



egta insight

RADIO AUDIENCE MEASUREMENT

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EXECUTIVE SUMMARY

This report offers an overview of the methodologies used to measure radio across Europe and is an update of the 2015 edition of this publication. egta's objective is to give readers a better understanding of the range of techniques and technologies in use, offer insights into the effects of introducing electronic measurement, and outline the key discussions on possible radio audience measurement development scenarios.

Currently, all the official Radio Audience Measurement currencies are carried out either by declarative means (day-after recall – DAR or diaries) or through the use of electronic (passive) technology. Census based measurement that collects data from IP delivered radio streams is not yet integrated across European markets, but the growing share of online listening will increase the importance of hybrid audience measurement models where passive electronic measurement could be combined or even replaced by census based data collection (SDK case of Nielsen). The current state of play in Europe can be found in *Figure 01*. This report also contains an analysis of the benefits and limitations of each radio audience measurement methodology.

The document includes a more in-depth look at several markets that have introduced or that have run trials of electronic measurement. The U.S. uses the Nielsen trademarked Personal People Meter (PPM) for radio in a number of the country's largest designated market areas (DMAs), with diaries for the remaining DMAs. Electronic measurement has been introduced for the radio advertising currency in a number of European countries, including Switzerland, Denmark, Norway and Sweden, and tests have been carried out in several other markets.

This document draws on multiple reports, forecasts and estimates, data from egta members and contributions from audience measurement institutes in order to compile the necessary data.

“Measurement is fabulous. Unless you're busy measuring what's easy to measure as opposed to what's important.”
- Seth Godin

CHAPTER 01: AN OVERVIEW OF EXISTING RADIO AUDIENCE MEASUREMENT METHODOLOGIES IN EUROPE

Radio Audience Measurement (RAM), in one form or another, is carried out in almost every European country, and has long provided the independent and audited data on which radio advertising has been traded. Unlike other electronic media, such as television and online, the methodologies used to measure radio differ quite widely between countries.

Radio is a highly mobile broadcast medium which as a consequence makes audience measurement methodologies its biggest challenge – whilst TV viewing is now extending beyond the living room screen, a large proportion of television is still watched on one or more devices in the home. In contrast, mobile forms of media do not rely on broadcast technology and therefore can be measured with a census or device based approach. Radio consumption typically takes place on various different locations in the home, in the car or on public transport, at work, on the go, etc. Another challenge associated with the multiplatform habits of radio consumption is the fact that it may take place through an FM, AM or DAB+ (terrestrial) signal, or the audio may be delivered via a connected IP device.

This report focuses on the measurement of broadcast radio brands, whether by analogue, digital transmission or online. egta has also published a separate report focusing on the measurement methods that are being developed for online audio. In summary, sample-based and census-level measurement techniques are

being deployed to measure online audio listening, and each of these has certain capabilities and limitations. Sample-based measurement can provide unduplicated estimates of reach and frequency, with demographic and geographic information appended, although such methods decrease in accuracy for small and niche publishers. Census-level measurement provides accurate data on total usage in terms of contacts and user interactions, but additional techniques are needed in order to provide demographic or other forms of information about listeners. Hybrid methodologies are currently being developed that combine sample and census measurement in order to deliver the next generation of audio audience measurement. You can read more about the developments in online audio measurement here <http://bit.ly/egtaOnlineAudioMeasurement>.

// Main methodologies in place

Radio is measured by two primary means: firstly, asking people to actively remember or record their listening behaviour over a period of time (declarative); and secondly, by the use of technology that passively detects any audio in the vicinity of the individual being measured (electronic/ passive). *Figure 01* gives an overview of the primary methods in place in Europe.

The former set of methodologies are by far the most commonly employed throughout Europe, accounting for about four-fifths of countries, and these can be broadly classified as Day-After Recall (DAR) and Diaries. A variety of recall data collection methods are used, the predominant one being Computer Aided Telephone Interviews (CATI). Computer Assisted Web Interviewing (CAWI), in which the data is collected online, Paper And Pencil Interviewing (PAPI) and face-to-face interviews are used in a few cases. Diaries have traditionally been paper formats, filled in by panellists, and more recently some markets have moved to

introduce online diaries, for example in the UK and the Netherlands.

In the Netherlands 93% of participants use an online diary (2017 data) and about 57% of all respondents fill in mobile diaries.

Electronic measurement was first developed in Switzerland with the 2001 introduction of the GfK Telecontrol Mediawatch. This was followed by Arbitron's Portable People Meter (PPM), which was tested in the UK in the late 1990s and introduced to larger markets in the U.S. in 2007. The PPM methodology has proven to be the most widely adopted electronic radio audience measurement platform, and it is currently in use for the trading currency in Canada, Denmark, Iceland, Kazakhstan, Norway, Singapore, Sweden and the U.S. The French research organisation Médiamétrie has developed a similar meter, called RateOnAir, and GfK Eurisko deployed its Eurisko Media Monitor device in Italy until 2014. A third type of passive measurement technology has emerged in recent years, using smartphone software applications (apps). Ipsos lead the way in this field, developing the MediaCell, and this has been used in a hybrid solution on the Italian market. The Czech research company MEDIAN has also developed a similar technology, under the name adMeter, it is being used for cross-media planning and assessment of television, radio, Internet and other media types as well as movement localization.

//Audio-matching and water-marking

Electronic audio measurement meters use two primary technologies to register the content that they are exposed to: audio-matching and water-marking.

Devices that use audio-matching record and compress samples of the ambient sound several times each minute, and effectively create digital fingerprints that can then be matched against

stored recordings of the original radio broadcasts. This solution does not require radio broadcasters to have any additional studio equipment to insert a signal into the audio stream. However, if two or more radio stations are playing the same content at the same time, for instance a syndicated chart show or simulcast news bulletin, audio-matching meters cannot identify which station is responsible for the broadcast. Likewise, they are unable to identify the radio platform being used, for instance FM, DAB+, digital terrestrial television, etc. The GfK Telecontrol Mediawatch and Eurisko Media Monitor both use audio-matching technology.

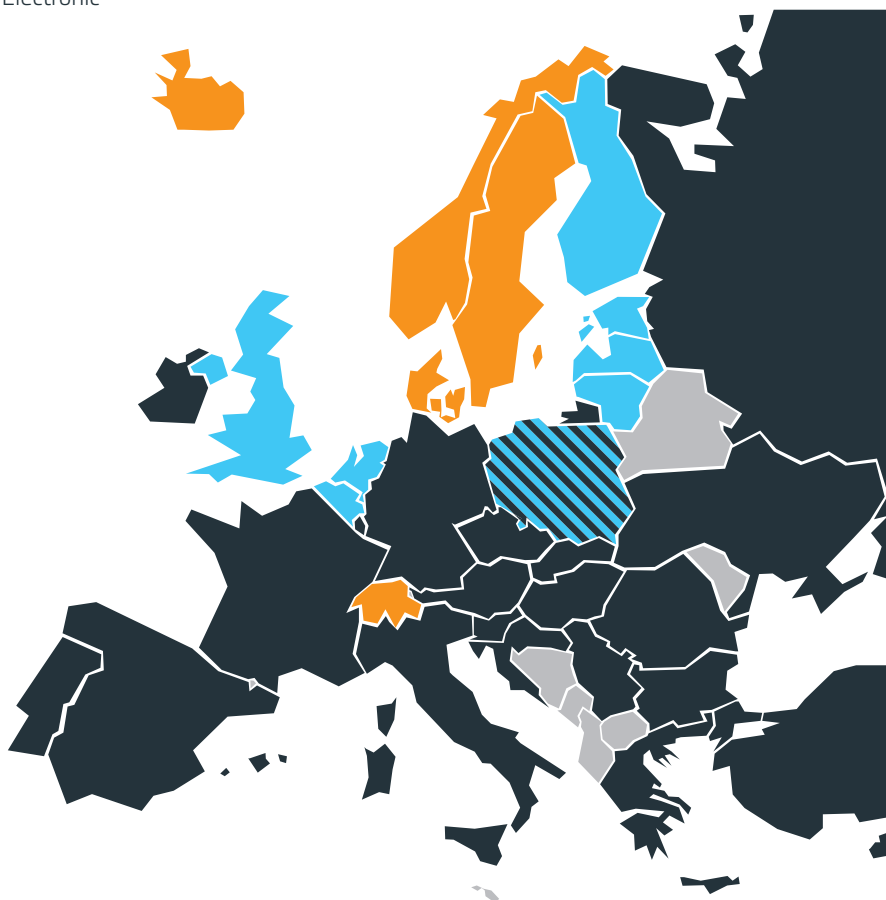
Meters that use water-marking, or encoding, pick up inaudible signals that have been inserted into radio broadcasts. The information is collected by the device, which reports back the station identification and the date and tune in/out times of listening to the measurement company. Watermarking also allows different broadcast platforms to be identified, as alternate signals can be inserted into the FM, DAB+ streams, etc. For all its advantages, water-marking requires all measured radio stations to insert the water-marking signal into the broadcast, which entails additional costs. Water-marking is used in the Nielsen (formerly Arbitron) PPM, and there has been criticism of the effectiveness of the encoding and decoding technology, with suggestions that the system fails to accurately detect all legitimate listening, leading to under reporting¹.

FIGURE 01: RADIO MEASUREMENT METHODOLOGIES IN EUROPE

Country	Main methodology	Institute/Supplier	Number of results publications per year
Austria	DAR (CATI)	GfK Austria	2
Belgium	Diary	GfK	3
Bulgaria	DAR (face-to-face interviews)	Nielsen Admosphere Bulgaria/Ipsos	12
Croatia	DAR (CATI)	Ipsos Puls	12
Cyprus	DAR (CATI)	Symmetron MRCI, IMR & University of Nicosia	12
Czech Republic	DAR (CATI)	MEDIAN / STEM/MARK	4
Denmark	Passive (PPM)	TNS Gallup	Daily
Estonia	Diary	TNS Emore	4
Finland	Diary	Finnpanel Oy	12
France	DAR (CATI)	Médiamétrie	4
Germany	DAR (CATI)	agma	2
Greece	DAR (CATI)	FocusBari	12
Hungary	DAR (CATI)	Kantar - Mediameter	12
Iceland	Passive (PPM)	Capacent Iceland	Daily
Ireland	DAR (face-to-face interviews)	JNLR/Ipsos MRBI	4
Italy	DAR (CATI)	GfK Eurisko - Ipsos	2
Latvia	Diary	TNS	4
Lithuania	Diary	TNS	2
Luxembourg	DAR (CATI)	TNS-ILReS	2
Netherlands	Diary	Intomart GfK	12
Norway	Passive (PPM)	TNS Gallup	Daily
Poland	DAR (CATI) & Diary	KBR/Millward Brown	4
Portugal	DAR (CATI)	Grupo Markttest	5
Romania	DAR (CATI) + CAPI	IMAS Marketing Sondaje & GfK	3
Russia	DAR (CATI and CAWI)	TNS	National = 4 Moscow & St. Petersburg = 12
Serbia	DAR (CATI)	Ipsos	12
Slovakia	DAR (face-to-face interviews) + CAWI	MEDIAN SK	4

Slovenia	DAR (CATI)	Media Pool & Mediana	4 for Media Pool / 12 for Mediana
Spain	DAR (CATI)	AIMC	3
Sweden	Passive (PPM)	Kantar Sifo	Daily
Switzerland	Passive (Mediawatch)	Mediapulse/GfK	2
Turkey	DAR	Nielsen	12
UK	Diary	RAJAR/Ipsos	4
Ukraine	DAR (CATI)	GfK	4

- Recall
- Diary
- Electronic



Source: egta resources

CHAPTER 02: THE EMERGENCE OF HYBRID METHODOLOGIES

Several markets use a number of different measurement methodologies in parallel, and in recent years a few have tested hybrid systems that combine electronic systems with other methods. However, neither the Netherlands nor Italy, the two markets that pioneered this approach, continue to use a hybrid currency methodology today.

//The Netherlands: Diary & Mediawatch

In 2012-2013, the Dutch radio measurement organisation, NLO, trialled a hybrid methodology using the existing diary alongside the Mediawatch, with samples of approximately 7,500 and 300 individuals for each respectively. The currency continued to be based on the diary data, with minute-by-minute variations from the Mediawatch overlaid in the form of an index. This offered additional granularity whilst retaining the advantages of the robust diary data.

The trial indicated that personal recruitment is very important with electronic measurement, and telephone interviews therefore replaced the on-line recruitment process that was used initially. Furthermore, active management and overnight delivery of data is essential to maintain high levels of panellist compliance. A significant challenge is posed by listening through headphones, which accounts for a significant amount of Time Spent Listening (TSL) for younger people, as this was not registered by the watch. Comparing the data from the Mediawatch and the diary, the watch records higher listening levels early in the morning and lower levels during the mid-morning. The watch also records higher levels than the diary during the early evening. The NLO concluded that diary respondents tend to overestimate their morning

listening somewhat. The NLO also found that average listening to advertising minutes was higher than for programming, which is accounted for by the placement of advertising around high listening moments such as news bulletins.

Following an evaluation of the trial, the NLO decided that this hybrid methodology would not be adopted, as it did not meet its criteria for introducing an innovation on the market.

At the moment RAB (Radio Advertising Bureau) together with joint industry committees: JIC NLO (for radio), JIC NOM (for print) and JIC SKO (for TV/video), as well as with the internet audience measurement organization (VINEX) and Google are working on a Total Media Audience Measurement. The plan is to use an electronic measurement, either a dedicated portable meter or an app, or a combination of both. At the same time the radio industry is also developing new methodologies to measure Radio via IP, e.g. by combining panel and census data and by adding platforms to the current diary starting from the 1st of January 2018. Combining panel and census level measurement has a potential to enrich the data and to allow for profiling and programmatic trading of audio.

//Italy: CATI & Mediacell

Following a two-year period 2009-2010 during which there was no measurement regime in the country, Italy launched its new RadioMonitor study in 2012, combining CATI and an electronic meter. However, the use of the meter stopped in late 2014, and CATI is now the sole methodology in use.

The main reasons for abandoning the electronic part of the measurement were: (1) the cost of operating two methodologies in a hybrid survey; and (2) the discrepancy between data coming from the CATI survey and the meters. Whilst the CATI and electronic measurements both gave similar

reach figures, the time spent listening (TSL) figures were much lower for the meter. Compared to recall methodologies where people tend to overreport the actual time of listening, the meters are picking up more accurate listening duration. In addition, there is a high number of local radio stations in Italy and the cost of the meter currency would be too high for them to support. Furthermore, the minimum sample size required per station to record the listening would be difficult to achieve for small and regional stations. There was also the question of the purpose for which the meter was used. Under the methodology in Italy, its use for weekly reach alone was not particularly valuable for the market, and the data was therefore not embraced by the national association of advertisers.

//The UK:Diary method measurement

The current measurement methodology is a diary-based continuous survey of 100,000 adults per year. Recruitment is face-to-face allowing geographic and demographic precision. Respondents are briefed on completing the task in advance of recording a full week's live listening data. All platforms are measured and can be reported separately, AM/FM, DAB and online. Listening data is recorded via an on- and off-line diary. A mobile format was introduced in 2016 covering smartphone and tablet completion.

In addition to the main radio measurement data, RAJAR conducts a quarterly RAJAR MIDAS Audio Survey measuring listening hours and reach of all audio types allowing RAJAR to measure the size and structure of the wider audio market as well as behaviours and device usage. Radio enjoys three quarters of all audio time spent listening. In 2017, a pilot survey measuring the audio habits of 10-14-year olds was conducted.

The number of measured stations in the UK has remained constant in total in recent years,

as consolidation and new digital stations have balanced themselves out.

The measurement methodology retains the benefits of being a single source method covering all on- and off-line listening. The majority of station content is simulcast across all platforms and the measurement method continues to fulfil its primary task.

RAJAR maintains a policy of continuous development of its current methodology and has conducted from time to time evaluations of new and emerging measurement techniques and technologies including an assesment of the viability of the electronic measurement. Much of the learning is consistent with the general published market findings in relation to reach and hours. The design and complexity of the radio market structure in the UK presents an additional economic and panel design challenge for this method amongst others.

Beyond electronic measurement, RAJAR is also considering the potential of IP data to play a role in measurement. People based measurement is critical to maintain but some level of additional data integration might provide additional insight into behaviours.

CHAPTER 03: THE ADVANTAGES AND DISADVANTAGES OF DECLARATIVE AND ELECTRONIC RAM METHODOLOGIES

Each measurement system has its own characteristics, strengths and weaknesses, and RAM by its nature requires a compromise to find the solution that best matches a particular market. Declarative methodologies are cheaper to

FIGURE 02: AN OVERVIEW OF RADIO AUDIENCE MEASUREMENT METHODOLOGIES

Methodology	Data collection technique
Day-After Recall (DAR)	CATI – Computer Assisted Telephone Interviewing
	CAPI – Computer Assisted Personal Interviewing
	CAWI – Computer Assisted Web Interviewing
Diary	PAPI – Paper And Pencil Interviewing
	Face-to-face interviewing
Electronic (passive)	Paper, online, mobile or a combination of these
	Portable People Meter, Mediawatch, MediaCell, etc.

implement and maintain than electronic systems, they allow large samples sizes and they are able to deliver robust data on fragmented markets that feature large numbers of smaller radio stations. Despite their lower levels of granularity and (at least perceived) accuracy, declarative methodologies are generally accepted by buyers, and they perform their role as a basis for radio advertising trading very effectively.

Electronic measurement offers clear advantages over methodologies that require respondents to remember or actively record what they have listened to: they can deliver highly accurate, minute-by-minute data with very little delay after the time of broadcast, and they deliver metrics in a similar form to television and online.

However, they are not without their limitations. The high cost of electronic meters compared to diaries or telephone interviews mean that sample sizes tend to be relatively small, and this presents challenges for smaller and local radio stations which can suffer from zero ratings, as advertising breaks may not be recorded at all by the panel. For this reason, countries such as Sweden and the US maintain DAR and diary measurement to measure

local stations and smaller designated market areas (DMAs) respectively. As mentioned above, there are limitations to both audio-matching and water-marking technologies, and there has been persistent criticism of PPM in the U.S. in particular. The introduction of electronic measurement has been successful to date in smaller European countries that have firstly been able to find a common agreement within the radio industry and secondly translate the advantages of accurate, granular data into higher prices per contact and gain acceptance of a new pricing structure by radio buyers.

Figures 03 and 04 give a breakdown of the pros and cons of declarative and passive measurement methodologies.

FIGURE 03: A COMPARISON OF THE PROS AND CONS OF DIARY AND DAY-AFTER RECALL METHODOLOGIES



DIARY



- » Data collecting from same person during the week, providing a more reliable picture of radio consumption from day to day
- » Opportunity to correctly calculate cumulative weekly reach, frequency of listening and Time Spent Listening (TSL) from day to day
- » More detailed picture of individual listener behaviour (zapping, first choice, etc.)
- » Reliability and granularity of the data – people tend to over-report their ‘top of mind’ stations and are less precise about the stations they listen to less frequently
- » Lack of control over respondents – more reliant on their discipline and reliability
- » More expensive than Recall studies
- » Requires higher investments in operations and interviewers
- » Difficult to reach specific target audiences (e.g. people with high income, young people, etc)



DAY-AFTER RECALL: CATI/CAWI



- » Higher control over standards and consistency of data collection compared to self-filling diary – the question is always about yesterday
- » Less expensive than diary
- » Better accessibility (compared to diary) for specific and narrow target groups
- » Usually delivers higher general reach figures compared to diary
- » Bigger sample size possible, offers greater frequency of reporting
- » Data collected for different days of the week
- » Less work for the respondent
- » Relative error caused by fact that different people provide data for different days of the week. As a result there may be modelling errors with the estimation of weekly reach
- » Less granularity of the data as a result of memory errors
- » A limited number of stations can be encoded due to the restricted CATI interview time frame (not the case for CAWI)
- » Usually delivers smaller reach for Average Quarter Hour (AQH) compared to the diary

FIGURE 04: A COMPARISON OF THE PROS AND CONS OF DECLARATIVE AND PASSIVE METHODOLOGIES



DIARY/DAY-AFTER RECALL



- » Traditional and established method: stability of the advertising sales market
- » Lower cost
- » Large sample
- » Potential for more user-friendly format (online diary, smartphone applications), leads to higher respondent commitment
- » Lack of common radio and TV currency
- » Lower accountability and granularity: delivering listening rate per quarter/half an hour, and infrequent reporting
- » Lower accuracy: inability of people to recall and identify every listening occasion after time

- » Generally delivers higher TSL figures than electronic measurement

- » Higher burden on the respondent
- » Longer delay between data collection and reporting



ELECTRONIC: PASSIVE MEASUREMENT



- » Bringing common currency to TV and radio buys
- » Easy to buy – easy to sell based on GRP or impressions
- » Easy and quick to do follow-ups
- » Higher accountability and granularity: minute-by-minute audience data
- » Continuous listening and all listening occasions measured
- » Low dropout expected due to lower respondent burden
- » Better optimisation of radio programme and campaign planning due to overnight reporting
- » Very short delay between data collection and reporting, bringing radio into closer alignment with TV and online
- » More reliable differentiation between broadcast platforms (with water-marking technology)
- » Reluctance towards adoption: lack of consensus and unified support among the industry actors
- » Measuring presence in proximity to radio signal, different definition of listening and different basis for brand recall research
- » Small sample efficiency – figures are not reliable in all demos and especially in the case of small stations and regions for short time periods
- » Higher cost
- » Audio-matching devices may not differentiate between stations broadcasting the same content at the same time
- » Water-marking devices do not capture 100% of listening occasions, and may perform poorly in high background noise situations
- » Generally delivers lower TSL than traditional methodologies, requiring the buying market to accept changes to advertising pricing
- » Headphone listening can only be captured if respondent links to the meter's output jack
- » Difficult and expensive to build and maintain a robust sample for a fragmented market
- » Lower inventory than CATI
- » Zero rating issue, especially for smaller stations and off-prime time slots
- » Comparable currency to TV buying does not automatically mean clients will opt for combined bundles of radio and TV. These packages are not easy to put together as the sales forces are often separate. Plus there are creative boundaries, big clients often run TV campaigns across several markets and it is difficult to negotiate changes within a single market.

CHAPTER 04: THE EXPERIENCE OF SWITCHING TO ELECTRONIC MEASUREMENT ON DIFFERENT MARKETS

An analysis of comparative figures for electronic and declarative measurement shows a very consistent pattern: reach for individual stations tends to be higher under electronic measurement, whilst TSL is generally lower when compared to figures returned by DAR or diaries. This results in a drop in ratings for which a pricing correction needs to be applied in order to maintain at least an equivalent level of advertising investments when switching to electronic measurement. This pattern can be largely explained by the fact that respondents tend to overestimate the time they spend listening to their favourite stations and may not report listening to alternate stations or those they hear on public transport, when in other people's cars, etc. Conversely, passive technology picks up all of these audience contacts, which translates into higher reach for stations.

//The U.S.

Switch to PPM

PPM was introduced as a replacement to diary data in some parts of the country from 2007. As of 2017, 48 out of 273 designated market areas (DMAs) are measured using PPM, whilst the remaining 225 areas continue to be measured using diaries. Nielsen uses the PPM data to produce local ratings reports for each of the 48 markets, which it delivers monthly. The data is based on the average four weeks of survey results. Nielsen uses the diaries to produce local ratings reports, which it delivers quarterly or biannually, depending on the market. The data is based on the average of 12 weeks of survey results. The national radio

ratings, known as RADAR, combine passive and declarative methodologies, and the reporting is a traditional AQH figure delivered four times each year. This relatively low granularity helps to avoid potential instabilities in electronic measurement, whilst offering greater accountability to the market, and it ensures that the trading practices are consistent across national radio advertising. Nielsen is planning diary year-round measurement that will provide continuous measurement in diary markets and enable monthly reporting using rolling averages. This brings diary more on par with the PPM monthly reporting capabilities and allows radio to tell the monthly reach story. Sales and programming teams will be able to review monthly data and begin to assess changes more regularly than the quarterly or twice a year reporting that is in place now. Planning is already underway and Nielsen will have more to share on the timing of the transition later in 2018.

Impact

Comparisons between diary and PPM data made at the time PPM was introduced show that smaller stations increased their share of overall listening at the expense of larger stations, while less popular day parts increased in importance versus peak time slots. From the beginning, Arbitron faced controversy and legal challenges regarding PPM data, particularly from ethnic minority-owned broadcasters. The owners of these stations cite significant under-reporting, in part due to panel selection problems and compliance in wearing the meter on the part of panellists. Arbitron itself contested the audience share declines under the PPM methodology, claiming that the lowered ratings initially experienced have rebounded and that there have been no systemic decreases in revenues.

Radio programme directors have long sought to find ways to give their PPM ratings a boost, for instance by ensuring spoken content contains background music and using dense production

values and high levels of audio processing to increase the chances of their encoded stations being recorded².

Additionally, the difficulties with estimating reach and TSL are related to the switch to a PPM technology that allegedly fails to register certain types of audio (e.g. classical music, speech), which disadvantages certain types of stations. The controversy over the possibility of tweaking the broadcast signal using a device called Voltair to adjust for these inaccuracies has resulted in a further crisis of confidence in the ratings. Moreover, in comparison to previous recall methodologies, the switch to electronic measurement led to a fragmentation of listening and decrease of TSL.

Evolving PPM technology

Nielsen's Portable People Meter (PPM) electronic measurement technology is evolving. PPM is now being developed as a smartphone application, as a software to be deployed on other devices and as a new wearable meter. Wearables offer several advantages, they leverage the momentum for wearables in consumer electronics; they boost compliance; and they enable new capabilities, such as linking with panellists' smartphones to deliver data on geolocation, online activities, etc. These developments will also enable new capabilities for the consumer via a smartphone interface and provide the ability to connect Nielsen measurement across platforms. A prototype of wearable meter that will enable broader scale pilot testing is expected in 2018.

To measure the total audio consumption a combination of panel-based and device-centric (census) methodologies might be necessary. Nielsen is also bringing in big data sources via Gracenote, NextRadio and the Digital SDK to provide additional stability and granularity to audience estimates.

//Norway

Switch to PPM

Norway was the first country in the Nordic region to switch from the CATI method to PPM - they ran a pilot in 2005 and had PPM panel currency established in 2006. The contract with TNS Kantar (awarded in 2013) will expire in 2018 and the new measurement contract starting in 2019 was awarded to Nielsen.

The demand for electronic measurement was driven mainly by media owners (both public and commercial). Since many of them also sell TV, they were pushing to have a comparable currency.

Up until 2017 a dual measurement was in place, while today CATI continues to be used for the local stations. There are 45 000 interviews performed based on 30 minute reach and the reporting is delivered monthly. The PPM measures national stations, has a sample of approximately 1000 individuals, and provides minute-by-minute data and daily reports.

The current TNS Kantar panel starts with 1200-1400 individuals and a minimum reporting requirement is at least 1000 individuals. The panel rotation is approximately 20-25% annually but there is no maximum or minimum limit. The primary variables include gender, age and education, the panel is not weighted on income or geography. In terms of rules for the duration of listening, PPM searches for a signal every 15 seconds. If a station is picked up at least twice for a duration of 15 seconds, it gets awarded a whole minute.

Impact

Following the switch, the daily reach increased by 21%, but the TSL - measured more accurately under the new system - dropped by 33% among listeners and by 20% in TSL total consumption. In general, smaller stations grew and bigger ones dropped, but the overall top five channel ranking

did not change. When the minute data came in, broadcasters observed the “icicle phenomenon” i.e. people switching stations much more frequently than originally expected. In terms of impact on sales and pricing, cost-per-spot was replaced by cost-per-GRP (TRP) method in one demo of 12+. The panel was not big enough to allow for narrower target groups.

The switch to PPM also resulted in a 30% reduction in inventory value compared to CATI. The 93,700 listeners per quarter hour (AQH) registered under the CATI methodology translated to 65,600 listeners per minute (GRP) under PPM, which underlines the importance of redefining the contact value of radio for the new currency to reflect different listening definitions and measurement systems. Thanks to a relatively small Norwegian market a quick understanding was reached that drop in inventory leads to an increased gross price. The product is the same but the additional value of a PPM-measured listener is higher than a CATI-measured listener (for example MTG increased the CPM for radio from approximately €10 to €15). Coincidentally the new gross CPT on radio became half the price of TV. The broadcaster successfully communicated the additional value of a PPM-measured listener over a CATI-measured listener, and revenues have grown strongly since the measurement was introduced. Radio's advertising market share increased from 5.2% in 2006 to 7.9% in 2013 (Nielsen, gross figures). In addition to more reliable data, radio and television are now bought by the same media buyers using the same currency as TV, reducing complexity and increasing the number of radio buyers dramatically.

As of 2019 Nielsen will be the provider of PPM radio audience measurement in Norway. The new service will include measuring and reporting of all audio content from participating parties, live to time-shifted – including broadcast, online and podcast – independent of platform, device and where the listening takes place.

//Denmark

The Danish PPM panel began in 2007. A year after the introduction, an overall rise in weekly reach for all stations across different target groups was reported, with the biggest rise in young target groups. In terms of listening time, a drop was observed across all target groups, but this varied by age group. Other characteristics of the switch included: highest reach increase among commercial and smaller stations, drops in reach for intellectual talk radio with classical music radio remaining flat, as well as bigger drops in listening time among commercial than among public stations. Small commercial stations saw their listening times fall the most³.

//Iceland

PPM measurement was introduced in Iceland in 2008, when the diary method was replaced for both radio and TV. The measurement is provided by Gallup Iceland in cooperation with Kantar TNS in Norway. Overall, radio is very strong in Iceland with 15% share of the advertising market. The radio share of the market has never been higher than in the last decade following the introduction of electronic measurement. The total reach of audio was not affected by the switch to PPM, it remained almost the same as under the diary system (87.2% under diary vs 88.9% under PPM). The reach of individual radio stations increased with the exception of one talk station with an elderly audience demographic. The time spent listening declined as experienced by other markets that switched to PPM. Ratings fluctuated less over the course of the day, while less popular day parts increased in importance compared to peak time slots.

According to Icelandic broadcasters and agencies, the introduction of PPM facilitated the success of radio during the last decade. The reason behind this positive impact was the improved perception

of radio due to accuracy and reliability brought by passive measurement, especially when compared to diaries, which were considered an old-fashioned method in today's digital era. The switch was welcomed by both marketing managers and agency planners, particularly the audience results being available 52 times a year compared to four times under the previous system. PPM was also instrumental in raising the profile of radio in the industry press with the two main stations competing head-to-head for the lead position every week.

//Sweden

Switch to PPM

Before the introduction of PPM, the Swedish radio market was measured by the CATI method and radio was sold based on cost-per-spot. In 2012 PPM tests were launched and for a period of time both types of measurement ran in parallel. The electronic measurement officially launched in 2013 and provided a much more precise picture of radio listening, as well as offered a refined radio product with guaranteed GRPs, transparency and accurate delivery. Kantar installed 1250 meters in 700 households with approximately 1050 individuals reporting per day (1000 is a minimum). The minimum reach criterium is 3 minutes of listening (in CATI it was 5 minutes). As a result of electronic measurement, radio is now traded on TRPs (contacts) instead of spots and the inventory is “floating” i.e. clients pay for the contacts delivered not based on time slot or number of slots.

Impact

Comparison of CATI and PPM results shows higher cume reach of total radio, shorter listening time overall but higher listening in the afternoon, lower AQH and TSL for individual stations. As a result, an average campaign gains higher net reach and lower frequency, leading to a decrease in gross reach. Another outcome of the switch was that the volume of advertising inventory decreased

correspondingly to a decrease in ad break ratings, while CPT prices went up around 30% to balance this decline in ratings. The minute-by-minute granularity and relatively small panel size means that the market has suffered from zero ratings for smaller channels in certain dayparts, but overall the implementation can be said to have benefited the Swedish radio market, which has seen significant gains in ad spend. PPM also allows broadcasters to evaluate programming and music much faster and thus complements other content related research.

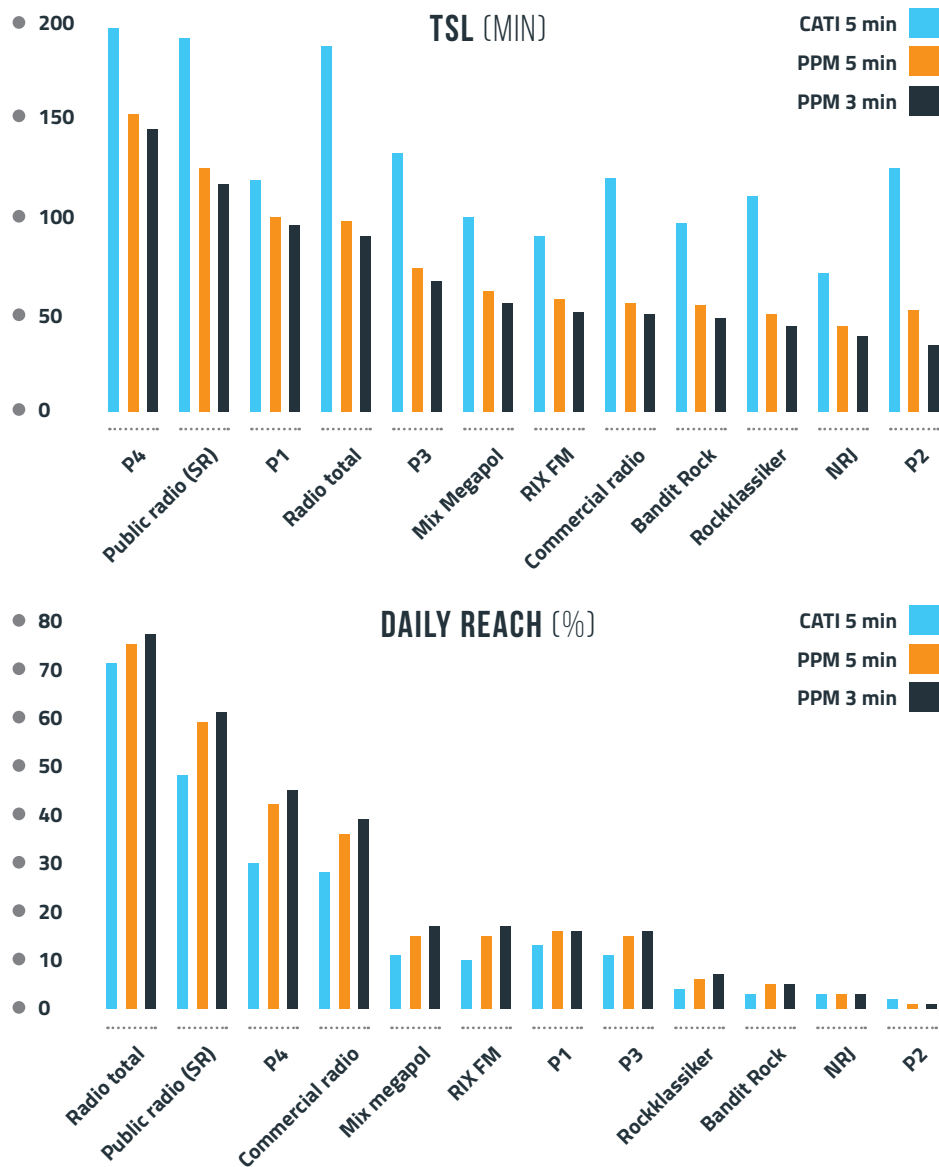
//Switzerland

The main characteristic of the Swiss market is its fragmentation, there are over 50 privately-owned stations operating on the market. The advertising share of radio is quite low (approximately 4,2%) but stable. The GfK Mediawatch has been in use on the Swiss market since 2001 and is recognised as the national currency. As was the case in other markets, the audience data before and after the switch showed greater reach figures and a lower listening time under Mediawatch compared to the previous interview method.

After five years of development, GfK launched the fourth generation of Mediawatch in the summer of 2017. The new project is called “ExplorRadio” and provides audio matching of 150 radio stations via a panel of 2400 people representing the Swiss population in the 15+ age group. The panellists wear the watch for 1, 3 and 6 months. The research is supported by governmental subsidies, while the resulting radio data is available to everyone.

The main advantages of the ExplorRadio project are faster data reporting (on a daily basis), and app integration allowing for additional data collection. The project represents an evolution of an already well established and accepted radio currency. However, it also has several key disadvantages such as high maintenance needs, cost and difficulties in recruiting and maintaining some of the sample groups (for example the elderly).

FIGURE 05: COMPARATIVE DATA UNDER CATI & PPM IN SWEDEN



Source: PPM 120820-121014, CIATI IV-2012

CHAPTER 05: OTHER MARKETS TESTING ELECTRONIC RADIO MEASUREMENT

// France

Médiamétrie tested electronic portable radio measurement in France, using 750 panellists over a six-week period in late 2013. 18 radio and 4 TV stations were measured during the trial, which was designed to test Médiamétrie's RateOnAir meter technology, better understand panellist behaviour and analyse ratings data. Panellists reported that it is much easier to carry the device than it is to complete diaries.

A comparison with the CATI (currency) figures in France shows that respondents tend to overestimate their evening prime-time listening, and the curve for morning listening also lags behind the declarative figures somewhat, probably because panellists do not activate their meters early enough to pick up bedside table radio listening. However, the listening curve is better matched to Médiamétrie's secondary diary panel research (conducted in two waves per year), suggesting that electronic measurement may replace this in due course.

In October 2015, Médiamétrie conducted tests of its second-generation meter, which is smaller and uses Bluetooth-enabled beacons (rather than GPS) to establish the location where the panellist is listening, for instance in the car, at work or at home.

Overall there were four periods of experimentation with electronic portable meters but the current measurement is still the CATI 126 000 interview.

In 2016 a controversy around measurement results for one of the stations sparked a debate

on the need to switch to a new measurement method. The market is now considering a different measurement system even though publishers are mostly satisfied with the current method.

// Belgium

Belgium's official measurement method has been diary ever since 2002. The method is being improved with every new tender, including the latest revision in 2017.

In addition to this official diary measurement, there were several private test initiatives outside of the JIC involving PPM measurement. In 2003, Belgium became one of the first countries to introduce a PPM panel, with TNS Media under licence from Arbitron. PPM has not been used on a commercial basis in the country, and it was used – primarily internally – until May 2015 in the north of the country to deliver insights into programming and other issues. The PPM testing was discontinued in 2015 for several reasons, mainly financial, as the devices would have to be replaced, requiring a major new investment. Also there were less partners involved which would increase the fixed cost and as the measurement was not used for commercial exploitation, the additional investment was hard to justify economically. The sales houses in the north of the country were however looking for a successor to the PPM and issued a request for proposals in 2015. The requirements included a possibility to measure radio and TV, a panel of 1000 individuals, and audio-matching for non-participating stations. Both Ipsos and Kantar TNS submitted their proposals. None was selected, however, for the same reasons as before, there were issues related to the price and the large additional investment required. On top of financial considerations, technical challenges involved a battery drain on the smartphone, and other difficulties with smartphone microphones and in-car listening. The project was put on hold for a few years.

A new request for proposal for official radio audience measurement was issued in 2017. The JIC favoured a continuation of improved diary data collection for several reasons. First of all, a switch to PPM method would most probably lead to a decline in GRP and ratings and day-to-day data would require a change to the advertising sales model. Secondly, the major Belgian actors have both TV and radio in their portfolio, and with TV revenues under pressure, there is a strong motivation to preserve radio revenues and not to take risks switching to a new measurement method at the moment. Lastly, agencies prefer not to have the same sales model applied to TV and radio so there is no pressure to switch measurement method from their side.

The final decision was taken in favour of the diary method and GfK will continue as a provider as of 2018. The main changes include continuous measurement instead of three waves per year, publication of results every two months instead of three times a year, addition of mobile diaries on smartphones and a new recruitment method – 70% face-to-face and 30% online recruitment (CAWI). Traffic measurement of live radio streams over IP will be added and will over time replace declared behaviour of online listening.

//Czech Republic

The Czech audience measurement company MEDIAN carried out tests of its adMeter single source meter technology, measuring radio, TV, Internet, mobile and desktop in 2012. In 2014 other media types such as print were added. The methodology uses a smartphone app and desktop computer software. Broadcast content is measured by audio-matching, which provides good granularity and second-by-second data, and Internet behaviour by URL access detection. adMeter also uses localisation technology, which assists localisation of smartphones to measure the impact of outdoor advertising or traffic

behaviour and mobility. The technology is designed to deliver data on media consumption in order to allow the optimisation of advertising and cross-media planning. It does not serve as the official currency, but complements it with a cross-media perspective.

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CONCLUSIONS & RECOMMENDATIONS

One can conclude that neither declarative nor passive measurement methodologies are perfect and that different markets have different characteristics: there is no one-size-fits-all solution. The careful and thorough testing and evaluation carried out both in markets that have implemented electronic measurement and in those that have not done so to date, such as France, the UK and the Netherlands in particular, demonstrate the importance of ensuring that the conditions and technologies adopted are fit for the purpose. These and other markets also provide a wealth of benchmarking information that may be of value to any radio broadcaster considering a change to their methodology.

Radio audience measurement continues to be an area of testing, evaluating and innovating. There are no imminently planned major changes to currency RAM that the authors of this report are aware of; the next phase for measurement evolution is likely to take place in the online audio space, including the combination of radio and online audio data, in the coming years.

To date, electronic radio measurement has been tested widely but implemented in only a handful of countries around the world. All things being equal, modern passive electronic measurement systems (i.e. ExplorRadio watches in Switzerland and the recent developments in Nielsen audio measurement technologies), especially in the combination with app integrations and IP delivered radio tracking capabilities, provide more accurate measurement of listening. However, the main hurdle to the implementation of such systems for broadcast radio is their cost in comparison with recall or diary methods. Therefore, the most common approach, among radio markets with declarative audience measurement methodologies in place, is to discover and test various options on

how to improve the quality of the current method rather than to immediately switch to electronic passive measurement.

From the advertising business perspective, it is more important to have total market agreement on a certain level of measurement accuracy, which is accepted and trusted by advertisers, agencies and radio publishers, rather than to rely on excessively expensive, granular but unstable data from electronic meters. It is more beneficial to have reliable and stable recall data rather than volatile data from a small PPM panel. These considerations are not valid if the panel is big enough and the market in question can afford to switch to electronic measurement. However, for most radio markets that still use recall methods, it might make more sense to consider and test hybrid audience measurement models combining different data collection methods from broadcast and streaming radio.

If a market, nevertheless, has decided to switch to passive electronic measurement, it is worth considering the following recommendations:

- Take time to prepare – make sure you have a well-balanced panel of sufficient size and that you have a long enough test period. Prepare the market and your sales staff well before the switch.
- Convince the market – electronic measurement is normally more expensive, but it is expected to attract more attention from media buyers.
- Think twice about the inventory – do not be too afraid of the expected drop in gross contacts: a higher contact cost will compensate for this, but be prepared to make the argument for it.
- Have all radio sales houses on board.



CONTRIBUTION BY GfK ON THE FUTURE OF RADIO MEASUREMENT

egta: *Does radio need to change its current audience measurement? Why? Where does the pressure for innovation and change come from (agencies, marketers, radio itself)?*

GfK: Among traditional media, radio is probably the one in the best shape. Radio is the only medium that can be “consumed” while doing other things (driving, working, even reading and surfing the Web), the number of radio listeners does not drop and time spent listening is still very high. Moreover, instead of being threatened by other media, radio was able to use them as new platforms to reach new targets or to better reach old targets. However, in most countries, radio measurement is still based on traditional methods: diaries or day after recall, which rely on memories and statements, whilst other media can take advantage of accurate passive approaches. So radio is like a powerful warrior with a sword, facing other warriors (sometimes less strong) carrying guns. We believe that in some European markets, radio may need to change its current audience measurement in the near future. The pressure from a cross-media perspective will come from the advertisers, agencies and marketers. But also from within the radio itself: they will want to align their traditional (broadcasting one-to-all) radio measurement with their streaming data

(one-to-one) – maybe more in terms of data granularity than in terms of listening level.

egta: *What are the expectations of each of the stakeholders (brands, agencies, radios) in regards to the radio audience measurement evolution/upgrade?*

GfK: Generally speaking, there is a strong demand for a more modern approach, able to report listening more precisely, able on one side to reduce the memory bias, and on the other to take into account the new possible ways to listen to the radio. Advertisers and agencies would also like to have radio listening within a broader cross-media picture, while radio publishers need to have faster and more granular results.

egta: *What are the main challenges (from the research point of view) the industry faces and which obstacles does it need to overcome in order to meet those expectations?*

GfK: Electronic measurement could be an interesting solution, but it presents several issues that are preventing a broad adoption by the global market: it is more expensive than traditional measurement, it tends to be more severe in its outcomes (especially for time listening) and it is disruptive for assessed balances. It can also be problematic for big countries with several local stations that need to have large samples, and it is not easy to account for headphone listening and platform recognition. Census data approaches are interesting too, but need to be fully developed and integrated with other kinds of measurement.

egta: *What is your vision on how to overcome all or some of those obstacles? Which solutions would work best in your opinion?*

GfK: While in many countries, the traditional measurement will remain the benchmark and in some more pioneering countries, the electronic measurement is successfully adopted, we are studying hybrid methods enabling us to merge

different sources of data, in order to obtain the best from the different approaches. The different magnitudes and the different data structures, as well as the non-homogenous requirements coming from the different markets, make this development very challenging. However, GfK is seriously investing in this direction together with client partners, and it is confident to be able to propose interesting solutions to the market in the short term.



CONTRIBUTION BY IPSOS ON THE FUTURE OF RADIO MEASUREMENT

egta: *Does radio need to change its current audience measurement? Why? Where does the pressure for innovation and change come from (agencies, marketers, radio itself)?*

Ipsos: Yes. Radio, like other media, needs to deliver more granular (minute-by-minute) audience data, to minimise memory bias and to deliver it faster and continuously. This is where television and digital media are moving. It will also allow radio to play to its strengths – e.g. during significant news events. Pressure is coming from media agencies and advertisers to some extent, although in many cases their attention is elsewhere. Radio stations tend to be more conservative and fearful of change, as well as being financially challenged. This has led to progress in implementation being slow, although the technology has now matured considerably.

If we also consider that one of the key roles of audience measurement is to provide a currency for advertising trading, then there is an argument to say that there are already two currencies operating in most radio markets. Firstly, the official method which measures the over-the-air listening and delivers mainly (via recall methods) core measures of Reach and Time Spent Listening. Secondly, most radio stations are also selling advertising around their streaming and on-demand services, which are managed by Digital Programmatic Platforms (e.g DAX in the UK). So, there are two currencies, both selling advertising within audio content.

egta: *What are the expectations of each of the stakeholders (brands, agencies, radios) in regards to the radio audience measurement evolution/upgrade?*

Ipsos: Advertisers and media agencies – insofar as they think about radio – want the same as they do for their digital and TV campaigns (and perhaps one day their OOH campaigns): minute-by-minute audience data delivered seamlessly to their buying systems, the day after airing (or even real-time). Radio stations want to maximise their reported audiences and minimise the amount they spend on researching them.

egta: *What are the main challenges (from the research point of view) the industry faces and which obstacles does it need to overcome in order to meet those expectations?*

Ipsos: If the measurement system changes, the reported audience will change. The way people think about scheduling campaigns may change if greater knowledge is available about audiences across the day and over time. Passive electronic audience systems are ideally built around co-operation: either all stations should tag their audio, even if their audience share falls which can be tough to achieve, or if an audio-matching solution is developed instead, there needs to be an investment in building infrastructure to maximise accuracy.

There is also the challenge of managing the server data generated from the digital consumption of audio and applying internationally accepted standards of data cleaning and editing. The target being that the data can be viewed in a similar way to traditional "listening data" showing consumption of audio content across platform and device (session-ised and de-duplicated).

The challenge of overcoming these obstacles is about using the most modern software and hardware solutions, alongside fresh data science expertise to the maximum effect, to simplify the process and drive affordability.

egta: *What is your vision on how to overcome all or some of those obstacles? Which solutions would work best in your opinion?*

Ipsos: The vision of how to overcome all these obstacles is to create a robust hybrid method of measurement that merges survey, passive and server data into a unified dataset and which provides a complete view of audio consumption across any platform, any device and at any time. Therefore, a close collaboration between Joint Industry Committees and experts at research agencies, data science, digital audio specialists and radio broadcasters is required as this would have the ability to deliver this unified dataset.



CONTRIBUTION BY NIELSEN ON THE FUTURE OF RADIO MEASUREMENT

egta: *Does radio need to change its current audience measurement? Why? Where does the pressure for innovation and change come from (agencies, marketers, radio itself)?*

Nielsen: The current audience measurement practices need to continue to evolve to support an environment with a rapidly increasing number of media choices and the changing technologies that consumers are incorporating as part of their lifestyles. Nielsen is well positioned to support these areas. We have seen an increase in smartphone penetration rates across our global radio markets and we have capitalised on that by introducing new passive methods of measuring digital listening that are based on a census of tuning using Nielsen software installed on smart devices used to consume the content. Another example is our work with wearable devices. Nielsen's Portable People Meter (PPM) continues to be the global standard in electronic measurement and we understand that our technology will need to evolve to better reflect the lifestyle of the audiences we are measuring. As a result, we are developing the next evolution of the PPM devices with a wearable form factor such as Fitbit that incorporates our state of the art encoding technology. We expect this to help panel cooperation and it opens new possibilities via a connection to the users' smart devices.

The push for innovation and change is driven by all players in the ecosystem of broadcasters, agencies, advertisers and measurement providers. We all have a stake in the success of the industry and our success is largely dictated by our ability to remain relevant in an increasingly complex media landscape.

egta: *What are the expectations of each of the stakeholders (brands, agencies, radios) in regards to the radio audience measurement evolution/upgrade?*

Nielsen: Each stakeholder (brands, agencies, broadcasters) expects enhanced measurement that reflects the Total Audience (all sources of tuning in all locations); helps to make the medium more accountable and enables advertisers to have greater confidence in audio advertising connecting what people hear with what they buy.

egta: *What are the main challenges (from the research point of view) the industry faces and which obstacles does it need to overcome in order to meet those expectations?*

Nielsen: Media fragmentation and the rapid consumer adoption of new technologies are the most significant challenges for measurement. These megatrends ultimately drive the client's need for more granular data to understand the distinctions between fragmented media choices and the connection between exposure, brand perception and purchase behaviour. Therefore, we need to continually push the boundaries and look for new approaches. Going forward we expect to integrate our best in class, independent panel and survey measurement with other big data sources to provide clients with the insights they need to make decisions.

egta: *What is your vision on how to overcome all or some of those obstacles? Which solutions would work best in your opinion?*

Nielsen: In today's and tomorrow's media world, no one solution will fit every challenge.

Therefore, Nielsen's vision is to integrate best in class panel and survey data with big data sources to provide a complete picture of media usage and consumer outcomes. Big data can provide stability and granularity. However, big data alone is insufficient because each source has holes and limitations and represents only a portion of the media usage universe. Therefore, high quality panel/survey data will continue to be needed to provide a complete and projectable view of media usage. When we combine currency grade panels and surveys with big data we believe we can achieve the best of both worlds. The breath and projectability of panels/surveys combined with the granularity and stability of big data. We are already doing this in the US with TV measurement and are working to extend that knowledge and expertise to audio and other markets across the globe.

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This publication has been researched and produced by egta's radio department, and it draws inspiration from the team's conversations with industry experts and literature from multiple sources.

Whilst every effort has been made to ensure the accuracy of the information in publication, egta does not accept responsibility for errors or omissions.

MORE ON EGTA**egta - association of television and radio sales houses**

egta is the Brussels-based trade association of more than 143 television and radio advertising sales houses. egta's members are spread across 41 countries, mainly in Europe. Together, egta's TV members represent over 75% of the European television advertising market, whilst egta radio members collect 50% of radio advertising revenues in countries where they are active.

As sales houses of both public and private broadcasters, egta members commercialise the advertising space around audiovisual content available on platforms such as traditional television and radio sets, tablets, smartphones, PCs, Smart TVs and other Internet-connected devices.

The logo for egta, featuring the lowercase letters 'egta' in a bold, sans-serif font, followed by a solid blue circle.

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