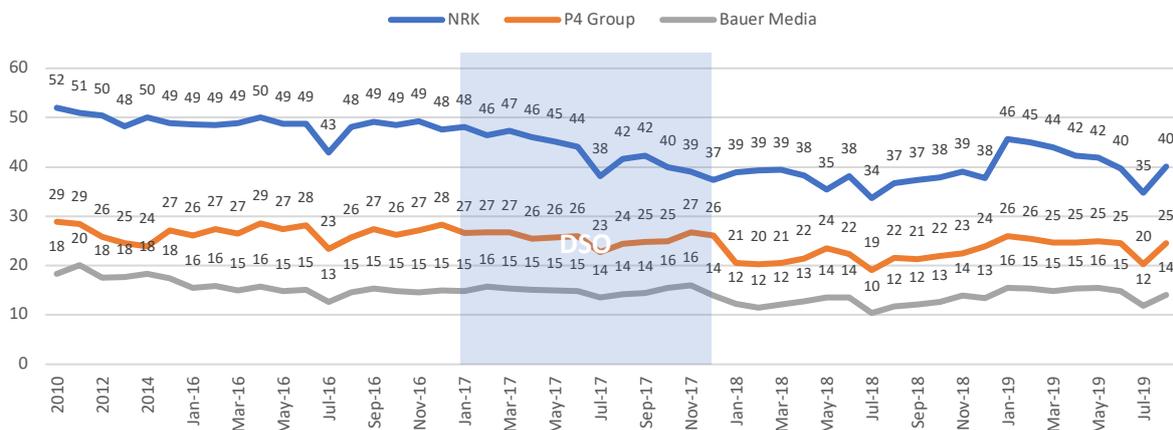
REACH 2010 – 2019, % *



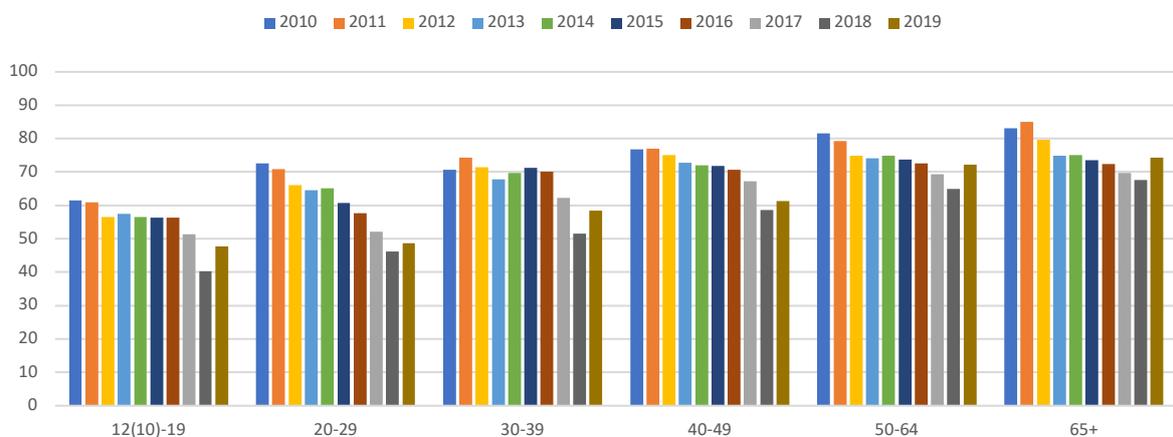
DAILY REACH 2016 - 2019 COMPARED, MONTH BY MONTH, % *



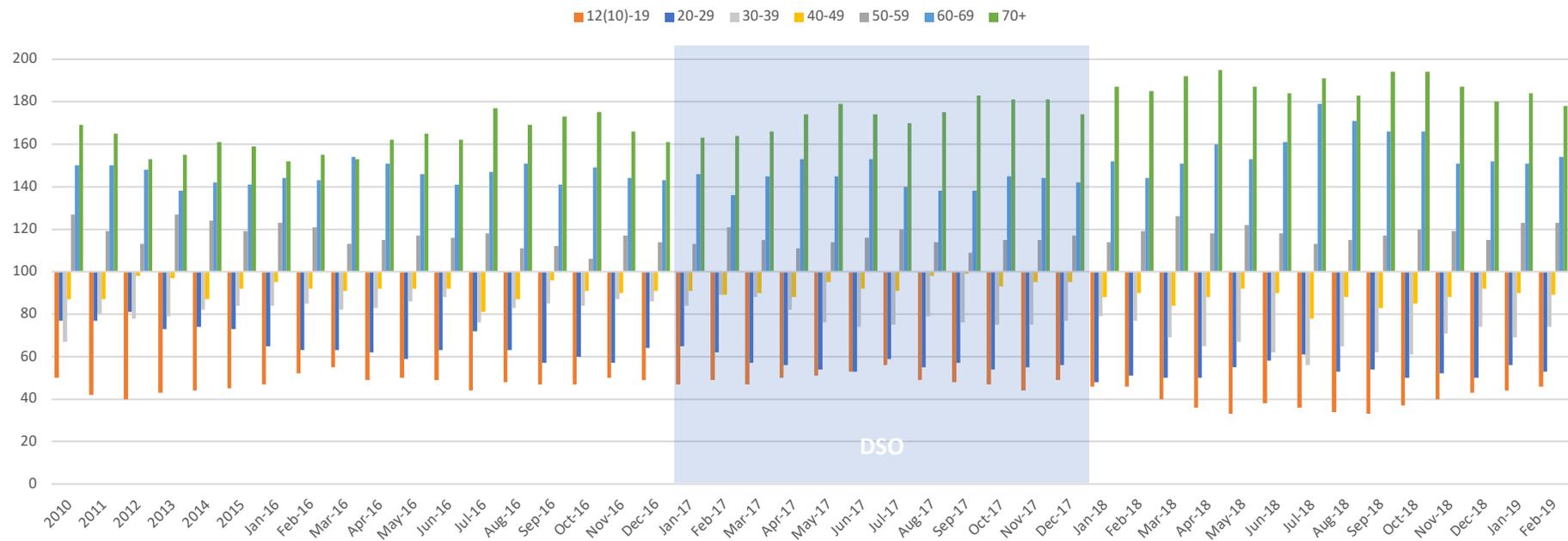
DAILY REACH 2010 – 2019 BY RADIO GROUPS, % *



DAILY REACH 2010 – 2019 (JAN–AUG) BY AGE GROUPS, YEAR BY YEAR, % *



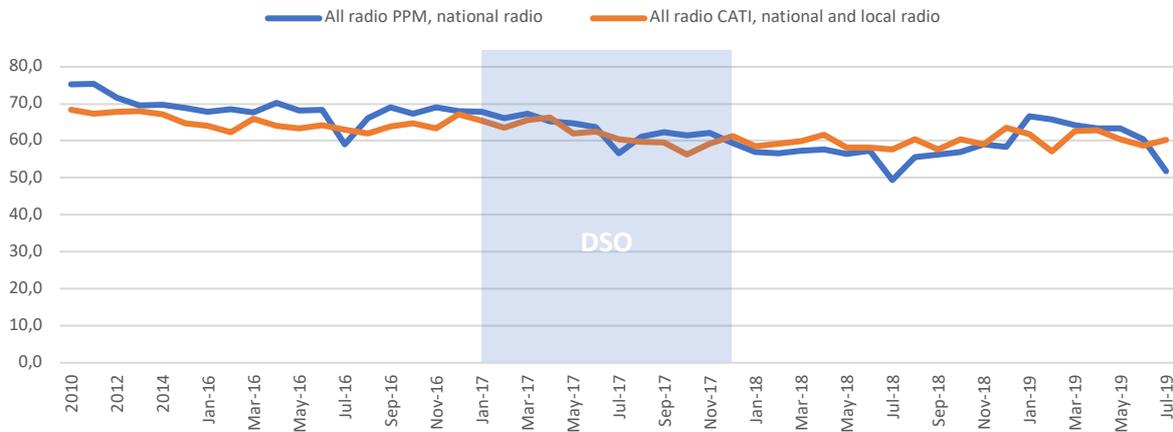
TOTAL RADIO BY AGE GROUPS, 2010 – 2019, INDEX



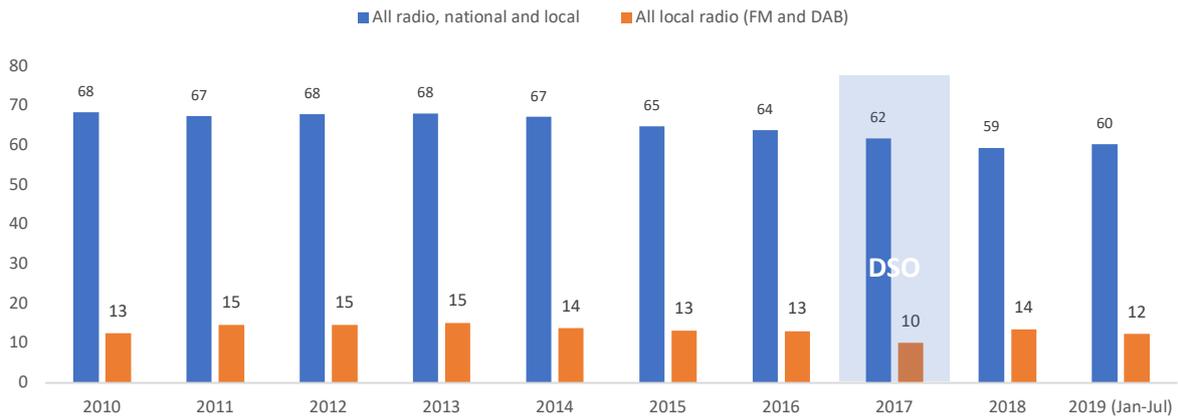
Index: Listening segments compared to the general population. 100 = average.

REACH PPM VS CATI

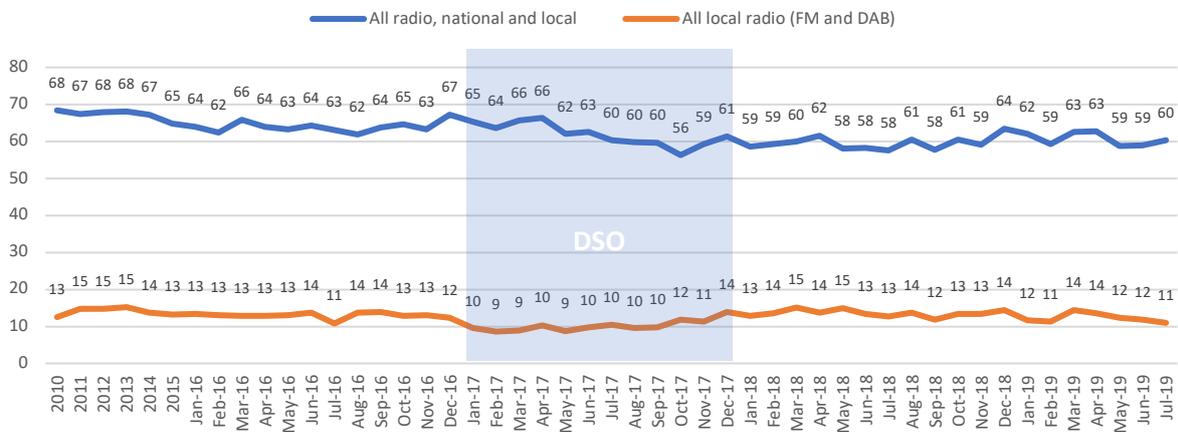
DAILY REACH, PPM VS CATI, 2010 – 2019, % *



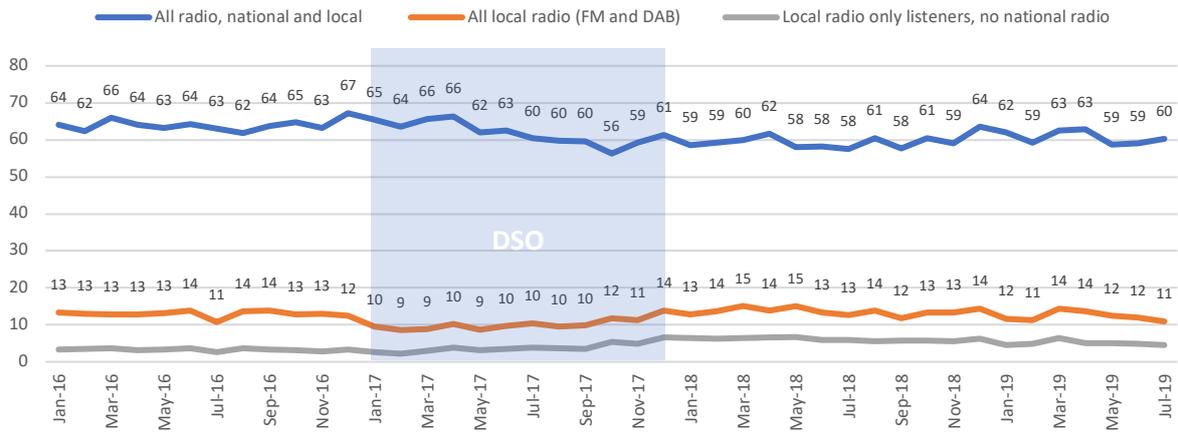
DAILY REACH, ALL RADIO VS LOCAL RADIO, 2010 – 2019, CATI, YEAR BY YEAR, % *



DAILY REACH, ALL RADIO VS LOCAL RADIO, 2010 – 2019, CATI, % *

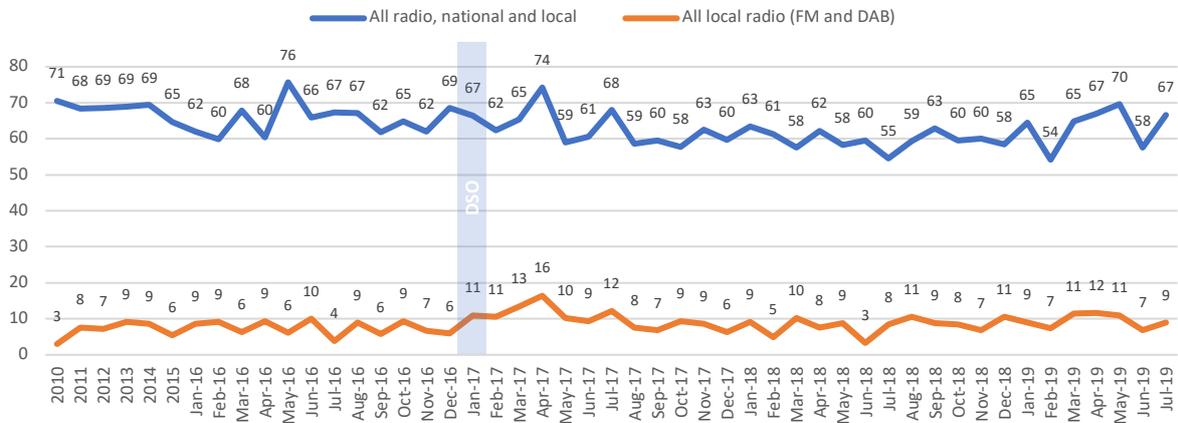


DAILY REACH, ALL RADIO VS LOCAL RADIO, 2016 – 2019, CATI, % *

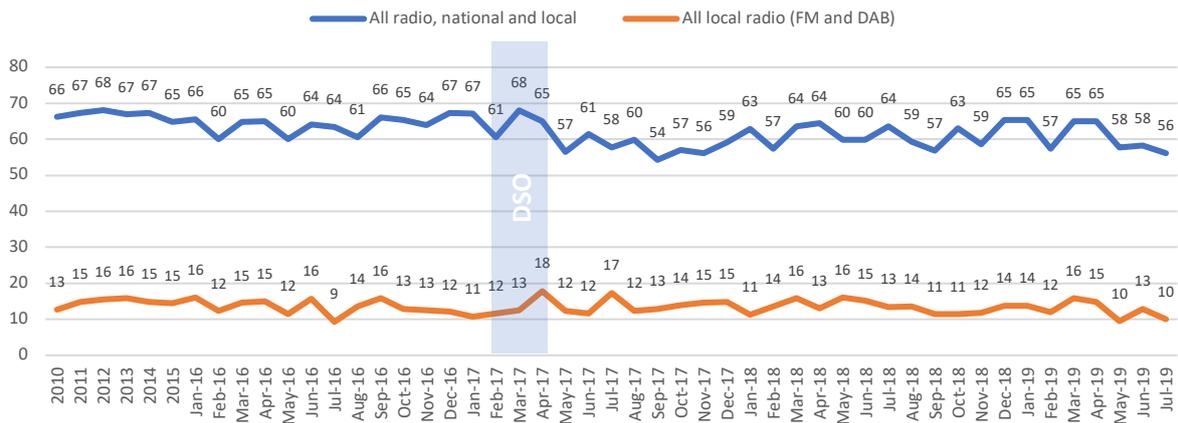


REACH IN SHUT-OFF REGIONS

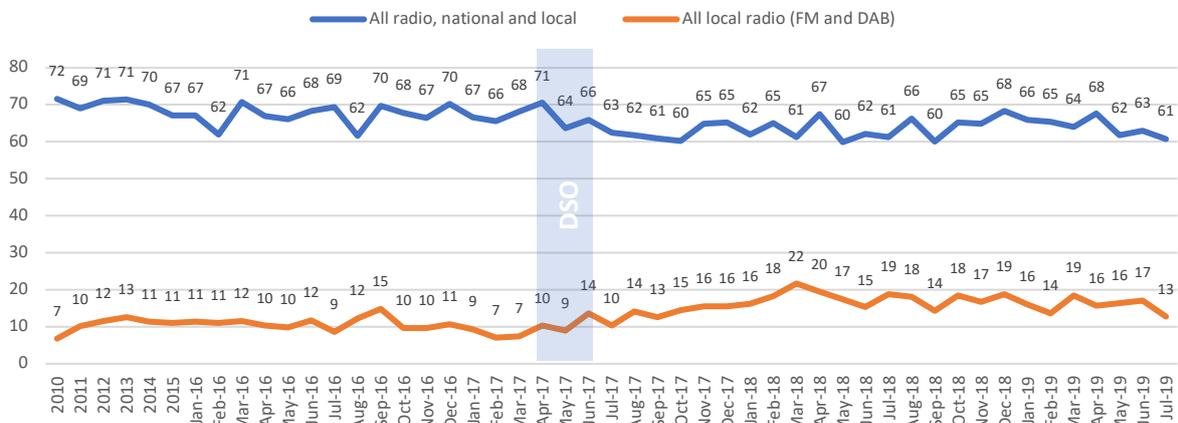
DAILY REACH, SHUT-OFF REGION 1, ALL RADIO VS LOCAL RADIO, 2016 – 2019, CATI, % *



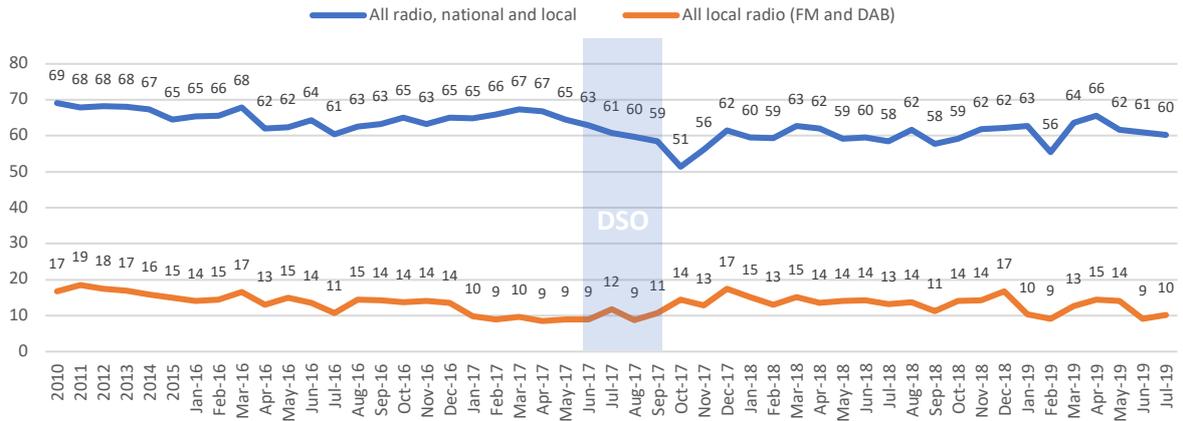
DAILY REACH, SHUT-OFF REGION 2, ALL RADIO VS LOCAL RADIO, 2016 – 2019, CATI, % *



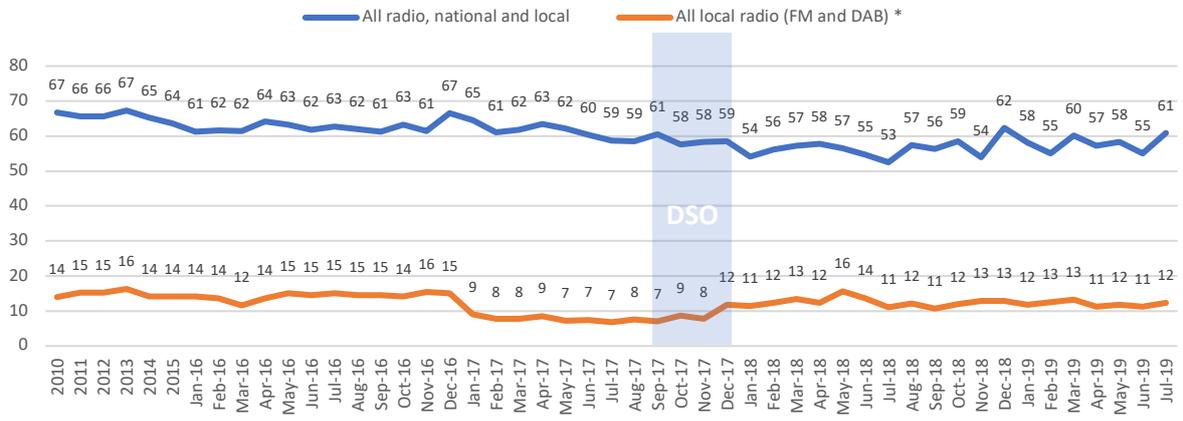
DAILY REACH, SHUT-OFF REGION 3, ALL RADIO VS LOCAL RADIO, 2016 – 2019, CATI, % *



DAILY REACH, SHUT-OFF REGION 4, ALL RADIO VS LOCAL RADIO, 2016 – 2019, CATI, % *

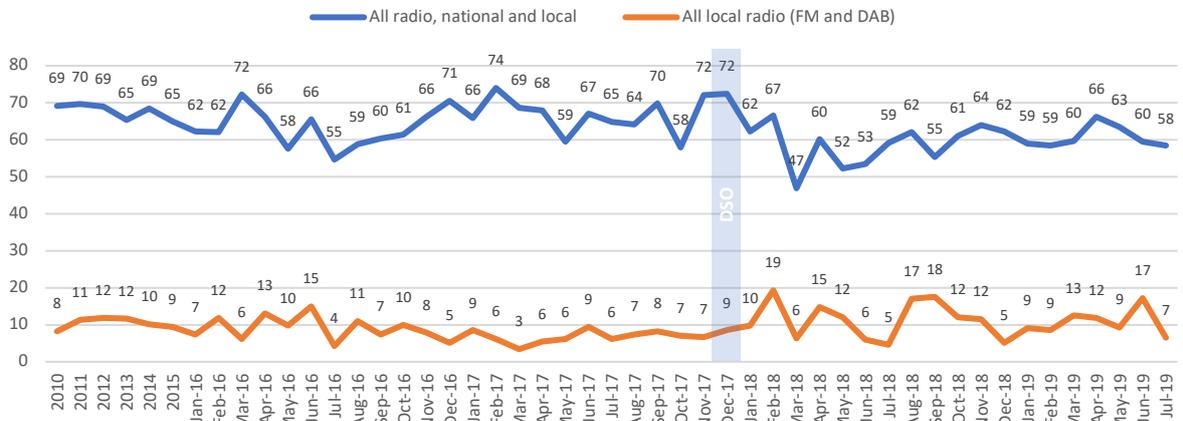


DAILY REACH, SHUT-OFF REGION 5, ALL RADIO VS LOCAL RADIO, 2016 – 2019, CATI, % *



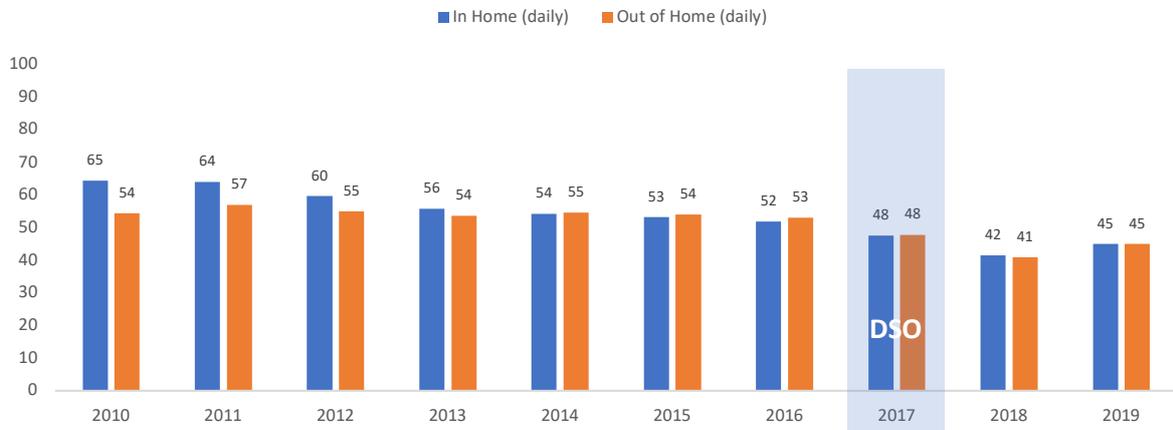
* In 2016 Radio 1/Kiss and Radio Rock stopped their local FM transmissions. In 2017 P5, P7 Klem and NRJ, broadcasting national via DAB and on FM in some cities, were taken out of CATI (local survey).

DAILY REACH, SHUT-OFF REGION 6, ALL RADIO VS LOCAL RADIO, 2016 – 2019, CATI, % *

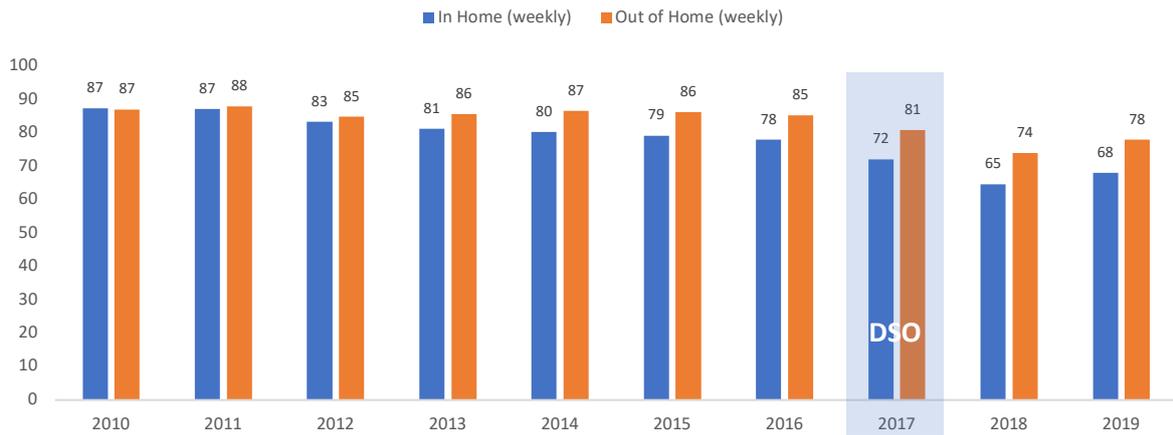


PLACE OF LISTENING

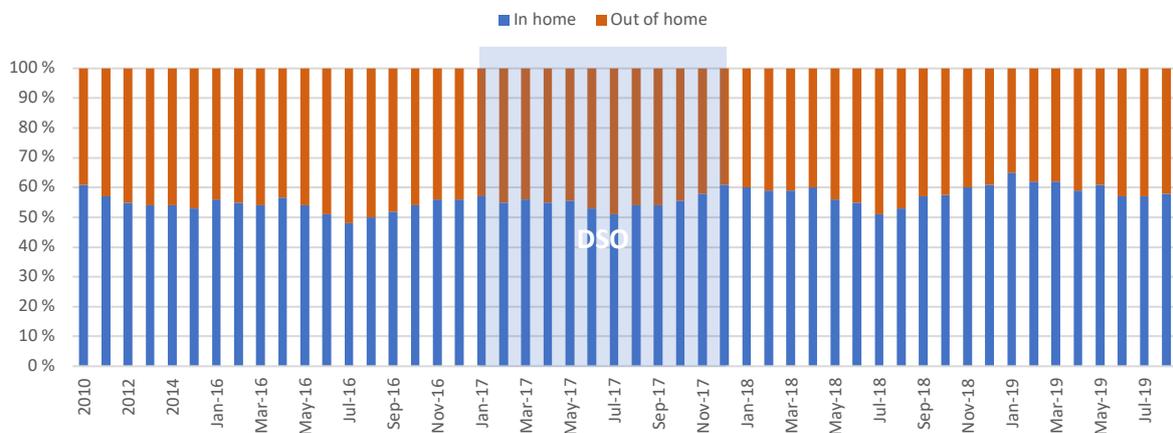
DAILY REACH 2010 – 2019 (JAN–AUG), YEAR BY YEAR, IN HOME / OUT OF HOME, % *



WEEKLY REACH 2010 – 2019 (JAN–AUG), YEAR BY YEAR, IN HOME / OUT OF HOME, % *

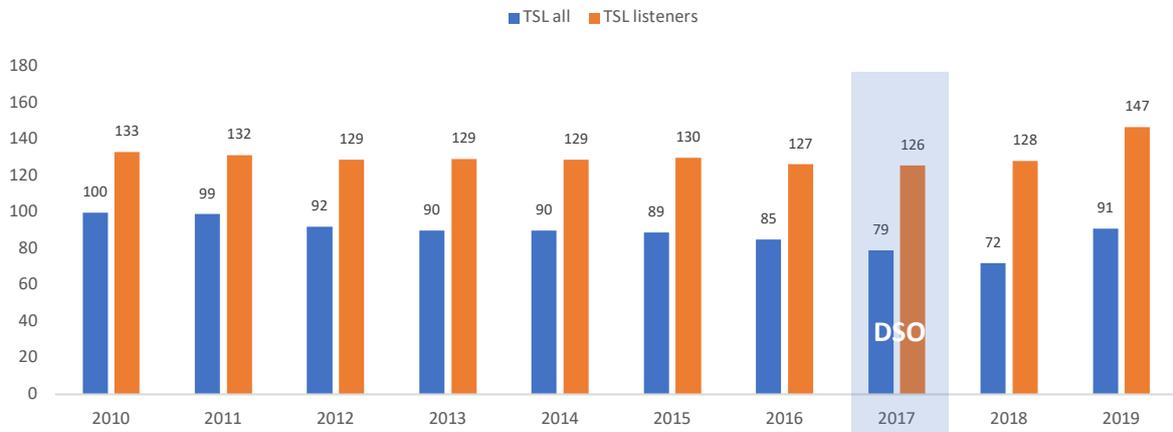


SHARE IN HOME / OUT OF HOME, 2010 – 2019 *

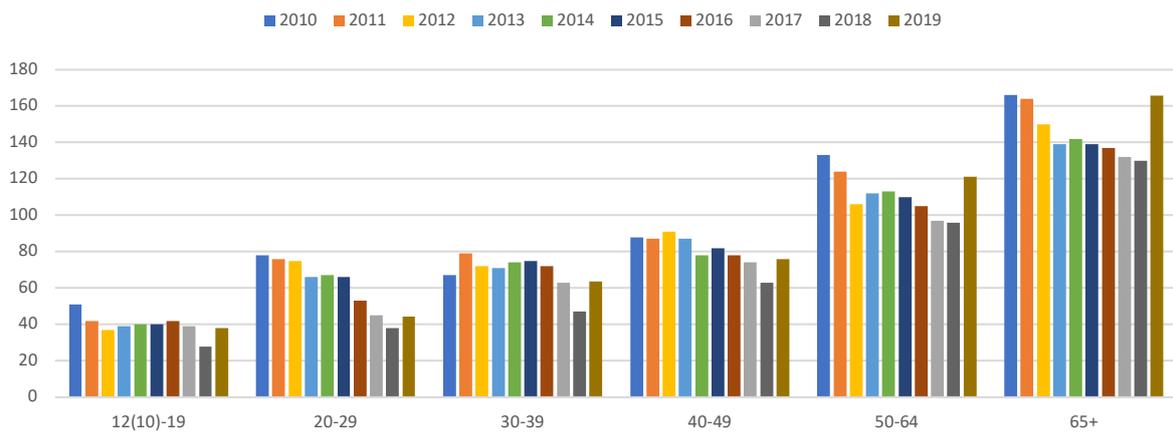


TIME SPENT LISTENING (TSL)

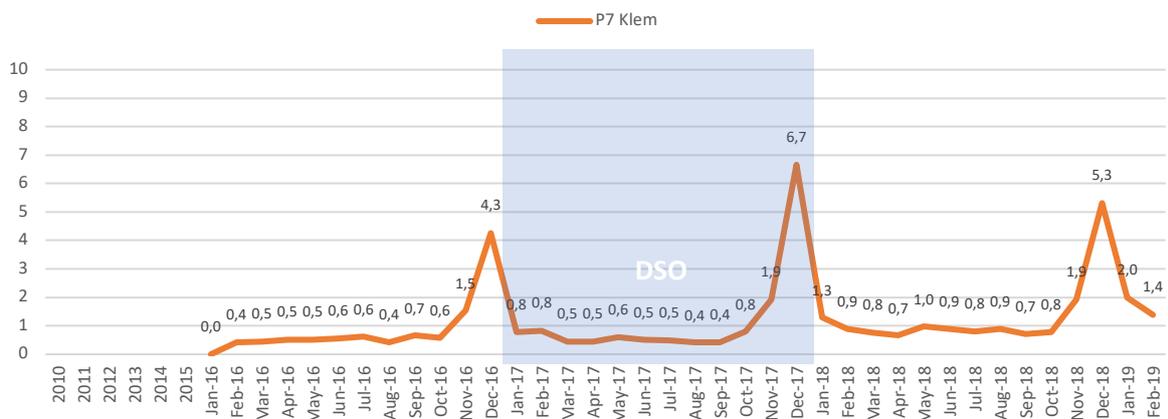
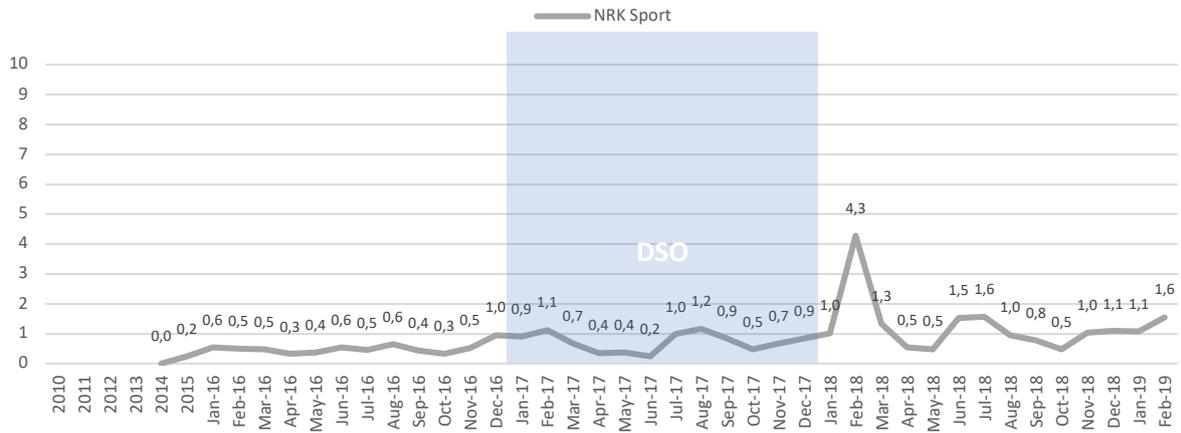
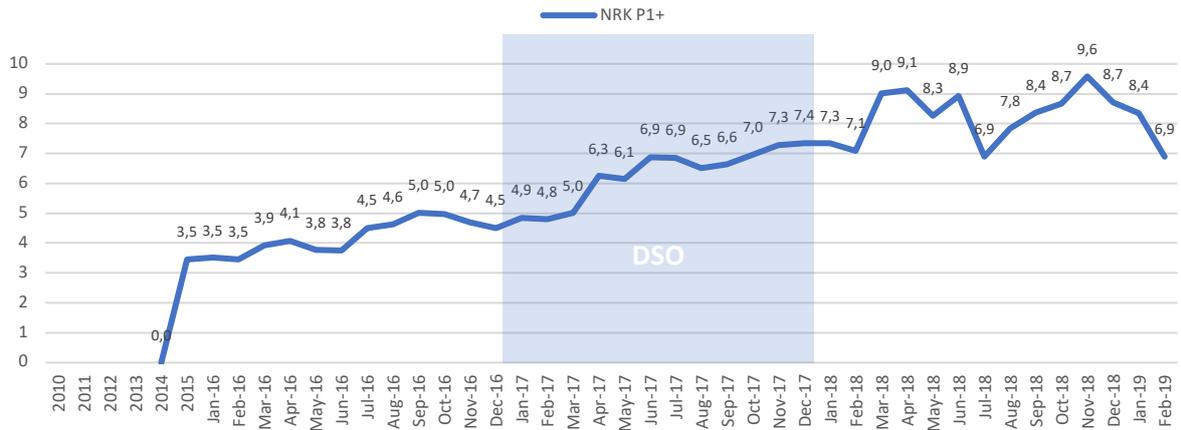
TSL 2010 – 2019 (JAN–AUG), YEAR BY YEAR, MINUTES *

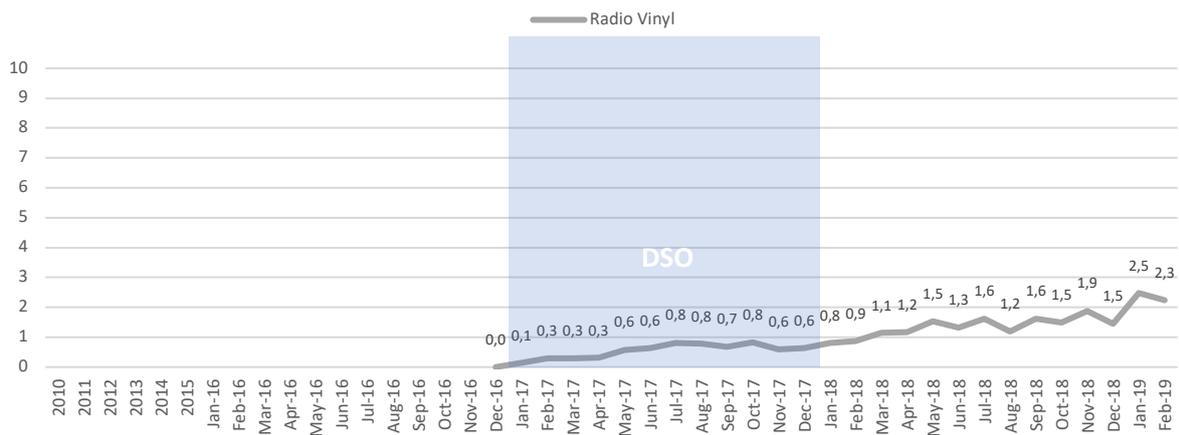
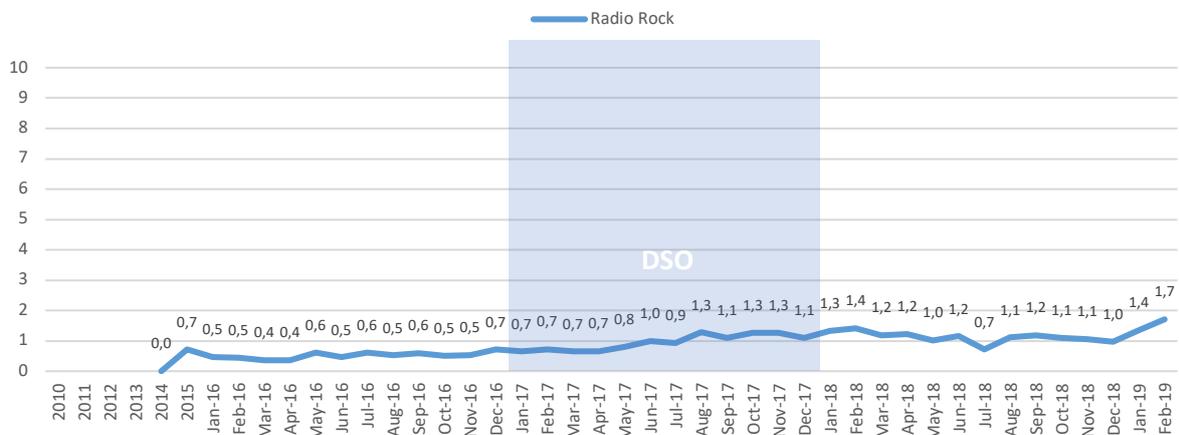
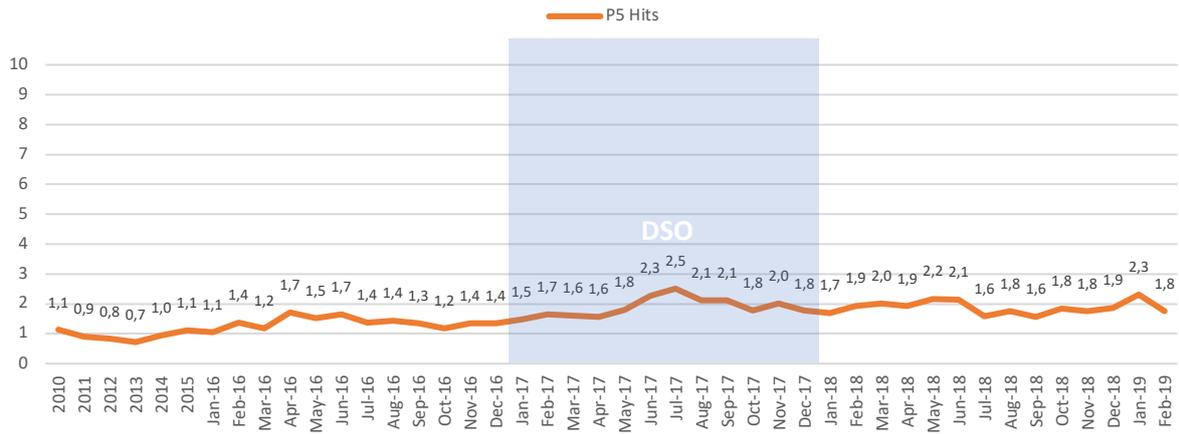


TSL LISTENERS 2010 – 2019 (JAN–AUG) BY AGE GROUP, YEAR BY YEAR, MINUTES *



TSL 2010 – 2019 SELECTED NEW STATIONS, MINUTES

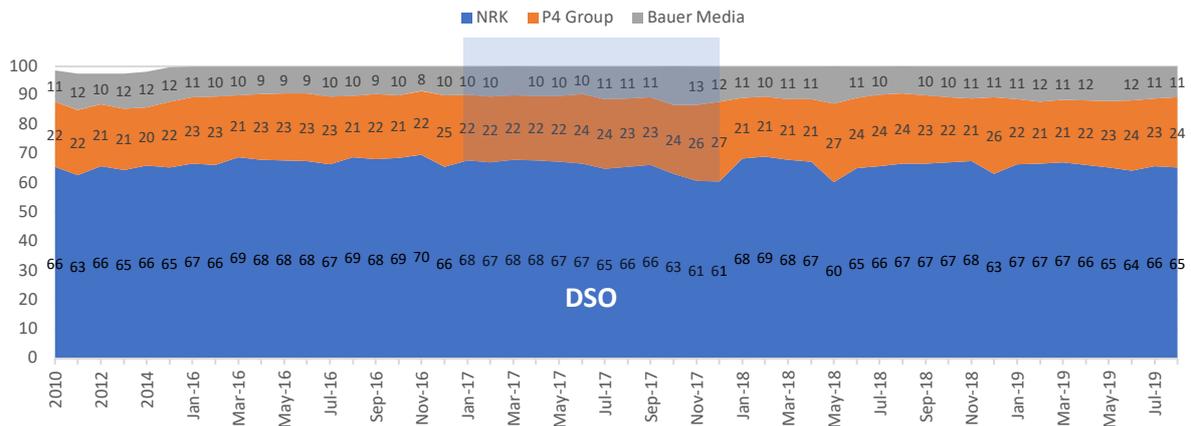




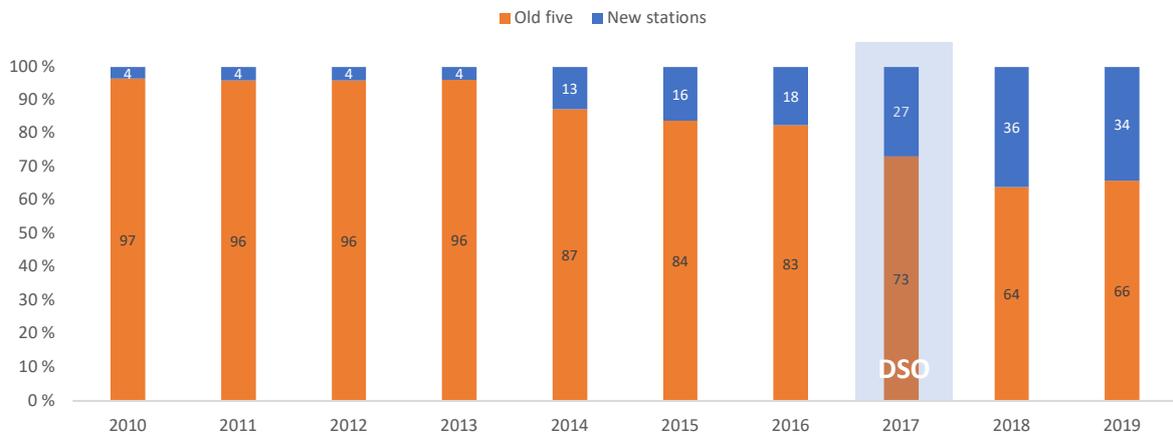
MARKET AND HABIT CHANGES

MARKET SHARE

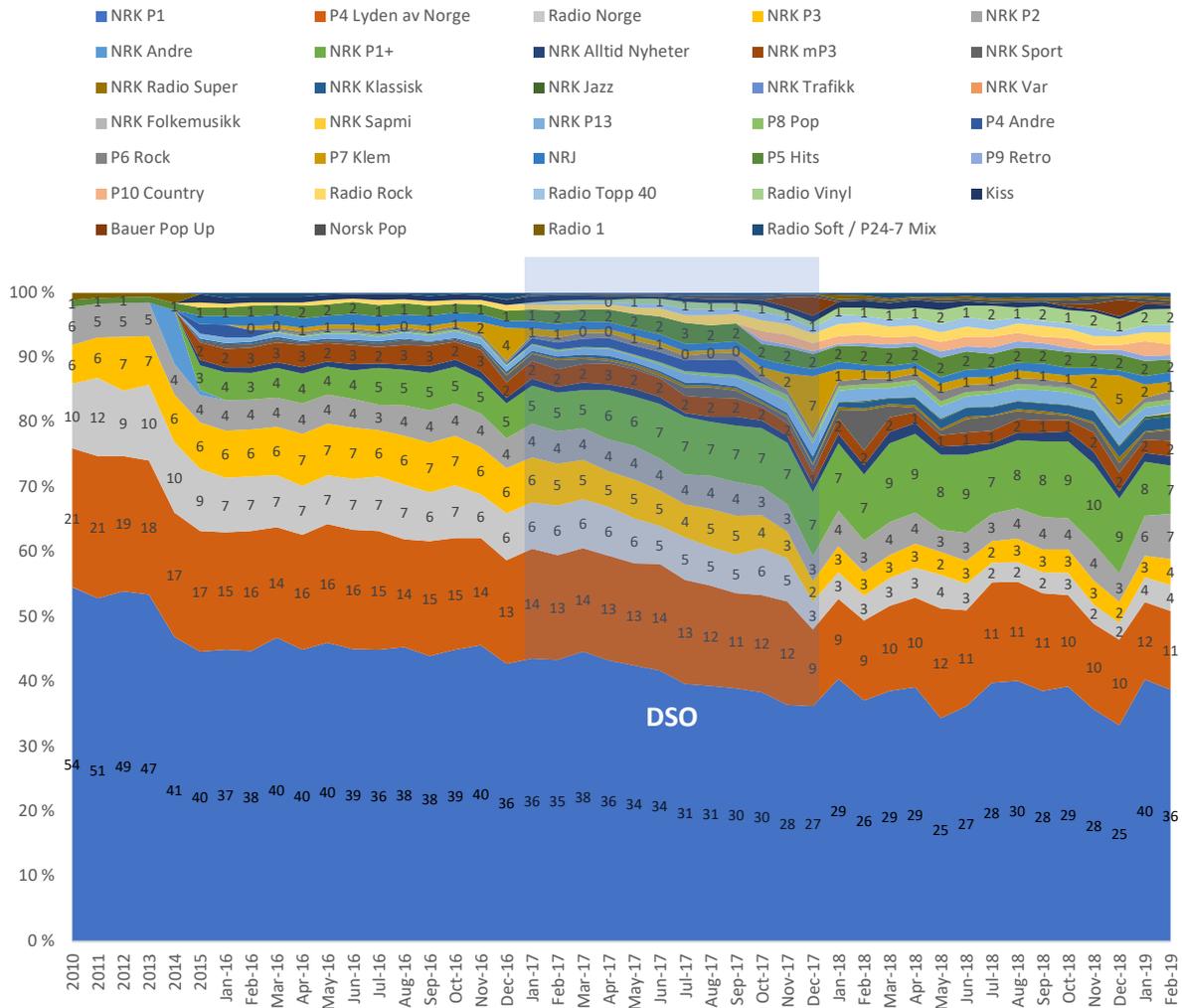
RADIO GROUPS, 2016 – 2019 *



OLD VS NEW STATIONS, 2010 – 2019 (JAN–AUG) *



STATION PR STATION, 2010 - 2019

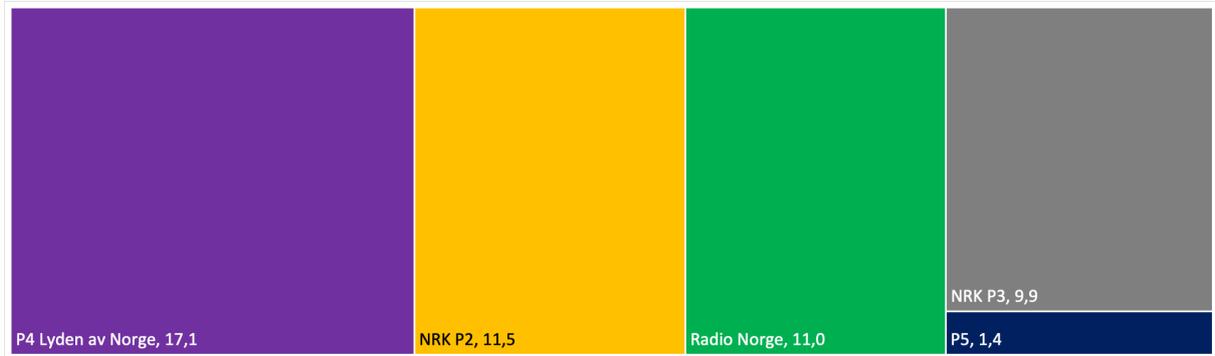


Changes in Norwegians' use of radio the last 9 years.

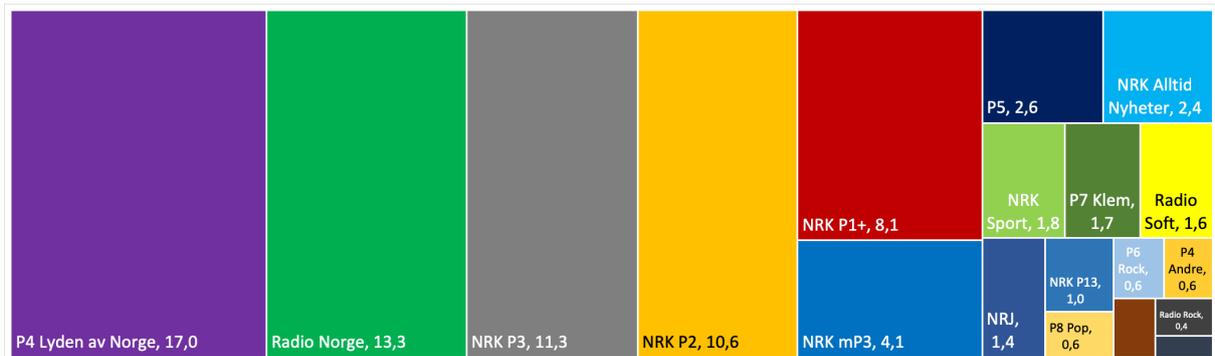
CHANGES IN LISTENING BEHAVIOUR

ON AN AVERAGE DAY, LISTENERS OF NRK P1 ALSO LISTENED TO...

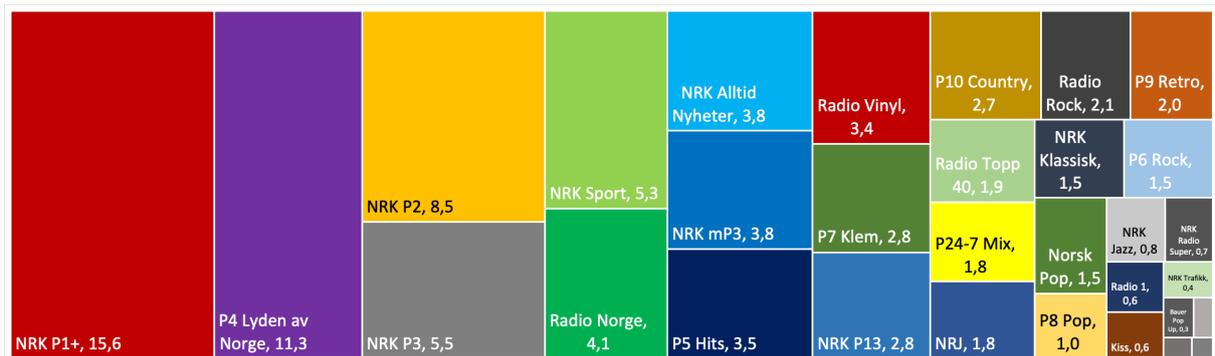
2013 (WEEK 7) (NUMBERS IN %)



2016 (WEEK 7)

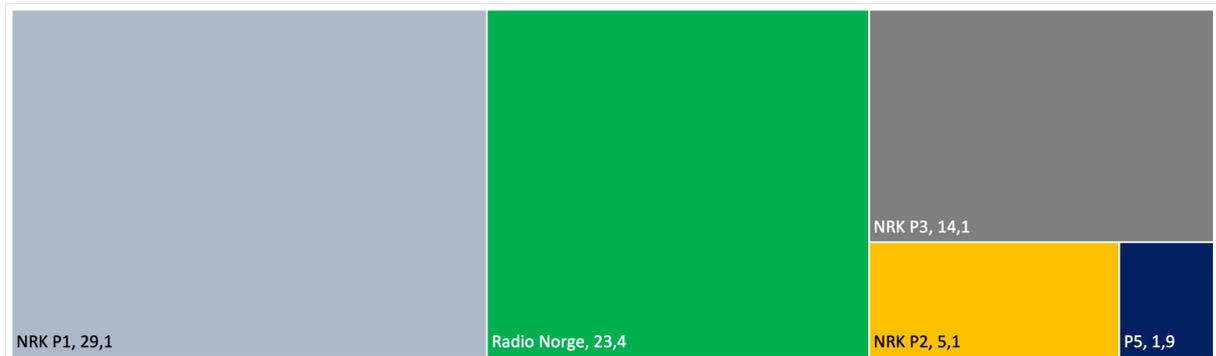


2019 (WEEK 7)

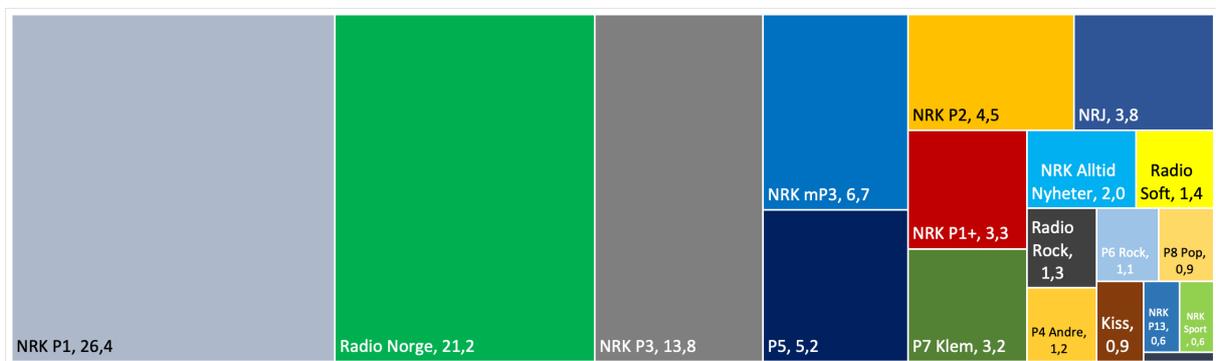


ON AN AVERAGE DAY, LISTENERS OF P4 ALSO LISTENED TO...

2013 (WEEK 7)



2016 (WEEK 7)

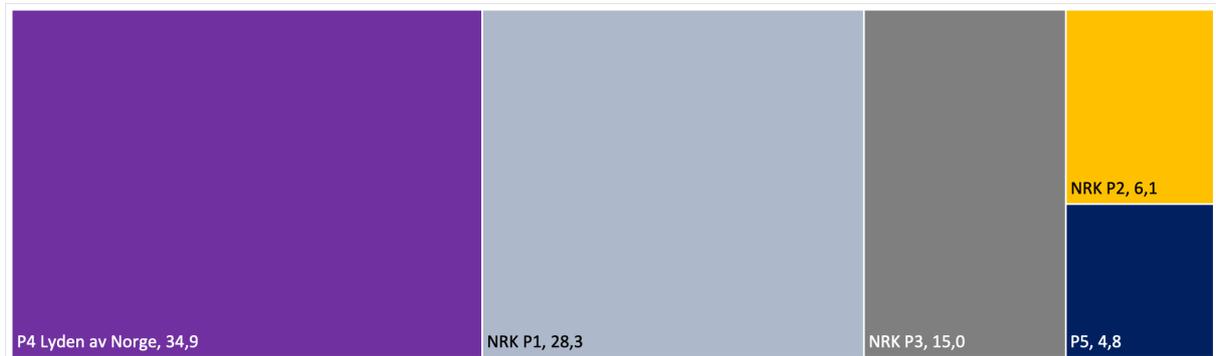


2019 (WEEK 7)

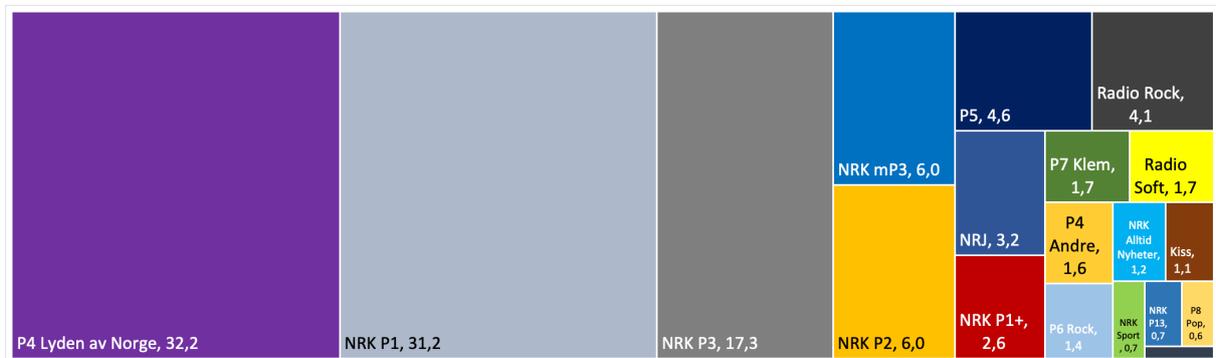


ON AN AVERAGE DAY, LISTENERS OF RADIO NORGE ALSO LISTENED TO...

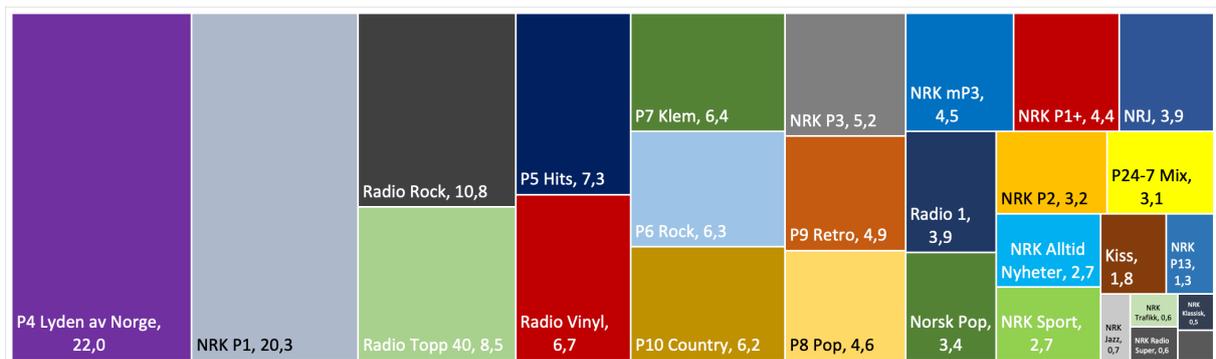
2013 (WEEK 7)



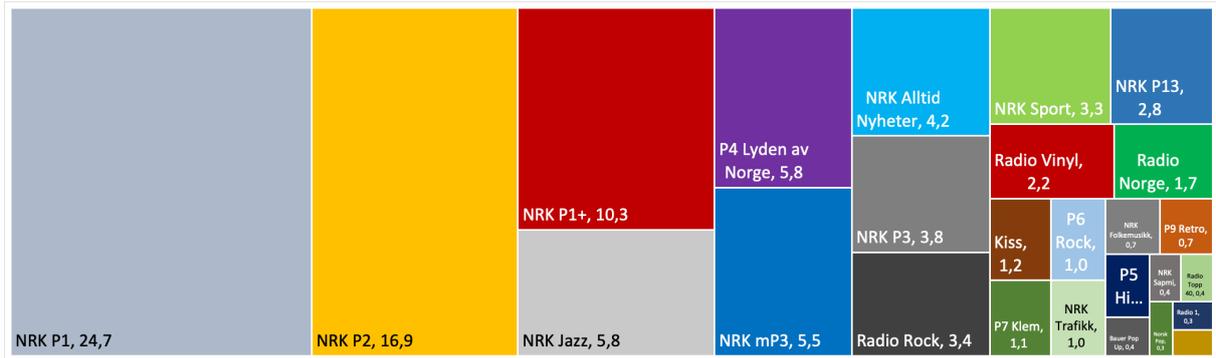
2016 (WEEK 7)



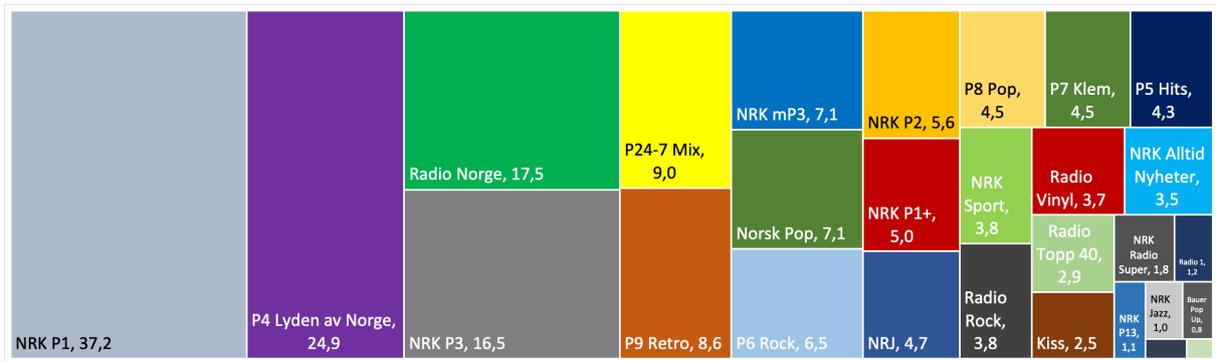
2019 (WEEK 7)



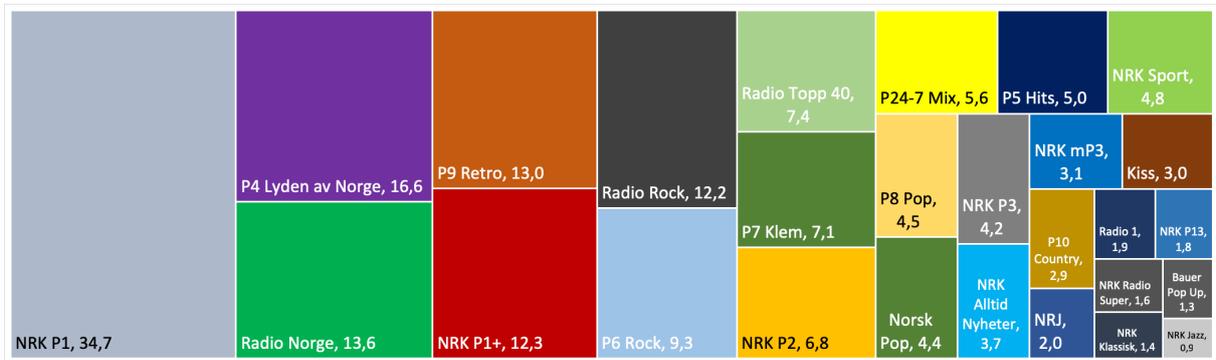
TODAY'S LISTENERS OF NRK KLASSISK ALSO LISTEN TO THESE STATIONS...



P10 COUNTRY LISTENERS USE THIS SET OF STATIONS AS WELL...



WHILE LISTENERS OF RADIO VINYL SOMETIMES SWITCH TO THESE STATIONS...



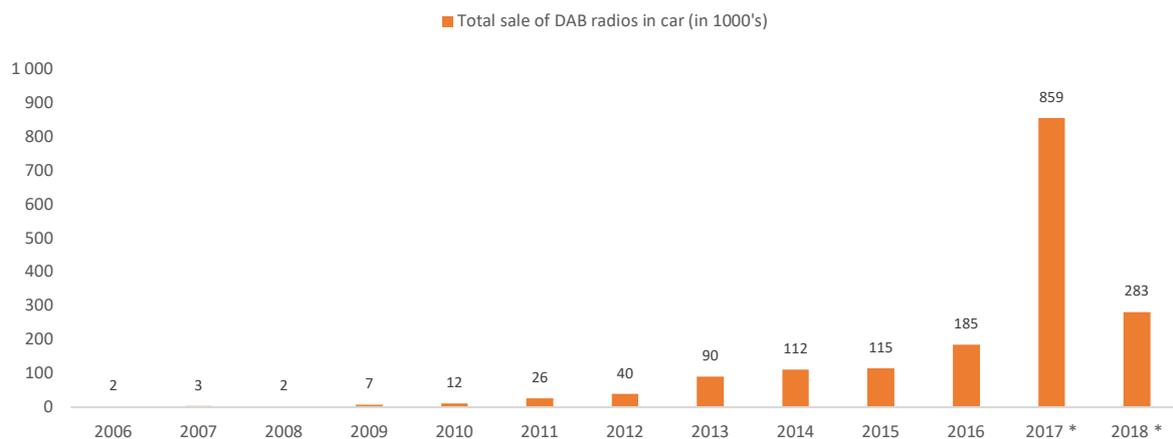
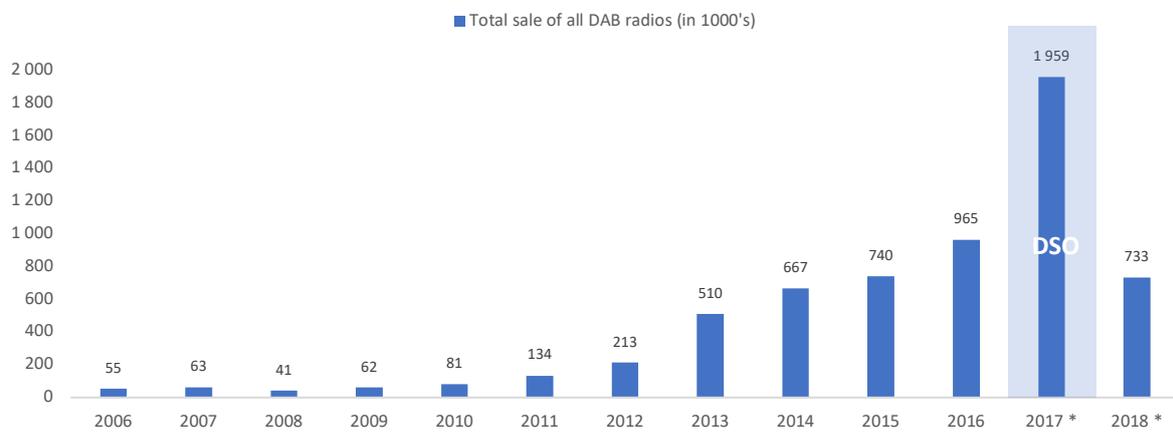
EQUIPMENT, PLATFORMS AND USE

SOURCES

- Sales: The Electronics Trade Association. Figures for total sale of DAB radios
- Other figures
 - 2012 – 2018: Digital Radio Survey, Q1 2019, Kantar Media
 - 2005 – 2010: Radio Equipment Survey, TNS Gallup / Opinion
- More details in Chapter Five, Sources and Surveys

SALES

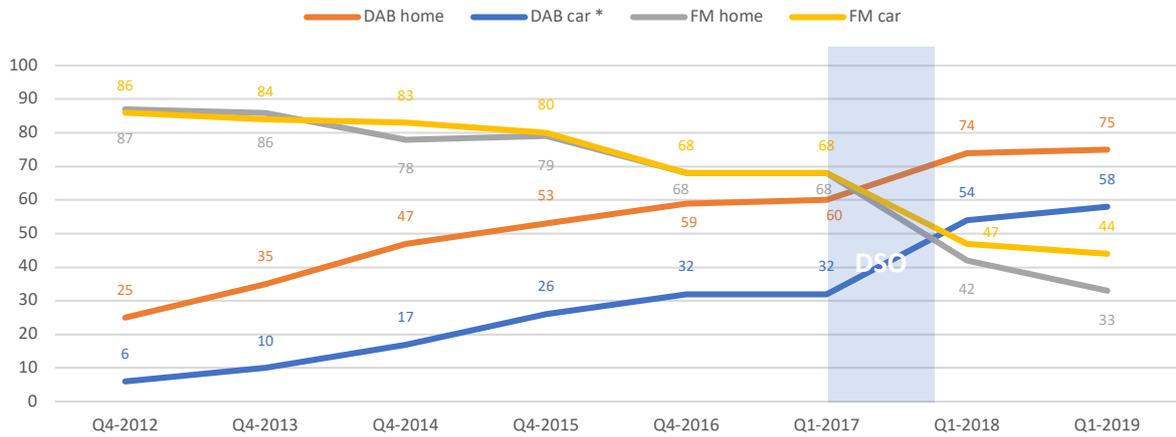
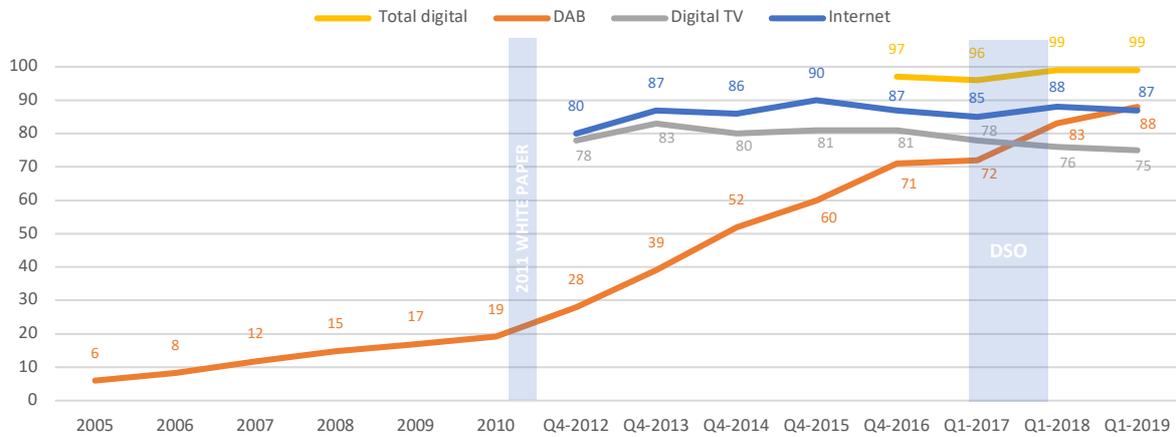
SALES OF DAB RADIOS, 2006 - 2018



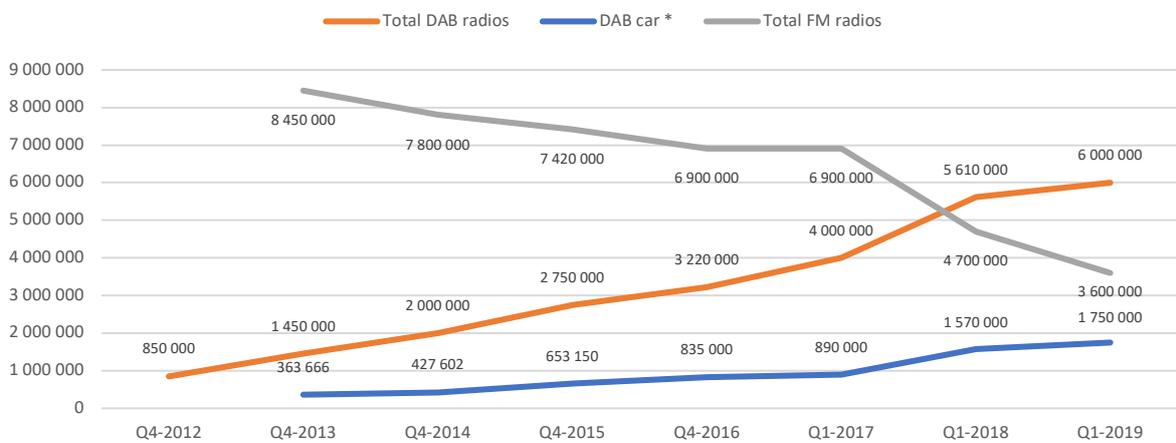
* Including sales of DAB car adapters.

AVAILABILITY

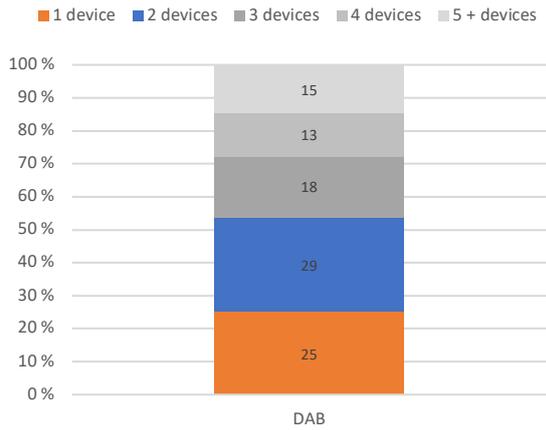
DIGITAL RADIO EQUIPMENT IN HOUSEHOLDS, 2012 – 2019, %



TOTAL NUMBER OF RADIOS, 2012 – 2019



* Line fit or adapter

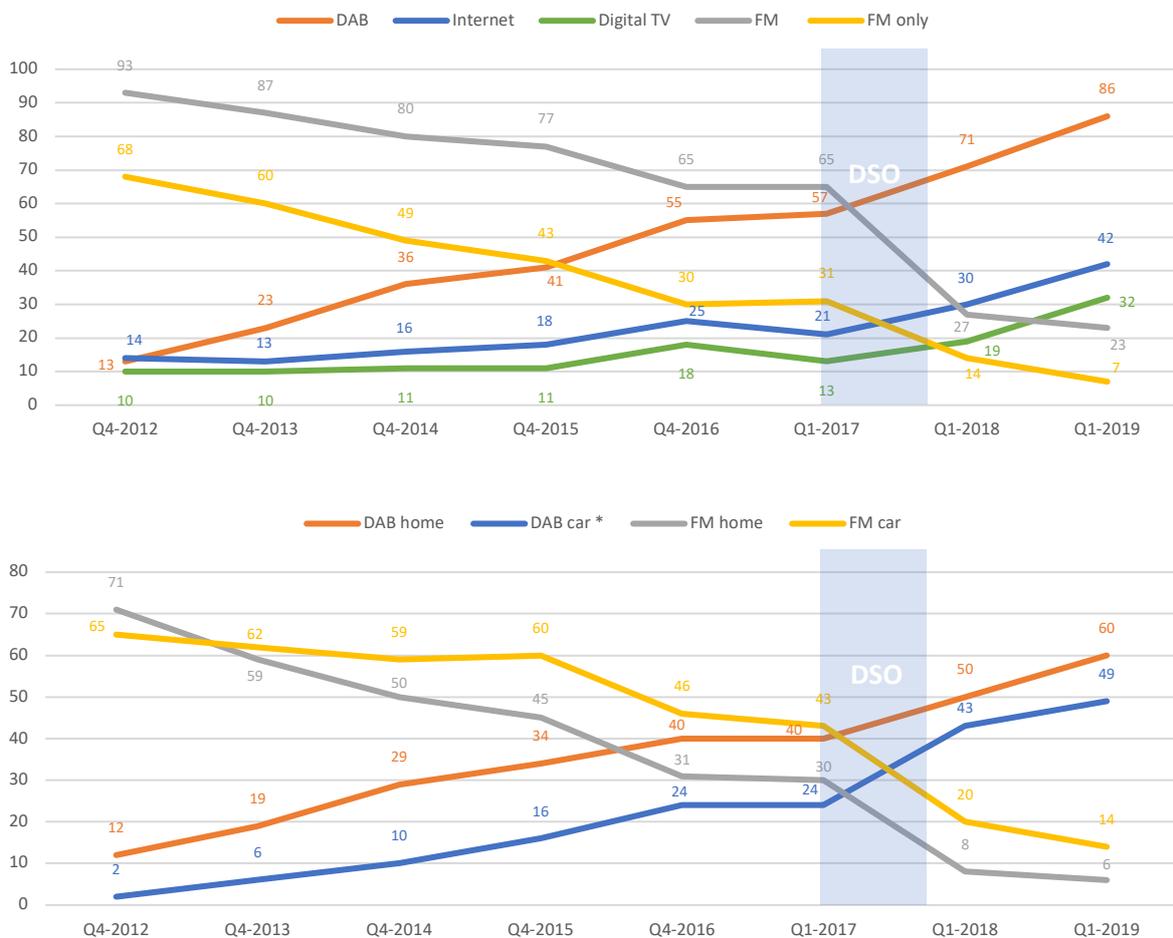


The graph depicts proliferation of DAB radios in the households per Q1 2019.

25 % of the DAB owners have 1 DAB radio. 15 % have more than 5 devices.

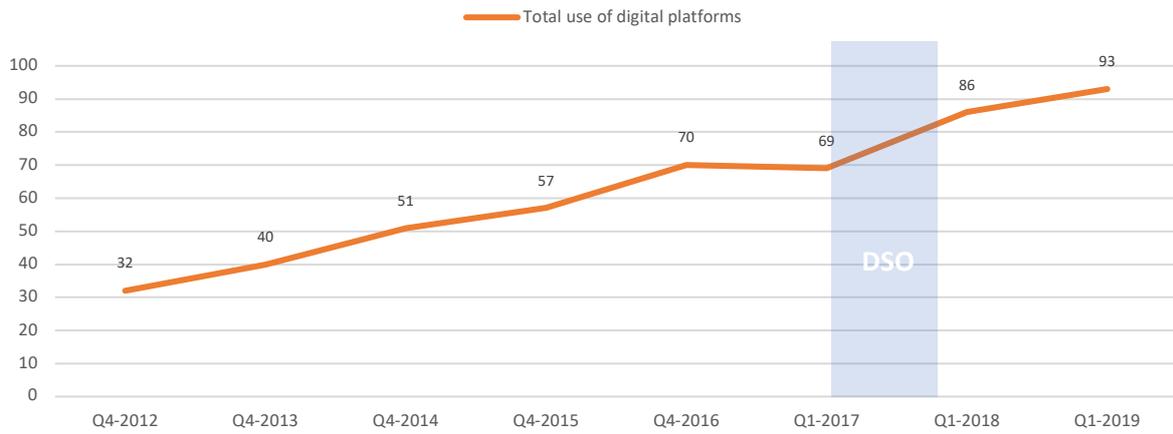
USE

EQUIPMENT USED FOR RADIO LISTENING AMONG DAILY LISTENERS, 2012 – 2019, %

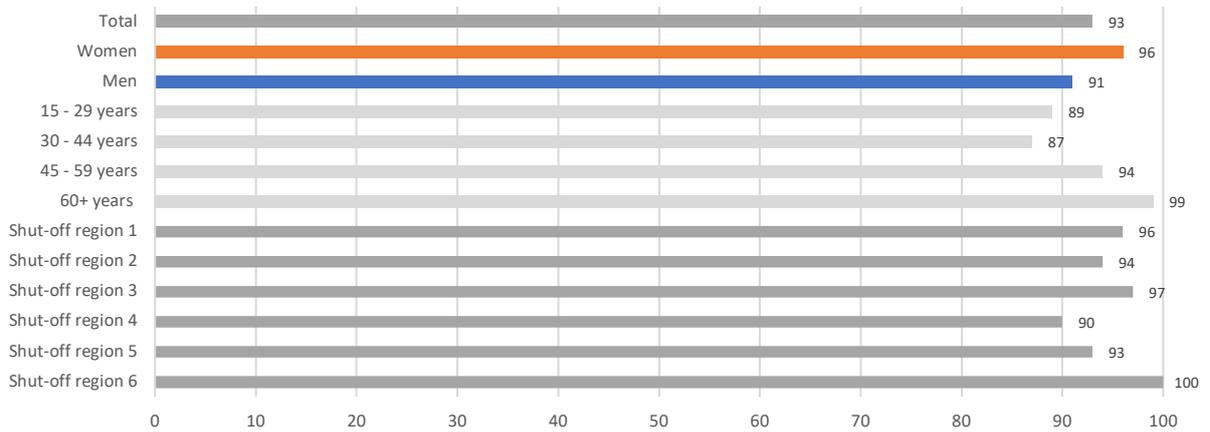


* Line fit or adapter

TOTAL DIGITAL USE AMONG DAILY LISTENERS, 2012 – 2019, %



TOTAL DIGITAL USE AMONG DAILY LISTENERS, DEMOGRAPHICS, Q1 2019, %



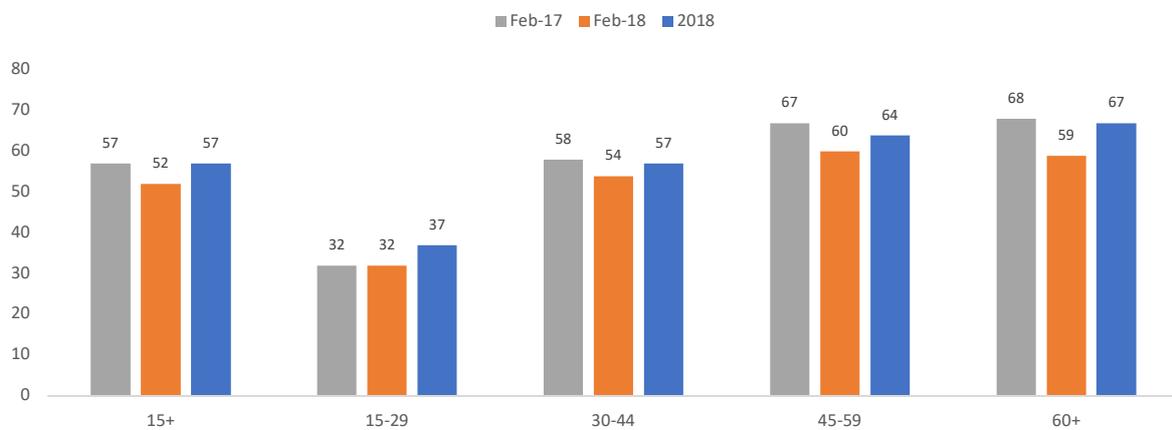
OPINIONS

SOURCES

- Profile Tracker, 2017 – 2018, Norstat/NRK
- More details in Chapter Five, Sources and Surveys

IMPORTANCE OF RADIO

VERY OR QUITE IMPORTANT TO LISTEN TO THE RADIO, BY AGE GROUPS



ECONOMY

SOURCES

- IRM, Norwegian Advertising Market Annual Report, 2004 - 2018
- More details in Chapter Five, Sources and Surveys

REVENUES

COMMERCIAL RADIO REVENUES, 2004 – 2018 (2019 FORECAST) *

