egta insight

ADVANCES IN HYBRID TV AUDIENCE MEASUREMENT

June 2021

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LEGAL **NOTICE**

INTRODUCTION

It is well established today that viewers watch television content on many screens other than TV sets and usually via the internet, using a variety of connected devices. Viewing behaviours have evolved faster than the audience measurement techniques that form the basis of advertising transactions, and the whole industry, egta's television sales house members included, agrees that audience measurement systems must be fully adapted to the current reality. Viewing behaviours observed during the Covid-19 pandemic have only accelerated this trend and accentuated the need for more robust and unified measurement of viewing across devices.

The television sales houses represented by egta base their arguments for evolved video audience measurement on the following premise: television is – and will remain – the leading mass communication medium, while also proving effective for smaller target groups through niche and thematic channels, whether delivered via over-the-air broadcast, cable, satellite, Internet Protocol Television (IPTV) or over-the-top services. Television is not only the most trusted and brand safe medium, it is the medium that enjoys the most effective, quantitative and robust measurement, and the use of electronic people meters is almost universal.

To underline the quality of TV measurement, egta and the Global TV Group published a [TV Charter](#) in 2019, which lays out standards for the entire TV industry and highlights its commitment to responsible and transparent measurement of advertising. Television offers the most accurate and audited data, and it allows for meaningful comparison between countries. Effective evolution therefore requires the extension of traditional and hybrid television audience measurement (TAM) systems to all other devices, rather than its replacement by an entirely new system.

Several countries – many of which can be found in Part 2 of this report – have been working for years already on the development of new measurement solutions that can capture viewing beyond the traditional television screen and delivery methods. These projects, which typically involve a hybrid methodology using two or more types or sources of data, are at different stages of readiness: in some cases, the first results are being reported to the market, others are at the deployment and testing phase. Beyond the technical challenges associated with measuring increasingly fragmented device usage, some of the most important unanswered questions lie in the commercial decisions that will ultimately be taken around how to use audience data for monetisation: the question of tomorrow's currencies.

Over the years, egta has taken part in various measurement activities, with the aim to foster dialogue and promote robust and future-looking audience measurement solutions for the television industry and beyond. One initiative which has been given much attention since 2019, is the ongoing cross-media measurement initiative by the World Federation of Advertisers (WFA) through which marketeers decided to *take matters in their own hands* and call for a global framework which offers deduplicated cross-media reach and frequency and the ability to measure viewers of advertising across screens, platforms and channels with a single measurement. What this ongoing project has underlined is that there is still some way to go in terms of designing a measurement system that satisfies advertisers' needs, but just as importantly, there is momentum like never before among all parts of the industry to collaborate and advance the development of audience measurement systems across media. It is the aim of this publication to highlight and remind the industry of the advanced and high-quality work already achieved in television audience measurement.

FOREWORD

Changing viewing habits have propelled our industry into a Total Video era, which is good news for advertisers as well as broadcasters. Our clients can follow their targets everywhere and whenever they watch our content, and it is now very common for over 20% of the overall audience of a program to be made up of views that are neither linear nor coming from the TV set. During the COVID crisis, TV has shown, more than ever, how central it is in this new Total Video field.

But the industry is late. We, as egta, strongly support initiatives such as those launched by the WFA and the MRC which aim to set comparable measurement for TV and online video opportunity to see. Advertisers urgently need to be able to plan, buy, follow and report their video campaigns, which today very often include linear TV, Catch up and online video. Let us not forget that brand safety, transparency, third party measurement and duration weighting are essential if we are to come up with a solution that properly addresses the needs expressed by the WFA. We fully support these fundamental features, and are confident in the strength of TV assets, when all media are compared on a fair basis. That is why we are so excited to enter this Total Video era!

--- **Laurent Bliaut,** President, **egta** and
Deputy General Director, Marketing and R&D, **TF1 Publicité**

OVERVIEW

Part I examines the evolution of television audience measurement; from its beginnings and the journey it has been through as it adapts to today's changing viewing patterns and technologies. In particular, it explains how TAM has extended beyond linear broadcast viewing and the approaches taken to measure viewing on multiple screens. It also gives an assessment of the challenges that still lie ahead as markets are working on or perfecting hybrid measurement solutions.
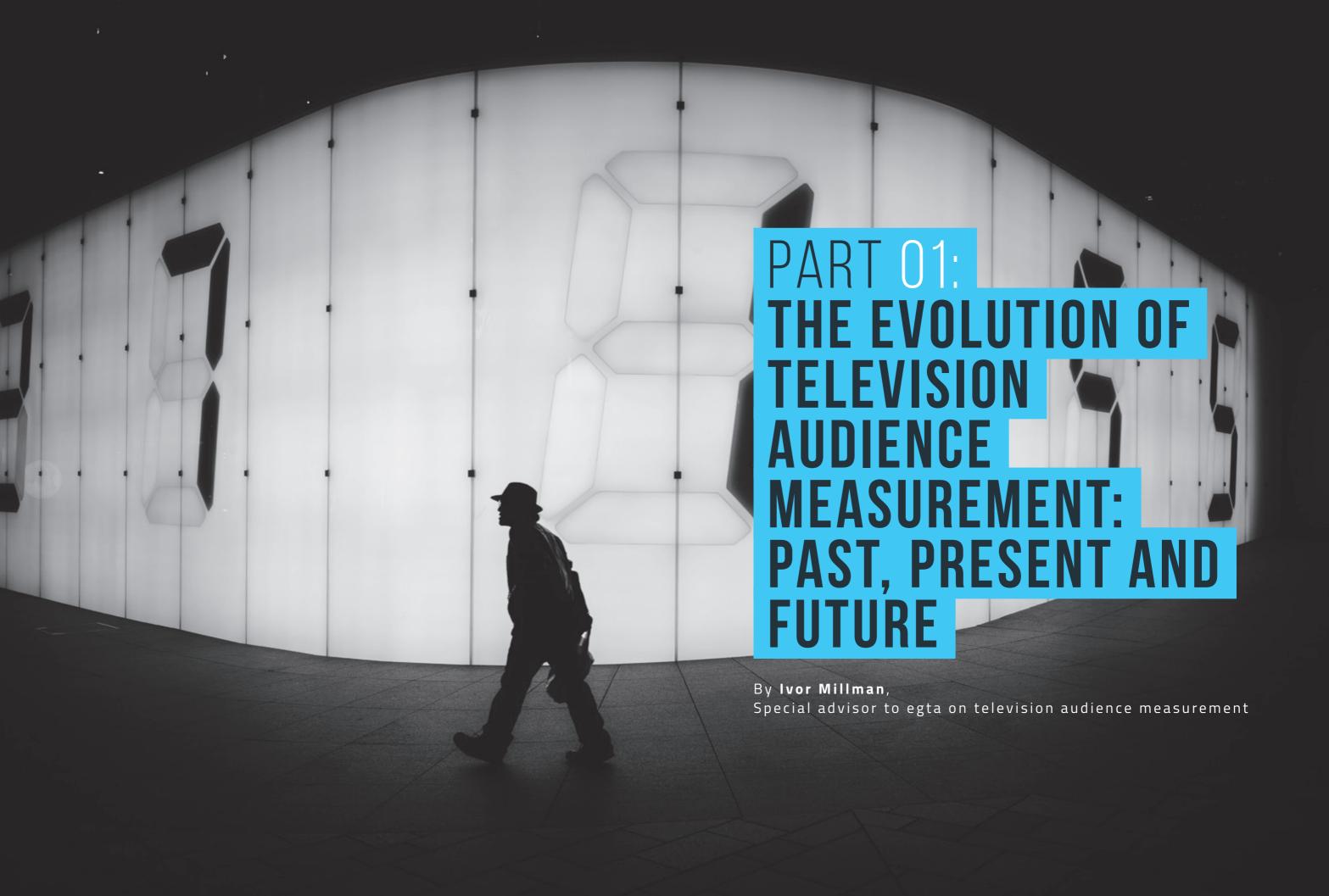
Part II provides overviews of audience measurement projects and developments in a variety of markets – most of which have experience in using hybrid measurement methods to measure viewing across screens and platforms. One observation that stands out from those examples is how approaches vary from market to market. The overall intentions may be the same, but the details of objectives and methodologies often differ. That can be good in that this could help identify the pros and cons of alternatives, especially of assistance to those coming later to hybrid development.

Part III gives a summary of the hybrid or total TV measurement services offered by some of the world's leading market research and measurement companies. The reason for including these in this publication, apart from their advanced services, expertise and innovations in measuring audiences, is that they often work as trusted partners with joint industry committees (JICs) and frequently constitute parts of the equation in national TAM systems.

Part IV outlines recent examples of industry collaborations and initiatives which aim to raise the bar in cross-media/total video audience measurement.

Part V provides an overview of the extent to which digital video and cross-platform video measurement systems for both content and advertising are available (or expected before end-2022) and regarded as currencies in 15 markets.

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The content of this report is based on the previous edition which was published in September 2020. All sections have been reviewed and updated during the Spring of 2021. It is not intended as an exhaustive analysis of TAM methodologies, and it should be noted that this is an area in constant evolution.

PART 01:
THE EVOLUTION OF TELEVISION AUDIENCE MEASUREMENT: PAST, PRESENT AND FUTURE

By **Ivor Millman**,
Special advisor to egta on television audience measurement

The origins of TV audience measurement and its importance for advertising

To understand the journey that television audience measurement (TAM) is on as well as its complexity, it can help to see how and why it has evolved over the past decades. Before Big Data, a business would usually know how it was performing from its own internal measurements. For example, a manufacturer would know what the factory had produced and thus what raw materials needed to be replaced. The shopkeeper knew what he had sold and thus what needed to be restocked. And so on. In the world of television, however, the channel knew what it had broadcast, but it had no information about how many and who had viewed the programmes and commercials. Whilst audience measurement data was important for all television channels, it became essential for those whose finances depended on selling advertising. The advertiser would need to know how many people had seen their advertising.

By the time that commercial television came to Europe, a model to deal with this problem had already been developed in the United States, and since many advertisers operated on both sides of the Atlantic, this model was also introduced throughout Europe.

In its basic form, the audience measurement model depended on market research methodology and statistical theory and practice. There would be a sample of homes representative of television households whose viewing would be measured. The resulting data would then be grossed up to the universe to generate viewing figures. With few exceptions, the shape of this model was widely accepted. Households in the sample, on the viewing panel, would have a meter attached to their television set which could identify when the television set was switched on, for how long and which channel it was tuned to. Alongside this would be a survey, characteristically a written diary, in which household members on the panel were asked to record their personal viewing behaviour.

This model was developed in the 1950's, and at its core, it is still the one used now going into the 2020's. It has worked well. Traders in the airtime market have been able to trade and television airtime markets have flourished.

The evolution of TAM

Over the years, great effort and expense has gone into making TAM systems as good as possible. They, as well as the technology used, have changed and developed alongside the television environment. TAM systems have been able to handle the spread of television to almost universal penetration, the growth of screen sizes, the growth of two and more sets per household, improved screen definition, the growth of TV channels, the arrival of colour, varying broadcast delivery platforms and, potentially most revolutionary of all developments, the spread of recording devices which could free viewers from the timings of broadcaster schedules.

The technology of TAM systems has developed from reliance on mechanical set meters and paper diaries to smart meters with overnight or live data delivery and people meters replacing diaries. Sometimes Personal People Meters (PPM's) have been used to replace set and people meters, and panel sizes have been increased to improve the measurement.

Only very little viewing was being missed. TAM systems generally could measure all viewing opportunities with the exception of a small number of portable television sets and some forms of out-of-home viewing. TAM systems developed methodologies to include guest viewing in private households in viewing figures, and analysis systems were developed and marketed to provide users with the data they needed.

Alongside all of this, both airtime buyers and sellers as well as research agencies met to discuss in detail the changes and improvements to all aspects of TAM systems. As these systems are based on sample surveys at their core with the statistical and methodological limitations inherent, they could never be made perfect. However, great effort has gone into making them as good as they could reasonably be so that traders can have confidence in the data produced as representative of reality.

As the measure of the most effective and thus accountable advertising medium, TAM systems have become much more complex and costly than the measurements used by other media. Such a complex and costly system would never have been developed had it not been for the necessity to trade airtime. This begs the question; if the TAM systems are as good as we can make them, then why change?

The changing television environment and the effects on TAM

Cracks in TAM systems began to appear even during the last millennium.

Since TAM panels are samples of households, social changes in developed countries (e.g. declining birth rates, growth in divorce, more adults living independently) meant that household sizes declined markedly over the decades. The TAM system may be household-based, but it is people, not homes, who watch television. To respond to this situation, household panel sizes were increased periodically to make up for the shortfall, but at greater cost and effort and at a time when people's willingness to co-operate with such research activities was declining. In addition, there was a growing belief that populations were becoming more heterogeneous thus complicating the task of getting fully representative samples.

Perhaps most importantly, even before the emergence of digital broadcasting, the development of broadcast platforms increased the number of television channels available to viewers. Although viewing time kept increasing, the growth in the number of television channels meant that audiences began to fragment. New and often smaller audience channels could not be measured as accurately as the bigger channels by existing TAM panels. Zero ratings as measured became common. It also meant that established channels often saw their viewing decline along with the accuracy of their measurement. This was no one's fault, but just a statistical fact of life. Without an alternative system, airtime markets had to live with this.

At the beginning of this millennium, the limitations of existing TAM systems have become increasingly apparent as the viewing environment was revolutionised by more channels, the internet, more screen types and new sources of audio-visual content. With the switch to digital broadcasting came an enormous increase in the number of television channels available on television sets. This further increased the pressure on TAM panels sample sizes to measure audiences with any reliable degree of statistical accuracy.

The internet as a source of audio-visual content has added a new delivery platform and further increased the variety of content whose audiences are to be measured. When viewed on a television set, this viewing could be identified and measured by TAM panels, albeit still within the limitations of sample size and representativeness.

However, it is the explosion in screen types which has proven to be the greatest challenge to existing TAM systems and their methodologies. Desktop PC's, laptops, tablets and constantly developing and sophisticated mobile devices have all become important screens for viewing audio-visual content via the internet and for viewing anywhere. None of these types of screens can readily be metered like television sets and thus cannot have viewing on them measured as is done with television sets. To add to all this, new suppliers of audio-visual content available via the internet (such as SVOD services) have grown enormously in population coverage and size, and this has played a big part in encouraging the viewing of audio-visual content on screens other than television sets.

Questions that would have had no meaning a generation ago now loom large. What is television? What is a television set?

These challenges have in effect proven to be beyond the capability of existing TAM methodologies to deal with adequately. One result of this has been that as viewers, especially younger ones, have increasingly taken to watching broadcast television content and other audio-visual material on screens other than television sets, so viewing television as measured by TAM panels has been shown to be in decline in a number of countries.

This led many to talk about the death of television, but the opposite is the case. Millions of households have acquired new television sets with screen sizes and features that would have been undreamt of until recently. At the same time, access to television has exploded with the growth of screens and screen types. The majority of people today carry around with them all the time and use what are in effect portable television sets, just as viewing on the television screen has significantly increased with the emergence of streaming of on-demand content.

The emergence of Return Path Data

Despite difficulties for TAM systems to adjust to all these changes, these developments have not been critically damaging to airtime trading. While new audio-visual internet content providers compete with television broadcasters for airtime revenue, both have found new ways to trade. Delivery of audio-visual material on the internet provides the opportunity for return path data (RPD), the electronic noting and counting of material delivered. So a new market has developed where the trading of airtime uses these data as the currency.

This has two positive characteristics. Firstly, it has enabled broadcasters to generate their own big data on performance, and secondly, since these data can be of census quality, it means that even the smallest items can be measured with the same level of confidence as larger ones.

It is not just non-broadcaster suppliers of audio-visual content who have built successful businesses trading with such data. Television broadcasters have also made their content available via the internet to all screens, either through streaming of live, playback or other content that was not yet broadcast. Advertising in and around this content has also generally been traded with RPD. This RPD is limited by being a measurement of delivery to a screen, but can have the benefit of being of census quality.

Those running TAM systems have not been idle in facing the changed environment. To maintain the integrity and status of TAM systems, it has been the opinion of many of those involved with them that the systems need to extend and develop their coverage to keep up with the current environment. Over the past decade, much work has been done to enable the measurement of viewing across screens and platforms in a number of countries (see examples in part 2). However, whilst the currencies exist for trading, advertisers and their agencies have lacked a single measurement to answer the core questions: I am advertising across channels, platforms and screens. Who saw my advertising? How many times? Who were they?

Extending TAM beyond television sets – introducing hybrid measurement

The measurement of viewing across linear and non-linear distribution channels in most cases leads to a hybrid solution of one form or another, in which panel-based measurement is complemented by census-level data.

The measurement of content consumed on the Internet allows for the production of census-level data, also referred to as machine data or return path data (RPD), and this gives an accurate account of total consumption, potentially across all devices and screens. Every video stream can be detected, including the time and duration of viewing and any actions carried out by the viewer, such as pausing or stopping the content. It does not require any extrapolations to estimate the viewing behaviour of the population as a whole.

Sample panels continue to be vital in telling us about people's viewing behaviour, but they will always be limited statistically, and RPD may be the partner panels need. Census data solve the statistical problems that come with relatively small samples, especially in measuring small things, but can only tell us about delivery to devices. Moreover, it tends to be the newer, often smaller audience channels which are likely to be delivered via the internet and thus can especially benefit from an RPD-based measurement.

For a complete understanding of who and what was consumed, census-level data needs to work alongside a panel, which can deliver information on demographics, such as age, gender and other attributes, and for this reason panel-based measurement remains a central component of all the hybrid Total TV measurement approaches currently being developed. If we can bring sample panels and RPD together, can we benefit from the advantages of each and minimise the drawbacks of each? That is the essence of the hybrid measurement solution.

Approaches to measurement of viewing beyond the TV set

There are a number of routes that have been taken by those involved in TAM systems and various issues have arisen.

An understandable first route has been to follow the viewers and extend the measurement of television via panel size and/or from television sets to other screens. In the past, dealing with the problems of a limited sample size would naturally be solved by enlarging the panel to enable better measurement of fragmented viewing on television sets. Today this is not seen as a viable nor a practical solution to the problems. To make a statistically significant improvement to the measurement, there would need to be panel size increases on such a large scale that they are likely to be prohibitively expensive or practically inoperable or both.

A related variant that has been considered is to recruit a panel several times larger than the existing one, but only to install television set meters in these households. That greatly lowers the burden on panel members as well as the cost that would be involved in fully multiplying the TAM panel size. The existing TAM set and people meter panel can then provide statistical factors to populate the data from the set meter-only homes. This route aims to provide an equivalent to the large panel size increase, multiplying it several times without those cost and practicality issues already referred to.

Neither of these routes, however, provides a solution to the need to measure viewing on multiple screens.

Thus, another route is to follow the viewer and extend the TAM panel to cover non-television screens. Currently two approaches exist. The **Software meter/ Virtual Meter** and equivalents is a piece of software that can be downloaded onto non-television screens and which can mimic the behaviour of set and people meter systems. Like the set meter, the software meter can note when a device is on, what is on the screen and, after asking who is viewing, it can generate viewing data for individuals. It has been a continuous process to deal with the different and newer types of screens and operating systems. Alongside the changing viewing environment, the software meter has had to change as well. If a software meter is installed on an existing TAM panel, then the entire system can measure the same people's viewing across all screens. However, this would add to the respondent task, and could result in a lowering of levels of panel recruitment and compliance and have negative implications for cost and data quality overall. If a separate panel is recruited, using the Virtual Meter to measure viewing on non-television screens alongside the existing television panel, then that would ease respondents' burden but likely add to the cost and complexity of handling data from two panels.

The **router meter** is similar in principle. In this case, a meter is attached to the household internet router or a router incorporating a meter replaces it. Then, as with the Virtual Meter, the system notes what content is being delivered to screens.

These approaches aim to deal with the spread of television and other audio-visual content onto other screens and measuring the audiences generated by that. However, they still depend on panel and sample sizes and thus the statistical limitations involved. How can this limitation be mitigated?

Challenges to overcome

The hybrid solution has been a simple objective to state, but a very complicated one to carry out in practice. Despite the years that have passed during which hybrid solutions have been on the table, it more often than not remains work-in-progress, or even work yet to commence. There are a number of reasons for this.

Firstly, the environment keeps changing. It can seem as if no sooner has a technical solution been found to a problem than a new problem is diagnosed or arises, a new type of screen comes to the market, a new delivery system is developed, viewer behaviour changes and so on.

Secondly, whilst those involved in developing hybrid solutions have largely been familiar with the strengths and weaknesses of panel data, dealing with RPD has proven a voyage of discovery. Where does the RPD come from? Whose are they? How are they defined? What is their quality? How do they develop? Outside of the television environment, issues have arisen in markets which bring these questions into prominence. Governance bodies (such as the Media Ratings Council in the US or Centre d'Etude des Supports de Publicité in France) have attempted to bring some basic quality and consistency to RPD. In addition, what part if any should be played by data from internet measurement panels, set-top boxes, smart TVs, telcos? All this is not a static but has been developing as the years pass.

Thirdly, what in detail do we want to do with the data from panels and RPD? Is this fusion, data integration, data merger or something else? How is this to be done when the nature of panel data and RPD can be different? How are data on a given number of individuals to be brought together with much larger quantities of data about machines? When relevant, which data set is the host and which the added ingredient? In particular, for the measurement of coverage and frequency (how many and who saw the advertising and how often) there needs to be a methodology to deduplicate, i.e. to trace the same individual across different screens and platforms. It has all proved to be a much bigger task than originally anticipated.

Even when accomplished, how can the resulting hybrid data be evaluated as new TAM panels have been in the past, to check that the new data are correct and explicable? How will those using the new data be educated to understand what they are using and how they have been produced or will they simply have to believe the output from a black box methodology? How can those using the data raise queries and adjudicate if they do not fully understand where the data come from and how they were produced? Will analysis systems be rewritten and newly developed to enable the analysis of new data and thus viewer behaviour over time? In addition, this all needs to be done in an environment which is at least GDPR or equivalent compliant?

These are all big questions but there are some even more fundamental ones: What are we trying to do and what is it all for?

At one end, the objective is to measure consistently the audiences for broadcaster content whatever the screen, whenever and wherever seen. At the other end, and especially so if it is advertisers and their agencies who are driving the development, the objective would be to measure with a single measurement the audiences for any audio-visual that may carry advertising whatever the screen, whenever and wherever seen and without boundaries as to the nature and origin of the content around the

advertising. All parties may share an interest in all of this but their priorities may differ. However, the imperative to have a currency to trade with, which has driven television audience measurement in the past, is much weaker for a hybrid system because trading already takes place without it and has done so for years. Yet, the ability to analyse audio-visual advertising across all screens and platforms is one especially for advertisers and their agents in pushing for hybrid solutions.

Privacy issues

A commitment to data privacy is of fundamental importance to any audience measurement system. Aside from a moral obligation to protect personal data and prevent its misuse, the willingness of individuals to participate in measurement panels will inevitably be hindered by any potential concern that their information may not be treated in the strictest confidence.

As panel-based measurement moved from the television towards more personal devices such as smartphones and tablets, the range and type of monitored activity widened and could lead to panellists' reluctance to submit information about their online activities across several devices.

At the European level, the 'cookie rule' in the current ePrivacy Directive requires user consent before storing information, or gaining access to information already stored, in the terminal equipment of the user.

Consent is often collected through banners or pop-ups which give users the opportunity to accept the collection of data or at least informs them that the processing of data will take place if they continue to browse the website. Users need to be presented with mandatory notices clarifying what information is being processed for what purposes and which are the recipients, or categories of recipients, of the personal data.

The General Data Protection Regulation (GDPR), enforced since May 2018, increased the standard for what is meant by 'consent'. Namely, the rules require a true opt-in from the user through an affirmative action; silence or pre-ticked boxes should no longer be accepted, as confirmed through the Court of Justice of the European Union's case law[1].

The GDPR has also strengthened existing consumer rights (and introduced new ones) which carry practical challenges for companies, such as the right to object to the processing of personal data, or the right to have personal data deleted.

All these changes need to be included in measurement companies' privacy policies, but also by broadcasters in their contractual relations with audience measurement partners. The penalties for breaching the new data protection framework have been substantially increased, therefore businesses will want to clarify the liability of each partner in case of infringement.

Two main issues have arisen through the implementation of the new rules:

Firstly, national data protection authorities' interpretation of what is acceptable under the new rulebook tend to diverge[2]. As a result, businesses often operate in legal uncertainty when it comes to audience measurement trackers (e.g. analytics cookies).

Secondly, there can sometimes be tension when it comes to the legal qualification of the online audience measurement relationship for personal data processing. While the publisher/broadcaster should always qualify as a controller (because it determines the purposes and means of the processing of personal data), the status of the audience measurement partner is often subject to discussions. As an

example, the 'processor' status restricts the audience measurement company's autonomy to process data, which can give a sense of security to the publisher/broadcaster, but for that very reason it can also be burdensome. On the other hand, a 'joint controller' status between the broadcaster and the audience measurement company provides more leeway for the day-to-day use of the data, but the broadcaster's oversight is more distant.

Finally, as the existing ePrivacy Directive is being reviewed to align it with the GDPR, it must be noted that the new framework will likely include a tailored consent exception for audience measurement purposes. Final negotiations on what will be a new Regulation are underway but may, once again, prove arduous.

What will hybrid measurement data be used for?

Data from TAM panels are used for a variety of purposes, such as airtime trading currency, campaign planning and evaluation, programme performance measurement, programme scheduling and evaluation, broadcaster performance measurement and so on. Will the hybrid data have the same uses? Maybe that has been the expectation till now, but trading has for long been satisfactorily carried out without it. TAM panel data continue to provide the currency for trading advertising around broadcaster content seen on television sets – just as RPD in one form or another continues to be the trading currency for other audio-visual advertising delivered via the internet including that relating to television broadcasters' output. Why should that change?

Changing what are now well-established currencies could be controversial and difficult. Those satisfied

with the current trading data and the revenue earned using them may see no reason to change. Those who may be unhappy with how they perform using existing currencies may wonder if a change would help them, but may also be likely to fear what a change might bring to them. If different parties in the market go in different directions, chaos could ensue. What would be the mechanism to get an entire and complex market to change currencies?

Some parties to airtime trading now expect trading to continue as now, at least for the foreseeable future, even after hybrid solutions have been successfully developed. They see the hybrid as filling the gap for cross-screen campaign planning and evaluation. This raises the question of financing.

Traditionally, advertisers and their agencies have put down the challenge to television broadcasters – i.e. to trade with advertisers, they must provide the trading currency that we can all have confidence in. Notwithstanding the argument about whose money it really is - the broadcasters, the advertising agencies, the advertisers, or their customers - it has generally been television broadcasters who have paid most or all of the bills for audience measurement. Campaign planning and evaluation matters to everyone in the airtime market, but it can easily be argued that it is of special concern to advertisers and their agencies. So, if the hybrid data are not providing the trading currency, the lifeblood for trading, how much financial and other effort is it worth for broadcasters to spend on them? Until now, the development of hybrid solutions has been largely funded by broadcasters who do have an interest in campaign planning and evaluation when that campaign is carried with their content. What imperative should they have to provide the data for campaign planning and evaluation when that campaign is at least partly carried with other, non-broadcaster content?

In the meantime, some participants in the airtime market have announced that they are developing their own analysis systems bringing together available data to try to do the job of the hybrid whilst waiting for an industry-wide hybrid solution on their market.

These initiatives have been positioned as temporary whilst awaiting the arrival of the industry-wide hybrid. One question that arises is to ask if these initiatives meet the need, why bother with the entire hybrid development? On the other hand, if there are multiple such systems in a market, how can the potential for different systems, different methodologies and different results be avoided? Does that matter? If the aim is for an agreed methodology and consistent results then one system should suffice and that brings us back to industry-wide approaches.

Defining the scope of future total television measurement

In part 2 of this report are overviews of the developments in a number of important markets, and one observation that stands out from those examples is how approaches vary from market to market. The overall intentions may be the same, but the details of objectives and methodologies often differ. That can be good in that this could help identify the pros and cons of alternatives, especially of assistance to those coming later to hybrid development.

However, different approaches may also complicate any attempt to produce cross-market data. These initiatives are being driven by the broadcasters and their JIC's and may have slightly different viewpoints, interests and priorities.

Some may be aiming for a new trading currency which can also be a new planning currency. Others, may be aiming for a planning and evaluation currency, but not to change the existing trading currencies. As noted above, some may be aiming for a measurement of broadcaster content wherever and whenever it is viewed. Others may be aiming for a measurement of all audio-visual from all sources. Or the objective may be anything in between these two extremes. Some may be seeking to involve non-broadcaster audio-visual content suppliers and platforms in this work, while others may want to maintain the broadcaster-specific nature of the work. Some broadcasters may be wary of extending what they see as their

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[1] See Case C-673/17 Planet49

[2] As an example, while current interpretation of the UK Information Commissioner's Office is to always require consent (including for first-party cookies), the French CNIL deems consent not needed when following a strict list of cumulative requirements (no cross-reference with other collected data, only anonymous stats, etc.). Finally, in Germany, recent DPA interpretation warrants consent if the third-party collecting data also uses it for its own purposes and/or if the behaviour of website visitors can be traced in detail, for example when keyboard inputs, mouse or swipe movements are recorded.

measurement to their competitors or may not regard themselves as being in the same market as non-broadcaster audio-visual content suppliers.

The disadvantage of including non-broadcaster video content, aside from the additional complexity in integrating the publishers themselves, is that it naturally dilutes audience shares. The shift from a stable and relatively small number of measured publishers to a more volatile and larger universe may actually render audience shares meaningless. On the other hand, delivering equivalent measurement data helps to bring some perspective to the relative size of television as compared to other audio-visual sources. After all, individuals spend far more time watching television than they spend with online publishers on average – even those with a quite high reach, such as YouTube and Facebook.

There are important technical issues that would follow in trying to produce a measurement that meets the needs of all parties. How far would broadcasters be willing to change what they have now and the data produced to meet the different needs of other parties? How far would this even be possible? Then there is the issue of geography. There are noteworthy exceptions but broadcasters and their JIC's generally are based in a single market or country. There are good historical, geographical, linguistic, regulatory and cultural reasons for this. Though the broad outlines of TAM systems may be the same between countries, there are likely to be differences, for example regarding definitions or calculations methodologies. However, the new non-broadcaster suppliers of audio-visual content tend to be international even if the advertising they carry may not be. How can these competing needs be managed, merged and met?

PART 02:
ADVANCES IN HYBRID TELEVISION AUDIENCE MEASUREMENT — MARKET EXAMPLES

AUSTRALIA – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes
Who runs it?	MOC (OzTAM)
TAM panel size?	OzTAM measures Australia's five mainland metropolitan markets and subscription television nationally. A separate measurement service, Regional TAM measures the five east coast aggregated regional markets. Panel sizes are as follows: • 5,250 homes across OzTAM's metropolitan television markets. • 3,198 homes across Regional TAM's regional television markets. • 2,120 subscription TV homes across the combined metropolitan and regional market areas.
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes: OzTAM has deployed Streaming TV meters into a subset of TAM panel homes, which provide sample-based measurement of BVOD viewing via the internet. OzTAM operates a Video Player Measurement (VPM) service that collects device-based census viewing data via integrations within the digital video players available on connected TV sets, computers, tablets and smartphones that are used to access BVOD services.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Yes: OzTAM has been developing a hybrid Total Television Viewing methodology, called VOZ, or Virtual Australia.
Data sources used?	VOZ brings together the sample-based TAM measurement viewing data from the OzTAM and Regional TAM services, with OzTAM's census device–based VPM measurement viewing data service.
How is deduplication done?	The current VOZ construction does not utilise deduplication algorithms. The methodological developments for deduplication are a work in progress.
Is advertising and/or content measured?	VOZ measures all content and the VOZ database is a content-first database construction. TV spots are measured, as for TAM data, where the identification of a minute provides the estimate of audience.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	BVOD digital impressions are similarly measured for audience by identifying the timepoints of impressions delivered against the measured viewing sessions to BVOD. The OzTAM VPM service has near-complete coverage of all BVOD video player platforms to all connected screen types. Broadcaster content distributed on other digital platforms is not covered.
Is non-broadcaster content measured?	No
Data used for airtime trading?	The trading currency is linear broadcast television viewing to in home TV sets on an Overnight (Live & As Live) basis and on a Consolidated 7 (Live & As Live & time-shifted viewing within seven days of broadcast) basis.
Are these data used for planning? evaluation? trading?	VOZ data will be initially released for the main purpose of understanding the viewing of broadcaster content in a cross-screen environment and to assist with planning and evaluation.

AUSTRALIA

OzTAM is an independent company owned by Australia's major commercial television broadcaster networks – Nine, Seven and 10. OzTAM owns and manages the official TV ratings services for Australia's five mainland metropolitan total television markets (since 2001) and the subscription television homes nationally (since 2003).

Data is collected from 5,250 panel homes in the main cities – Sydney, Melbourne, Brisbane, Adelaide, and Perth, and OzTAM draws upon 2,120 homes from its metropolitan TV service and from the regional TV service, which is owned and operated by a separate organisation, Regional TAM, to produce OzTAM's national subscription television service.

Regional TAM is a separate organisation to OzTAM, a joint venture comprising the five free-to-air regional commercial networks: NBN Limited, Prime Television Pty Ltd, Seven Queensland, Southern Cross Austereo and WIN Corporation Pty Ltd. Regional TAM covers the five east coast aggregated regional markets including its 19 component sub-markets and the regional Western Australian market.

Within Australia, Nielsen TAM is the research supply company that collects and produces TV ratings data on behalf of the OzTAM and Regional TAM Services.

The panel size is among the world's largest relative to the overall population (Australia's population is 25 million) and OzTAM uses a sophisticated people-metering system called Unitam which captures viewing to all broadcast television channels on all TV sets in panel homes. From 2010, both the OzTAM and Regional TAM services commenced the measurement and reporting of time-shifted viewing of television within homes.

Measuring BVOD since 2016

In February 2016, OzTAM launched the Video Player Measurement (VPM) Report, which measures the device-level count of Broadcaster Video on Demand (BVOD) minutes consumed across major demographics.

VPM provides Australia's official figures for viewing of internet-delivered TV content whether streamed live or on demand. OzTAM measures minute-by-minute census-level data, providing a highly detailed

and granular view of how Australians are consuming BVOD. VPM offers consistent metrics across online video player services, measurement of actual video player activity and market-level (census) data. The VPM reporting service developed modelling techniques to provide demographic profiles for BVOD content viewing, leveraging available signals, such as:

- Panel-based measurement of household members' viewing across devices.
- Total device viewing information (VPM census data).
- The repertoire of programmes watched on a particular device over time.
- Insights derived from the audience profile to the corresponding broadcast programme (i.e. OzTAM TV ratings).

From September 2020, OzTAM further developed the demographic modelling to account for the co-viewing to BVOD via connected TV sets, which contributes toward overall BVOD audience estimates. Co-viewing can account for up to an additional 30% of viewing to BVOD via connected TV sets.

VOZ —Total TV viewing across devices

In Australia, as in most countries, the reach of broadcast TV has grown beyond the TV set as audiences embrace a diverse and growing array of content, screen, and platform choice.

One of the media industry's biggest puzzles over the past decade has been ascertaining exactly how much connected device viewing contributes to the total audience watching broadcast TV. It has been unclear, though, to what extent 'any time, any place, any screen' viewing impacts the total TV picture.

OzTAM, Regional TAM and Nielsen TAM are currently working towards the launch of Australia's new Total TV data product, Virtual Australia (VOZ). VOZ brings together broadcaster content viewing on TV sets as well as connected devices (smart TVs, desktop/laptop computers, tablets, and smartphones) to provide all-screen, cross-platform planning and reporting for Australia's television industry.

VOZ is due to launch in mid-2021, and will provide the country's first deduplicated audience estimates of the broadcast content Australians are watching, who is watching, the amount of time they spend watching and how they are watching.

Most importantly, VOZ removes the need for broadcasters and their clients to plan and trade linear TV and BVOD in silos. It brings TV viewing ratings estimates derived from the 20,000+ sampled people within OzTAM and Regional TAM panel homes, and from the census collection of millions of connected devices, together into a single, detailed database.

VOZ creates an anonymised, virtual profile of Australia's population of over 25 million people, using:
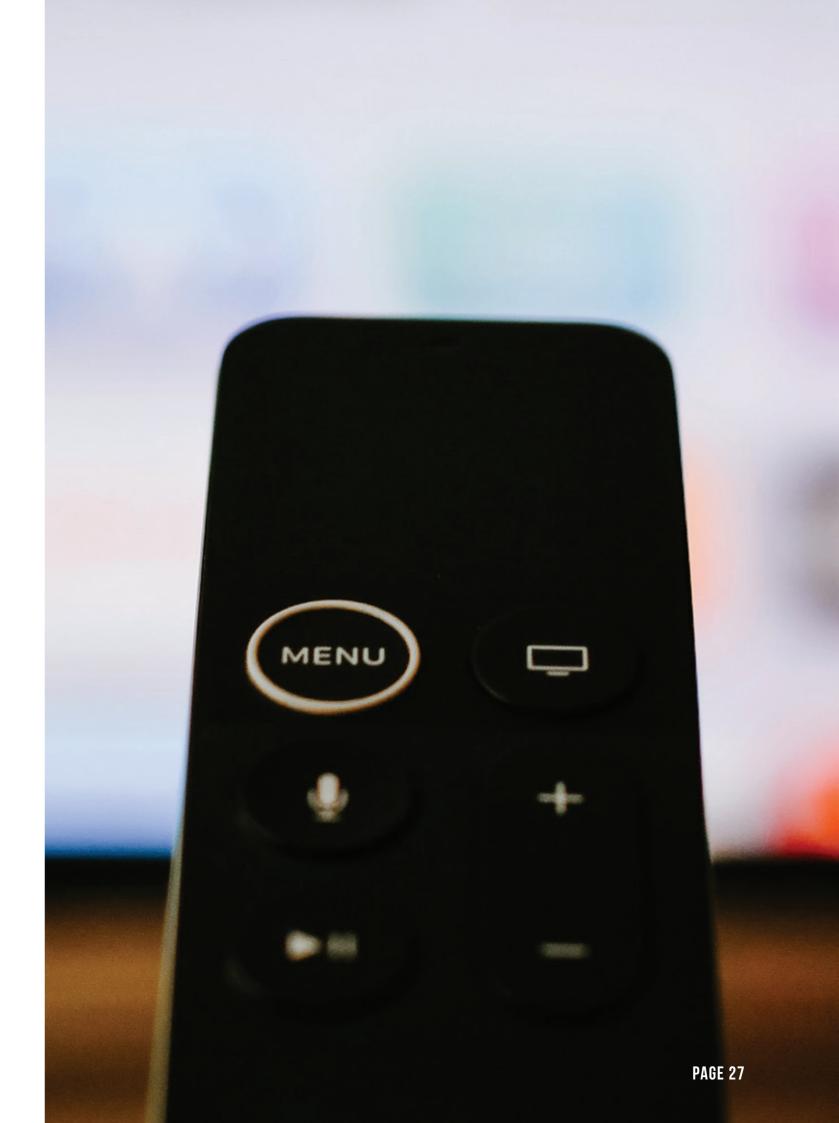
- OzTAM and Regional TAM Establishment Survey data (80,000+ surveys per year, conducted since calendar 2000).
- Actual viewing behaviour of 20,000+ individuals in OzTAM and Regional TAM panel homes.
- Information from streaming TV meters installed in a third of TV panel homes.
- Census-level OzTAM VPM (Video Player Measurement) data on 14 million connected devices playing TV (BVOD) content.

VOZ is being built to allow for the development and inclusion of advanced targets (audience segments) to support planning and post-analysis beyond standard age/sex demographics.

Privacy compliant measurement

All OzTAM and Regional TAM panel households opt-in with full consent and no information is collected that can identify the person that owns or uses individual devices is collected.

With respect to viewing on connected devices, users have given their consent to the broadcasters to use broadcasters' websites and/or apps. The streaming TV meters only look for broadcast viewing activity and platform-level IP addresses for OTT and SVOD services.

BRAZIL – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes: People meter panel (DIB6 with audio matching). Deployment of Focal Meters in 2021.
Who runs it?	Kantar IBOPE Media
TAM panel size?	6,060 households
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	In progress: Focal Meter is being rolled out to 3,000 households. Devices measured: smart TV, PC/laptop, tablet, smartphone.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Work in progress: Single-source panel and calibration with census data are under implementation (2021).
Data sources used?	People meter data, router meter data, census data.
How is deduplication done?	In progress: panel data calibrated with census data to enable deduplicated reach for platforms, content, and devices.
Is advertising and/or content measured?	Both advertising and content are measured.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	Broadcaster output on owned and operated platforms will be measured once online metering implementation is complete. Broadcaster output on other platforms such as distributors' streaming services is also included. Broadcaster output on other platforms such as YouTube or Facebook is not yet included.
Is non-broadcaster content measured?	Once live, all participating platforms will be reported at the content level. Other platforms' online viewing will be reported at a service level.
Data used for airtime trading?	Trading currency is live and time-shifted viewing of television commercials within seven days of broadcast.
Are these data used for planning? evaluation? trading?	All

BRAZIL

A complete picture of TV viewing in Brazil

Kantar IBOPE Media (Kantar) serves Brazil as an independent and neutral provider of television audience measurement. Since 1951, the Brazilian market has relied on Kantar to provide broadcast TV ratings through a model that delivers the industry-wide credibility required to underpin the trading currency and TV advertising for Brazil's broadcast TV content.

A core TV panel of around 20,000 panellists (4+) in 6,060 households with installed people meters enables Kantar to capture broadcast in-home viewing on DTV, cable, and satellite, both linear and time-shifted. The panel represents urban households' viewing behaviour in 15 regions, and Kantar deploys an ad-hoc diary service to measure other markets across the country.

By consulting closely with broadcasters, advertisers and media agencies, Kantar provides real-time and consolidated overnight broadcast ratings to represent TV viewing. The sole provider of real-time measurement capabilities in Brazil, Kantar employs audio matching technology to generate live viewing data for every minute of the broadcasting window. These ratings are made available through an intuitive web platform that provides broadcast viewership and audience share for all channels in real-time.

Real Time Ratings provide an instant snapshot of how audiences respond, and enable broadcasters and content owners to make live programming decisions. Designed to give preliminary audience insights, Real Time Ratings complement subsequent overnight TV ratings, the official currency for TV measurement in Brazil.

Kantar's media software specialist TechEdge processes and delivers overnight ratings via Instar Analytics, a flexible suite of tools used by broadcasters to access and analyse audience viewing data.

Towards hybrid measurement

The service will soon move to a Cross-Media Audience Measurement solution that provides deduplicated viewing data and audience demographics for TV and online video content. This model will enable Kantar to measure new ways of viewing TV and online video, including video-on-demand (VOD) services.

In 2021, Kantar will begin the rollout of its Focal Meter across 3,000 households in the current TV panel to measure online video viewing in the home. The Focal Meter identifies viewing at a device level and attributes individual viewing to provide demographic profiles, cross-platform behaviours, and reach estimates. The Focal Meter also measures non-cooperating players at the service level, meaning that both viewing time and reach are measured.

Kantar will deploy video tagging technology and data science solutions to enrich currency measurement with census viewing data. In conjunction with metering technologies, content tagging and direct integration with panel data will ensure comprehensive measurement of all online activity, including total minutes viewing of all programmes and total viewing by programme, device, or player.

With the Focal Meter implementation, Kantar is moving towards a single-source panel solution that integrates census data to provide a comprehensive overview of the Brazilian market. When combined with TV set viewing, the enhanced service will report viewing behaviour across all devices to offer insight into the performance of broadcaster OTT, VOD and linear platforms.

Is there a TAM panel system?	Yes
Who runs it?	JIC (Numeris)
TAM panel size?	4,500 Households
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes: TAM measurement is based on personal exposure to audio-encoded broadcaster content, regardless of delivery device. Smaller markets are measured via bi-annual diary sweeps. In-progress implementations include set-top-box RPD and router-based metering for measuring online audiences. These data are being used for trading.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Work in progress: Census-level inputs to be used for calibration of panel audience data (both linear and online) are currently being worked on.
Data sources used?	Set-Top-Box RPD for linear, and census-level tag data for online.
How is deduplication done?	Deduplication is being done through a combination of single source panel and fusion techniques using viewing and demographic fusion hooks.
Is advertising and/or content measured?	Currently, content is measured and advertising is inferred.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	All broadcaster output on owned and operated platforms will be measured once online metering implementation is complete. The measurement of broadcaster output consumed via non-owned platforms is not yet in the scope.
Is non-broadcaster content measured?	Based on currently planned implementations, in-home Pure-Play content (e.g., Netflix, YouTube, Prime Video, Disney+) will be measured based on aggregated time-spent - i.e. not by channel or program.
Data used for airtime trading?	Trading currency is live and time-shifted viewing of television commercials within seven days of broadcast.
Are these data used for planning? evaluation? trading?	All

CANADA

Numeris measurement foundation

Canadian television and radio audiences are currently measured using the Portable People Meter (PPM), supplemented by a twice-yearly online diary released under continuous measurement for radio to cover smaller market areas. This work is carried out by the Canadian research and audience measurement organisation, Numeris. By inserting a separate set of codes for linear and BDU (Broadcast Distribution Undertakings) VOD (aka cable video on demand) television content, broadcasters today can ensure that all live viewing consumed via linear or streaming, and catch-up viewed via BDU VOD or PVR is captured by the PPM device. Under the existing model, any online live-streamed viewing is folded into the regular currency. Significant developments to the core measurement of video and audio in Canada are now underway.

Targeting granularity with RPD at scale

Supported by a decision from Canada's broadcasting and telecommunications regulator, the CRTC, cable television operators were asked to release the viewing data from their set-top boxes to enrich audience measurement. This solution is particularly valuable for smaller niche stations that are more difficult to measure using panel-based measurement systems.

A CRTC working group selected Numeris to conduct a successful technical test that combined RPD data from multiple set-top box providers. Following this test, a full-scale proof of concept was undertaken in 2018, where Numeris was able to design an enhancement to the TAM service, which would include RPD data from five BDUs. The development of a national Enhanced TAM measurement solution (ETAM) is now underway, where RPD from more than 80% of Canadian cable providers will be added to the current TAM solution. Numeris anticipates the full-scale production pilot of this new national ETAM solution will begin in September 2021.

Cross-platform audience measurement: video audience measurement (VAM)

It is a significant strategic solution currently being built by Numeris. As with most VAM solutions, it will deliver an audited standard measure originating from one neutral, credible and transparent organisation, for all video distributed across all platforms and devices. Its purpose is to characterise the deduplicated value of digital video in the media space and to provide a deeper understanding of who watches what, when, and how.

Through the VAM solution, Numeris is extending the measurement of Canadian viewing to include as much of the digital video landscape as possible. Numeris captures all video content across platforms by device type. VAM also provides audience time-spent measures using digital-first services such as YouTube, Amazon Prime, Disney+ and Netflix as part of the initial service. Numeris is actively working to enhance this granularity with digital-first partners.

Currently, and starting with content measurement, the service is built and operating in Ontario and French Quebec under two separate panels (TAM and Online) and two very preliminary beta datasets have been released to a small group of members, with a complete roll-out of the dataset by Autumn 2021. In early January 2021, Numeris also announced that it would expand VAM Ontario/Quebec to a national

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Numeris believes the foundation for future measurement must be high-quality panel level data to support and contextualise data integrations, in a transparent and audited system.

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video audience measurement solution. This national rollout will utilise a single source panel and is planned for a Spring 2023 launch. This single source panel will be used first for online and linear video and linear audio, with other forms of consumption added in the future.
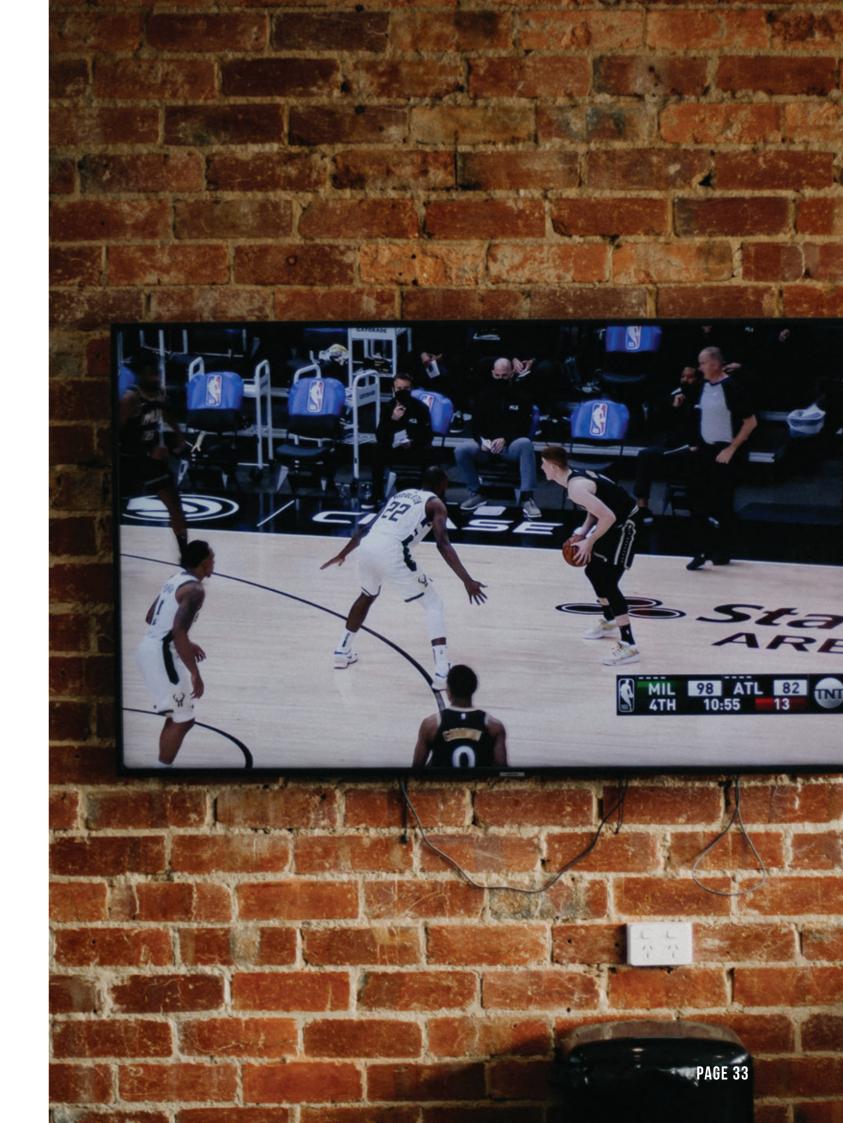
Cross-media audience measurement

Numeris also recently announced its audio strategy to expand radio measurement; phase one, is to integrate members' radio streaming data with the PPM radio service. Named "Make Radio Measurement Whole", this phase will integrate live streaming audience data to the PPM radio service in order to provide a more complete picture of audio audiences to better inform audio transactions made today.

Set to begin in the Autumn of 2021, the second phase of Numeris audio strategy will measure all publishers and streaming services. Named the "Same Ruler" strategy, it will use existing meter technology (currently capturing online video audiences under VAM) in measuring audio streaming services and providing a full view of the audio landscape, including deduplicated audiences between radio and streaming services (Spotify, Apple Music, Amazon Music, YouTube Music, etc.) and insights by device.

In 2020, Numeris concluded an industry-wide conversation around the associated cross-platform metrics that will come with VAM. These industry discussions will continue under a new cross-media industry advisory group.

With Audio Measurement, Numeris cross-platform measurement strategy has evolved to Cross Media; one panel capturing consumption of linear and digital video and audio content, reporting audience behaviours from all platforms and devices on a duplicated and unduplicated basis.

Is there a TAM panel system?	Yes
Who runs it?	MOC
TAM panel size?	1,200 households
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes: A digital meter panel measures viewing via streaming on all connected devices, and a cookie-based web profile panel covers all digital devices. All devices are measured (TV, laptops, tablets and smartphones). These data are being used for trading.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method in use: New hybrid measurement delivering daily infused online and TV ratings launched on Jan 1st 2017.
Data sources used?	Tagging data (census data) and people meter data.
How is deduplication done?	By use of reference panel.
Is advertising and/or content measured?	Both advertising and content are measured.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	All broadcaster output on broadcaster platforms is included. Broadcaster output on other platforms such as distributor's streaming services is also included. Broadcaster output on other platforms such as YouTube or Facebook is not included.
Is non-broadcaster content measured?	No. Others have been invited to join, but due to the tagging obligations, they have declined.
Data used for airtime trading?	The fused online and TV ratings based on correctly tagged content viewed within 7 days of broadcast on a linear channel.
Are these data used for planning? evaluation? trading?	All

DENMARK

Daily fused streaming- and tv-ratings

Denmark is one of the countries where the market has access to a cross-media ratings' currency in the form of daily fused streaming and TV ratings. This has been in place since January 2017, with Kantar as the provider of the service for the Media Owned Contract consisting of Turner, NENT, Discovery, DR, Disney/Fox, Viacom, and TV 2.

The methodology is based on a standard TAM panel (1.200 households / 2,600 individuals) measuring TV sets and smart TVs. This panel is complemented by two online panels: a separate digital meter panel of 1,100 individuals measures viewing via streaming on all connected devices (PCs, tablets and smartphones); and a cookie-based web profile panel composed of 25,000 people covering all digital devices. The latter provides additional information on the profiling of streaming viewers.

Streaming data is collected through tags implemented in the online content of the eight participating broadcasters and their proprietary players, as well as online players of pay TV distributors. This enables Kantar Media to get census data – total traffic measurement of all tagged content. Data from the digital meter panel is fused with data from the TV panel, while the web profile panel and census data are used for calibration.

The fusion is done on respondent-level data, thus sustaining the option for reach calculations on user-defined targets.

Reporting and insights

During the first three years of the new service, the uplift in viewing (daily minutes, all individuals 3+) due to streaming increased from 3% in 2017 to 6% in 2019. It must be noted that several factors are in play: Firstly, viewing of online content has increased in recent years in Denmark, while linear television viewing has declined. Secondly, the amount of correctly tagged content has been steadily growing, allowing for more streaming to be registered as valid online viewing and becoming part of the validated ratings' currency in the market.

Streaming data in the fused streaming- and TV-ratings are based on correctly tagged content viewed within 7 days of broadcast on a linear channel. Thus, the reported ratings do not reflect non-broadcaster streaming (e.g. Netflix, HBO Nordic or YouTube) as tagging requires active participation in the measurement. Furthermore, pre-broadcast viewing or content viewed more than 7 days after linear broadcast are also not included.

As a way to get oversight of non-reported viewing in the data collection and reporting methodology, Kantar runs an additional biannual report based on a questionnaire, which provides insights on the amount of streaming on non-broadcaster and pay TV platforms. According to the 2Q 2019 edition of this report, the tipping point between streaming and traditionally distributed TV has been surpassed for people between 12-39 years old – meaning that over 50% of their daily viewing time takes place via streaming.

From the very beginning of the Danish Television Audience Measurement via meters in 1992, it has been the goal to be transparent about what is included in the official measurement system. While the challenge of data collection and audience measurement has never been more immense than the case is today, it is positive that the market has accepted the fused streaming- and TV-ratings as a fair and realistic reflection of viewing behaviour in Denmark.

FINLAND – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes
Who runs it?	MOC
TAM panel size?	1,000 Households (2,100 individuals)
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes (except advertising): Total TV measurement of content and channels (excl. advertising) is done with router meters in the TAM-panel, incl. census data from main broadcasters. All devices are measured. These data are not used for trading.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method in use: Hybrid measurement (Total TV) has been up and running since autumn 2018. The possibility of adding advertising to the measurement is currently being reviewed.
Data sources used?	TAM (Finnpanel, Nielsen meters), Kantar router meters in the panel + census data of online viewing (Adobe + other).
How is deduplication done?	Using a single source panel for TV and online video across all devices.
Is advertising and/or content measured?	Linear TV advertising is measured in TAM. Broadcaster content is measured on all platforms.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	Broadcaster AVOD content on all platforms is measured, broadcaster SVOD not fully. Other platforms on other devices than TV are not measured.
Is non-broadcaster content measured?	Finnpanel measures and can report the amount of usage of Netflix, HBO Nordic and YouTube from TAM panel home networks. This is measured at overall service level, but not included in official data.
Data used for airtime trading?	TAM is the currency for trading TV campaigns. AVOD is traded separately (based mainly on ad-server data).
Are these data used for planning? evaluation? trading?	Total TV data is used for planning and optimisation of campaigns on TV channels and AVOD services, and for reporting total audiences of programs in different target groups.

FINLAND

A single-source measurement with census data

In Finland, Broadcaster Total TV is monitored thanks to a single-source measurement solution based on the TAM panel that is already in place and consists of 1000 households / 2,100 individuals. It measures TV-sets and Smart TVs using Nielsen's technology, and other devices (PCs, tablets and smartphones) using Kantar Media's router meter. A method and calibration similar to that used in Norway have been up and running since late 2018.

The three main Finnish broadcasters – Nelonen, MTV and YLE – also deliver online viewing data to Finnpanel / Kantar Media to enable the calibration and Total TV ratings. Broadcasters have switched from Comscore to other online traffic measurements: YLE and MTV use Adobe Video and Nelonen uses a proprietary method. These measurements are audited quarterly by an expert to ensure the quality and uniformity of the census measurement and to avoid under- or over-reporting.

This information is used to calibrate the data derived from the single-source TV and router meter measurement. The Total TV measurement delivers ratings and reach for programs on basic demographics as well as the viewing time and reach of the VOD services as well as the total (TV + VOD) for each broadcaster involved. In 2019, the total level of online viewing of all viewing was 7% and as much as 32% on target group 15-24.

Improvements in the methodology and prospects

AVOD and SVOD content are reported separately (the same content may be available in FTA channels, AVOD and SVOD). Census data that overlaps TV-viewing on the same TV screen has been fine-tuned in the calibration process.

The possibility to measure and report Total TV campaigns is also under discussion and investigation, and a continuation of the auditing of census data is planned as the quality and stability of it is crucial.

Is there a TAM panel system?	Yes
Who runs it?	Médiamétrie which acts both as a measurement company and as a JIC for TV, radio and internet measurement.
TAM panel size?	5,000 households (Mediamat Panel) 4,500 individuals (Portable Meter Panel)
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes: A new official TAM launched in 2020. It combines data from the Médiamat panel (measuring TV set consumption at home for the 4+ population, including guests aged 4-14) and a new portable meter panel (measuring radio and OOH TV consumption on all devices for the 15+ population) via watermarking. Panellists are equipped with a pager which allows the separation of OHH and in-home TV consumption. Devices measured include TV set consumption at home and OOH TV consumption on TV, desktop, mobile or tablet. These data are used for trading and there are plans to also integrate TV consumption on internet devices at home in the official TV ratings in 2022.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method in use: Streaming data from Internet screens are available using our eStat tag, used by all major channels. Discussions to expand are in progress with TV operators in France.
Data sources used?	Mediamat Panel and eStat Data
How is deduplication done?	Using a single source panel measuring TV and Internet consumption.
Is advertising and/or content measured?	Both advertising and content are measured.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	Only broadcasters who have included a tag are measured. All major French broadcaster platforms are measured or are in the process of being included in the measurement. Broadcaster content on other platforms (e.g. Dailymotion, MyCanal, B.TV) is measured with the eStat tag, as well as YouTube using a different methodology.
Is non-broadcaster content measured?	It is possible in the Internet Video Measurement, using the eStat tag. Content providers measured include for example Prisma Media, Groupe Figaro/CCM Benchmark and Bouygues.
Data used for airtime trading?	Médiamat data
Are these data used for planning? evaluation? trading?	All

FRANCE

The official TV ratings in France

Television audience measurement is carried out in France by the research company Médiamétrie. The organisation has a rather unique position as it acts both as a measurement company and as a JIC for TV, radio and internet measurement. It also provides its scientific and technological expertise to Kantar that operates the press measurement in France. For its measurement, Médiamétrie has built fixed and portable meters, and has its technology licensed to several countries, including India, Morocco and Norway.

Traditional TV audience measurement in France covers all TV sets in-home, including time-shifted TV (program viewed via digital video recorders (DVD-R & PVR) and replay TV (services provided by channels that let viewers watch TV programs on demand for free), and Out-of-home TV consumption has recently been added to the official TV rating.

Additionally, Médiamétrie has provided four-screen total TV ratings (without demographics) on a daily basis at programme level since early 2016. Data on demographics are available on a monthly basis at TV channel level. As part of this process, a four-screen single source panel consisting of 3,500 households is used, which is co-owned with Google.

Mediamat 2020: From TV ratings on a TV set to a four-screen measurement in the official TV ratings

On 30 March 2020, Médiamétrie launched a new official TAM which combines data from its established Médiamat panel (5000 households, 4+) which measures traditional TV audiences at home, and a new portable meter panel (4500 individuals, 15+) which measures out-of-home TV consumption thanks to watermarking recognition.

The panellists are equipped with a pager which detects beacons at home, allowing a separation of out-of-home and in-home TV consumption. TV consumption of this panel will be fused with the Médiamat Panel in order to propose to the market an official TV rating including:

- The TV set consumption at home for the 4+ population (including the guests for the 4-14 population).
- Out of home TV consumption on TV, desktop, mobile or tablet for the 15+ population.

The new official TV measurement covers all channels for both content and advertising analyses. As a next step, Médiamétrie plans to integrate the TV consumption on internet devices at home in the official TV ratings in 2022.

Internet Video measurement to benchmark all video publishers

Médiamétrie's online measurement expertise has provided an opportunity to measure Internet usage and video across screens and devices. The first metered internet panel was launched 18 years ago under the company's joint venture with Nielsen – called Médiamétrie/NetRatings – and this was expanded to include smartphones in 2010 and tablets in 2012. These mobile and tablet panels include iOS and Android devices. Since 2013, Médiamétrie has been working to unify these panels into a single measurement, and the results of the first three-screen Internet measurement were released in January 2015.

Médiamétrie also developed a video content measurement on all internet screens, based on a single source Google/Médiamétrie Panel and on census data (eStat'Streaming logs). Since September 2019, YouTube results are published alongside other online video publishers as press and TV publishers.

The single source Google and Médiamétrie Panel

Set up in March 2013, this 3.500 household panel is audited, examined and supported by CESP (Centre d'Étude des Supports de Publicité). Television audience

data is measured by Médiamétrie using the same meter technology and data processing as for its TAM ratings service. The online measurement is relying on router data and has been extended by adding an on-device meter that allows a more in-depth capture of online audiences.

Enhanced measurement of thematic channels using TAM and set-top box data in a hybrid model

In 2014, Médiamétrie developed a new hybrid television measurement initiative to improve the granularity of the measurement for thematic channels, with the support of Pay TV Operator Canal+. This project is separate from the current four-screen measurement outlined above, and it uses different data sources and methodologies. In this case, the term hybrid refers to the combination of people meter TAM data and return path data (RPD) from a sample of set-top box television decoders. Therefore, census data does not form part of this model.

Smaller and niche thematic channels in France are challenged by the competition from online video platforms, and it is difficult to achieve granular audience reporting using the traditional TAM approach. Therefore, the objective was to enable measurement of thematic channels with greater granularity and to increase the reporting frequency. Médiamétrie's solution is built on RPD delivered initially by a sample of about 10,000 Canalsat decoders, with demographic information appended using an individualisation model.

The household data is acquired using CATI/CAWI surveys. The RPD data is then used to enrich the viewing data from the Médiamat TV measurement service. The challenges for this form of hybrid measurement are twofold: firstly, differentiating times when a decoder is on (and returning RPD) but the television set is switched off; and determining who and how many members of the household are watching at any given time. The first of these is addressed by using the TAM panel viewing data to identify and transform RPD logs that do not

correspond to actual viewing. The question of who is watching is addressed using an individualisation process.

Comparison of the results of this hybrid measurement with the Médiamat TAM data shows good consistency. The granularity of the measurement is improved, and use of a much larger sample than just the people meter panel provides lower volatility and fewer zero ratings.

This approach is not expected to replace TAM, as it is not yet adapted to provide a trading currency for large channels (or television watched on non-RPD compatible methods), but the objective is to extend the project to cover a greater range of thematic channels and TV operators in France in the future, as well as to measure Addressable TV.

GERMANY – TOTAL VIDEO MEASUREMENT – QUICK FACTS	
Is there a TAM panel system?	Yes
Who runs it?	JIC (AGF Videoforschung)
TAM panel size?	5,400 Households
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes: Measurement via separate online panels for mobile and desktop with a single source share of these panels. Besides the TV set, AGF measures mobile (smartphone, tablet) and desktop devices (desktop or laptop). These data are not used for trading.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method in use: Data are available and being used for channel/programme audiences.
Data sources used?	Usage data from TV, mobile and desktop panels and census measurement data for streaming usage.
How is deduplication done?	Deduplication is done by panel measurement (hybrid approach that combines panel and census data, single source and data fusion).
Is advertising and/or content measured?	Both advertising and content are measured.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	Yes – all tagged content is measured. Broadcaster output on other platforms is not measured.
Is non-broadcaster content measured?	AGF is currently working on an open and integrated market standard into which third-party data can be integrated.
Data used for airtime trading?	n/a
Are these data used for planning? evaluation? trading?	n/a

GERMANY

On the way to an integrated standard

AGF Videoforschung (AGF) is responsible for independent video measurement and research in Germany as a neutral entity. It continuously collects and analyses quantitative data on the use of video content and advertising. The company invests more than EUR 35 million per year to optimise its system and consults closely with all market partners, including broadcasters, advertisers and media agencies.

The AGF system currently comprises three panels for TV, desktop and mobile. A GfK-operated TV panel consisting of around 11,000 panellists in 5,400 households collects television usage data. Today, usage is mostly measured by way of audio matching using the TC UMX measurement technology. In addition, AGF has integrated single source measurement elements to capture online video usage in the original TV panel by installing routers in the TV households. The router meter is currently delivering data from around 1,000 panel households comprising more than 1,700 individuals. Using router measurement technology, developed by GfK on behalf of AGF, allows for the measurement of viewing across streaming services on smart TVs in the AGF (TV) panel. In this way, the average daily viewing of selected video platforms, such as Netflix and Amazon Prime Video, on big screens can be determined. Throughout the latter part of 2021, the router technology 2.0 will be rolled out, which will enable the measurement of all devices owned by household panellists, including the video streaming usage on smartphones and tablets.

Measurement of video streaming usage

AGF cooperates with Nielsen to measure linear and non-linear video streaming through a desktop panel comprising around 15,000 panellists, measuring PC and laptop usage. These data are calibrated to the parallel census measurement and have been merged with the TV panel data since 2017.

AGF also cooperates with Nielsen on the measurement of video usage on smartphones and tablets through a mobile panel with around 6,000 participants. Mobile streaming data have been available to the market since May 2019.

Both the desktop and mobile panels deliver information on demographics, net reach values, page views and session durations, while the census measurement provides information on page views, overall usage and also session durations.

Integrated market standard

Since May 2019, AGF has been providing convergent video usage data (TV + Desktop + Mobile) on a daily basis and no longer on a monthly basis. The time lag from measurement to disclosure is now only eight days, instead of 28 days previously.

For both mobile and desktop measurement, only those streaming offers that are equipped with AGF measurement software (Nielsen SDK) can be tracked. The combined measurement of desktop and mobile usage allows publishers and agencies to differentiate performance values for streaming usage by device type.

When it comes to tracking video usage from third parties who do not participate in the measurement, AGF takes a different approach to integrate these data. Integration of such data in the AGF system can be done once they have been audited, bilateral contractual obligations have been fixed and data granularity and metrics comparable to those publishers measured with the SDK have been defined in accordance with AGF's specifications and conventions – of course respecting all GDPR-requirements. Based on a "follow the content" principle, i.e. the importance of measuring content and ads across platforms, AGF is currently working on an open and integrated market standard into which third-party data can be integrated.

Nielsen DAR

Another important project that AGF is currently pursuing is the measurement of cross-media campaign reach using Nielsen Digital Ad Rating (DAR). With this project, AGF is meeting an urgent need of the market. For years, advertisers and media agencies have called for a uniform standard for measuring campaign reach values (see the interview).
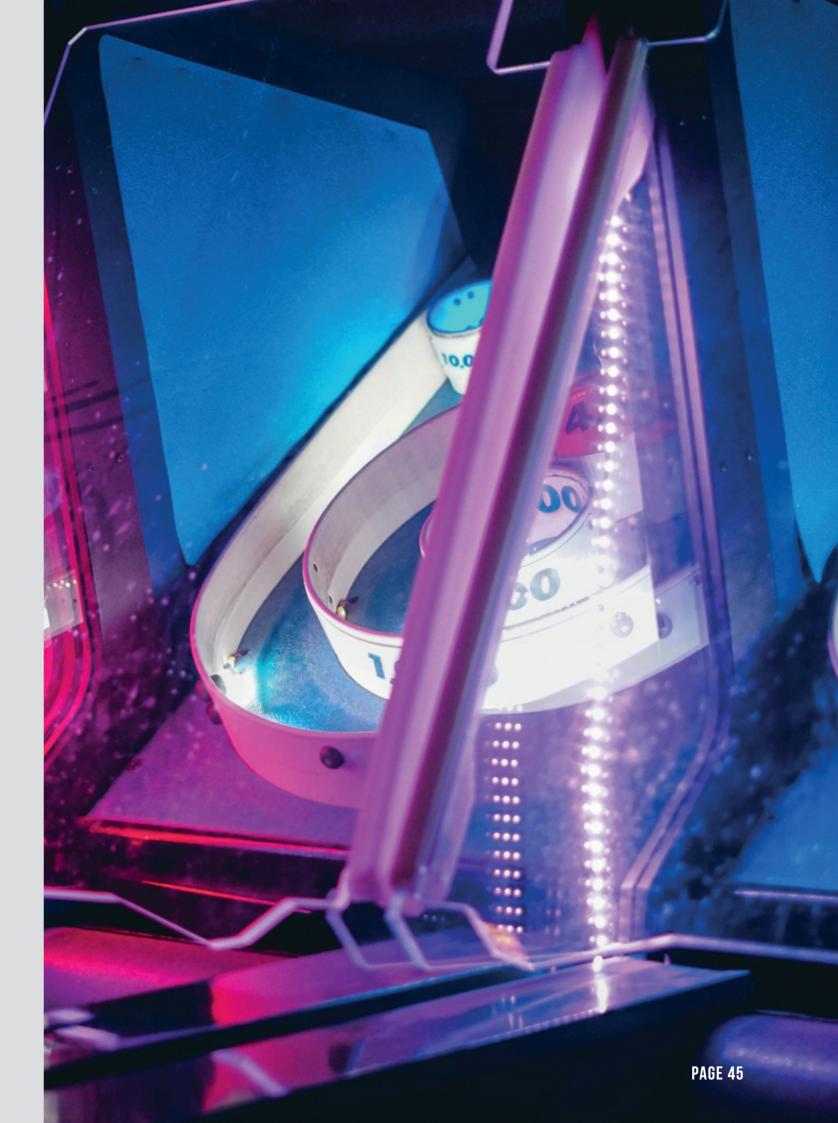
Interview with Kerstin Niederauer-Kopf, CEO of AGF Videoforschung GmbH

egta: *AGF is currently cooperating with Nielsen and has launched the project "Follow the Campaign". What does this project involve?*

Kerstin Niederauer-Kopf: With "Follow the Campaign", AGF extends the approach "Follow the Content" and is developing a cross-media measurement of campaign reach values in response to a genuine market need. Now more than ever, advertisers and media agencies are calling for the cross-channel transparency and comparability of offerings in view of fragmented media usage. As the long-time partner of AGF, Nielsen is offering an established tool, Digital Ad Rating (DAR), which is already in use in more than 30 countries.

egta: *How are advertisers reacting to DAR?*

Kerstin Niederauer-Kopf: In a very positive way. Our philosophy is to work with the market as closely as possible and consistently strive to meet the market's demands. The support we are receiving from agencies and advertisers is truly unique. By working together with Nielsen DAR, we provide answers to a crucial question of advertisers, namely the contribution of individual platforms to the development of net reach values. We will continue to work on the DAR project in order to deliver even more detailed data. In the meantime, more than 20 campaigns have been completed and most of them have already been merged with TV. Additional tests in order to expand the data set and improve the methods are being planned. Our goal is to set a standard for cross-media campaign measurement.

INDIA – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes
Who runs it?	JIC (BARC India)
TAM panel size?	180,000 individuals (44,000 households)
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	No
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method being discussed: In discussion with various non-linear distributors and working towards identifying appropriate source for data.

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"BARC India is privileged to be the currency of measurement for TV viewing in India – we measure and report with great diligence and statistical accuracy what India watches. The base of homes and individuals being measured is consistently growing. BARC India is the biggest measurement of TV audiences, in the world."

––– **Sunil Lulla**, CEO, **BARC India**

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INDIA

BARC India Footprint

The Broadcast Audience Research Council (BARC) India is a Joint Industry Company founded by stakeholder bodies that represent broadcasters, advertisers, as well as media agencies. It powers efficient media spends and content decisions in a highly dynamic and growing television sector. Apart from the currency products for the TV industry, BARC India also provides a suite of insight products designed for Broadcasters, Advertisers and Agencies.

Some key features of BARC India are:

- Largest Audience measurement Panel in the world.
- We monitor 300 million minutes of video content across 600 channels.
- We measure what 836 million Indians watch on TV every day, every minute.
- Processing 10 PB data.
- Single currency behind transaction of 5.7 BN USD of TV advertising & content spends.
- Impacting 5.2 million jobs in the media & entertainment (M&E) industry and more in other allied industries.
- We measure 93% of all video content consumption in India.
- Measurement for 45% of Indian M&E industry (TV) with a vision to be the single source measurement for entire M&E.

Data Collection Mechanism

With a panel size of 180,000 individuals (44,000 Households), BARC India is the largest measurement company of its kind in the world. As determined by the Indian Ministry of Information & Broadcasting, the minimum panel size to be maintained is 20,000 reporting households to be raised by 10,000 households each year until it reaches 50,000, which is expected in 2020.

The BAR-O-meters (TV set meters) placed in BARC's reporting homes are compact and use the latest technology. They have a 3rd-generation OLED display (which is more visible to facilitate interaction between the viewer and the meter), and an embedded SIM to automatically upload viewing data (tie-ups with leading GSM operators ensure wide coverage). As they are indigenously manufactured, they cost almost one-sixth the price of imported meters, which has enabled BARC to increase the panel size to measure TV viewing.

The Indian system captures data about TV content consumed through all forms of distribution – terrestrial, DTH, analog cable, digital cable, IPTV etc.

BARC is planning to extend the measurement to digital advertising and to the measurement of linear broadcast feeds on digital devices through streaming over the internet. There is a planned phased approach to launch multi-screen measurement.

Data Reporting

BARC India pioneered the measurement of the rural market in 2015, which contributes to close to 50% of the TV viewing in India. This development had a significant impact on marketing and media planning, as only urban markets were measured and reported before 2015.

In 2019, BARC made the viewing split of Pay vs the Free Platform available to stakeholders. Pay Platform refers to households that pay to access TV channels. It includes Pay DTH (like Tata Sky, Airtel, etc) and Pay Digital Cable (Like Den, Hathaway, etc). The Free Platform refers to households that do not pay to access TV channels, and includes DD Freedish and Terrestrial connections. The split is at an overall Pay Platform (Pay DTH & Pay Digital Cable) and Free platform (Free Dish and Terrestrial) and is not available at an operator level.

Apart from the linear TV viewing data, BARC also reports time-shifted viewing (including VOSDAL for reporting purposes) as well as Simulcast viewing which provide details of programs broadcast

simultaneously on more than one channel. Viewing of individual channels is tracked through watermarking technology.

BARC Out-of-home TV Viewing

In 2018, BARC India began measuring OOH content consumption. It started with tracking viewership of individuals (15+) across more than 900 establishments in Mumbai, Delhi, and Bangalore, using more than 1500 TV set meters and using audio watermarking technology. This service turned out to be a game-changer for the industry as it uncovered a significant share of TV viewership which previously was not measured. The viewing data showed that out of the total OOH viewing, 70% accounted for sports followed by movies (10%) and music (8%).

In 2019, BARC India integrated TV and OOH TV viewing in the currency data, making it a first of its kind. This unlocked great value for the entire broadcast industry, especially for the big-ticket sport events like Cricket World Cup, Indian Premiere League etc.

IRELAND – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes
Who runs it?	JIC (TAM Ireland)
TAM panel size?	1,111 Households
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	In progress: Streaming meter being rolled out to 300 homes (260 on panel and 40 in non-TV homes). Devises measured: TV set, PC/laptop, tablet, smartphone. These data are not yet used for trading.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Work in progress: TAM Ireland is currently exploring ways to capture and report census-level data from the broadcaster OTT players' content and commercials, and how return path data can play a role in enhancing the panel data.
Data sources used?	Currently building a Broadband Panel.
How is deduplication done?	n/a
Is advertising and/or content measured?	Currently looking at options for capturing and reporting census-level data for advertising and content.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	Only at a topline level.
Is non-broadcaster content measured?	Only at a topline level.
Data used for airtime trading?	Nielsen TAM data is used for TV airtime trading.
Are these data used for planning? evaluation? trading?	All (for linear TV only).

IRELAND

The AV Data Solution: Providing an Interim Solution

Over the last years, TAM Ireland have been providing the Irish market with an annual update of the AV Data Solution; a snapshot of the total viewing market at a moment in time and provides reach, both net and incremental along with share. It covers all formats – Live, recorded, BVOD, short-form and SVOD and all devices: TV Set, PC/Laptop, Tablet, Smartphone.

It provides the market with an overview at a very broad level using a combination of TAM data along with data from the establishment survey, and integrating this with a specially commissioned study – The Total Viewing Study.

Working with Nielsen's data science team in Ireland, all of the above data sources are integrated to provide the AV Data Solution. The output provides data across 16 trading demographics and has been widely used by the industry in Ireland to give a broad understanding of viewing trends.

The AV Data Solution was intended to be a short-term interim solution until a more robust solution was put in place, and TAM Ireland have now moved on to the second phase of this plan.

Moving things on: Constructing a broadband panel

In 2019, TAM Ireland increased the panel size to 1,111 households to ensure a minimum reporting sample of 1,000 households daily, and to ensure a high level of representativeness.

Alongside this, a broadband panel is being built as a subset of the TV Panel, using the GTAM Nano meter in combination with a new Streaming Meter, both from Nielsen.

The initial plan is to build a panel of 300 broadband panel homes, and from the outset it has been made mandatory to include all devices in the home. This approach has worked well to date, but due to the Covid-19 crisis, recruitment was put on hold and data release is delayed. As of mid-2020, 91 homes were reporting into the Broadband panel.

A very steady approach to the build has been taken where recruitment is done from existing TV panel members. In order not to upset the trading currency in any way, the total build is expected to take almost 2 years to complete.

Having this panel in place will enable for the first time the reporting on panellist viewing behaviour across all devices – TV sets, laptops, mobiles, tablets, games consoles - and deliver analysis into how Irish viewers are consuming content from all service providers. It will also give new insights into how the broadcaster OTT players perform alongside the traditional linear TV channels. Crucially, it will also capture digital services such as Netflix, Amazon and YouTube, and provide insights of how these are performing on both TVs and other devices. In recent years, there has been a significant growth in unidentified viewing on TV sets and this development will bring this into the light, and allow clients to understand the full competitive environment.

What's next?

The next phase of TAM Ireland's project will be to agree on capturing and reporting census-level data for all players' content and commercials. It is being explored whether and how return path data can play a role in enhancing the panel data, and TAM Ireland is in active discussions with providers on this.

ITALY – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes
Who runs it?	JIC (Auditel)
TAM panel size?	16,000 households (2,000+ equipped with Focal Meters equally distributed across PMP and SMP)
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes: Video viewed on connected devices using websites and apps are measured with SDKs and single source panel. TV, connected devices, desktop, mobile and tablets are measured. These data are currently not used for trading.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method in use/in progress: Census data from broadcaster content is in production and the full deployment of Focal Meters started in early 2020. Working on a local solution.
Data sources used?	SDK and single source panel.
How is deduplication done?	Working on an internal solution that leverages Focal Meters, including customised digital device assignment process.
Is advertising and/or content measured?	Both advertising and content are measured.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	85 % of all major broadcaster platforms are measured. Work in progress for other platforms.
Is non-broadcaster content measured?	No
Data used for airtime trading?	Currently linear TV only. AdTracking on digital is in the scope for digital trading (scheduled to be available by end of 2021 and named CUSV project).
Are these data used for planning? evaluation? trading?	Linear TV data for planning, evaluation and trading. Digital in progress.

ITALY

Auditel: Super Panel

Work on the Super Panel project started in 2014, and became a currency in July 2017. The project was created as an answer to the fragmentation observed in various TV markets across the world, and particularly in Italy where, out of more than 200 TV channels, only 32 TV channels were measured on a daily basis back in 2006. This number was up to 219 in 2016 already.

Another serious issue was the lack of capacity to measure TV and video content on devices other than TV sets. To tackle this, Auditel increased its measurement basis from 32 million traditional TV sets to 130 million total viewing devices including OTTs, smartphones and tablets where people are able to stream video and TV content. Auditel took major steps towards hybrid measurement in 2019, as it launched census measurement on browsers and mobile devices.

The Italian approach: Smart Single Source

The project started with an international benchmark to create a tailor-made solution which became the "Italian approach": using all the benefits of a single-source approach without the typical issues of low collaboration level and low acceptance rate. The specificities of the approach involved the following:

- Tripling the panel size to get maximum benefits in terms of data quality and stability: the panel size went from 5,600 to 16,000 households.
- Maximising effectiveness in terms of compliance from the panellists' perspective to create an economically sustainable 'smart single-source' model.
- Having an optimal collaboration with the people in the measured households to ensure a very stable panel.

Answering both the TV content measurement fragmentation and the need of incorporating a new digital measurement solution.

The Super Panel currency

Auditel replaced the traditional people meter with a 'set meter panel' to create the Super Panel Currency. In terms of implementation, the two devices are exactly the same, they measure TV on and off, they are capable of measuring the device providing content on TV, they are equally able to measure the content tuned on TV.

The difference stands with how people are measured. With the people meter, there is a remote control and a traditional display where it is possible to detect who is actually in front of the TV. On the set meter panel, to have an optimal collaboration with the households, the people meter is not installed. This means that the measurement is very accurate for both panels. The two panels are equally balanced and equally representative of the Italian population.

The benefits of the Super Panel are the more granular data and a reduction of the zero ratings on the day of broadcast.

Towards full hybrid measurement

During 2019, Auditel completed SDK implementation on the major broadcasters' properties in two stages. In July, the census measurement on browsers was launched, while it was launched in early December for mobile applications, following a quality control process to ensure the same level of quality across multiple broadcasters. Census data was released in 2019, while Smart TV SDK integration is ongoing, completing the portfolio of the measured platforms. To maximise the effectiveness of the control process, Auditel has created an internal technical team fully devoted to digital data production.
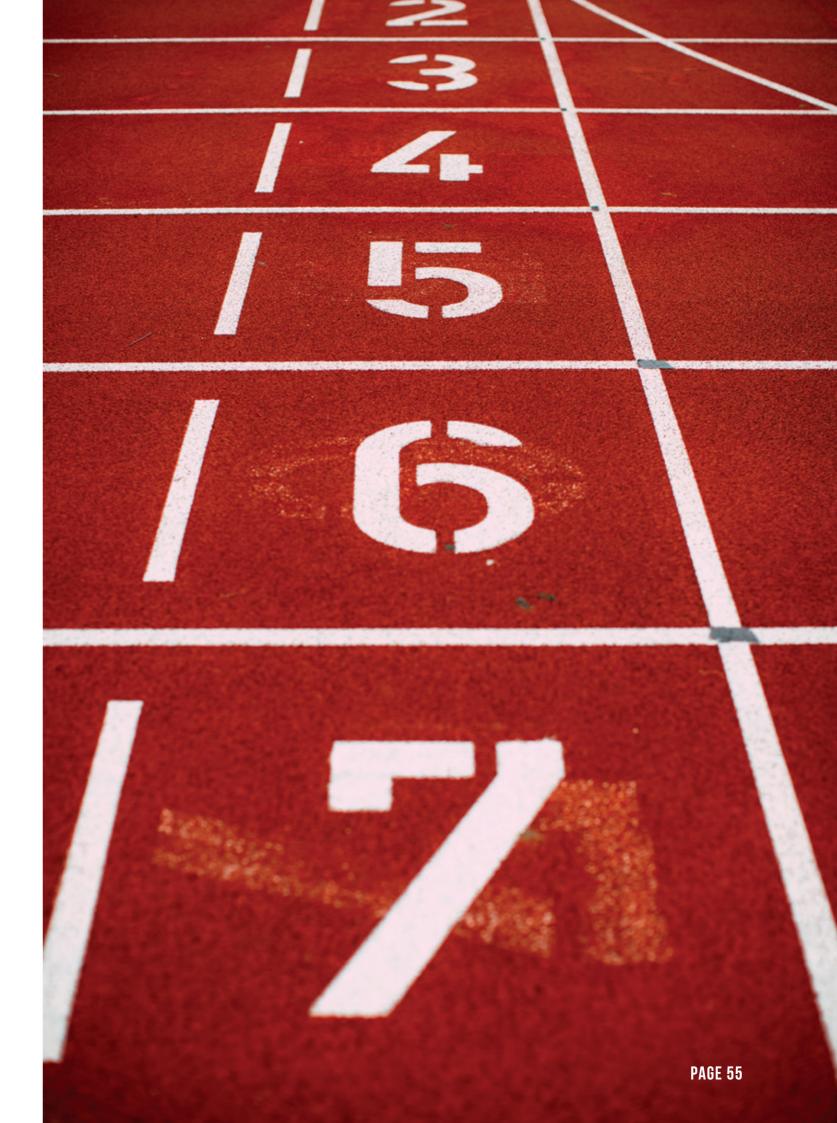
The data release was complemented by the introduction of a new "Digital Auditel Golden Rule" which sets the basis for the analysis software calculation procedures. The Golden Rule, coming from the experience with the Auditel Super Panel, is meant to ensure that the same analysis made on different

software provides the same results. Data is delivered daily (except Saturday and Sunday), as for the linear TV currency.

From a panel perspective, Kantar's Focal Meters were installed in more than 2,000 TV panel homes as of 2021, following the successful completion of the initial 500 household pilot. The major benefits of this solution are the low level of invasiveness, which provides a more stable sample, and the coverage of out-of-home viewing.

Since the beginning of 2020, Auditel has been working to harmonise broadcasters' metadata catalogue (the so-called Content Library) and on the launch of the "Unique Identifier for Commercials" (the so-called CUSV code) to provide a unique campaign coding system to the market to facilitate the analytic process for the Digital Platforms, while the extension of the project to Linear TV is planned for end of 2021.

The main focus for the 2021 roadmap is the release of a "Single Source" currency for both content and campaigns in the Italian market, leveraging international best practices, the Focal Meter installations and the Auditel infrastructure.

JAPAN – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes
Who runs it?	Research company (Video Research Ltd)
TAM panel size?	9,700 households
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	No: Currency panel is only for linear TV, but a marketing panel allows for single source multi-screen research for TV, PC, mobile data measurement.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method being discussed.
Data sources used?	Data derived via SDK from digital content and advertising and match up with panel for profile identification.
How is deduplication done?	On an experimental basis on the marketing panel.
Is advertising and/or content measured?	Streaming content and advertising can be measured on platforms where SDKs are inserted.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	As above
Is non-broadcaster content measured?	Work in progress
Data used for airtime trading?	TV currency data
Are these data used for planning? evaluation? trading?	Currency panel data is used for all. Single-source multi-screen marketing panel is used for planning.

JAPAN

Video Research – Japan

Video Research is the sole provider of a TV currency via TV audience measurement in Japan. As Japan's major media research company, its service offerings also include media data for radio, print, OOH and internet (Internet market data is provided via the subsidiary *Video Research Interactive*). In addition to measurement data, it also provides advertising statistics data for each media.

Two types of TV audience measurement data are provided. One is the TV currency data from the home panels, and another is the overlapping use of TV and digital use via the "VRCUBIC" single source panel.

The TV audience measurement service was expanded in March 2020 to include:

- 9600 household in 27 areas.
- Measurement of individual viewing from mechanical people meters in 27 areas.
- Daily data available for the 27 areas.
- Time-shifted viewing data available in the 27 areas.
- National level viewing data from 32 areas (including 5 areas via survey format).

The Japanese market is still dominated by live viewing on TV, but Video Research is reviewing the possibility to include the streaming of major broadcasters' content in the currency.

Launched in 2015, the VRCUBIC single source panel provides marketing data.

- It monitors the activities of 5000 individuals in the Tokyo metropolitan area and 3 other regions, using mechanical people meters (to be expanded to 8000 individuals by the end of 2020).
- For research purposes, a separate SDK is attached to content or commercials to capture data for digital consumption.
- Data collected are integrated with cookie and IDA/AAID from individual monitors.
- A survey may be added to this service.

VRCUBIC does not use fusion, but produces TV and digital data from a single source approach.

Another unique trait of VRCUBIC is that browser data is collected via monitors, and although it is currently only for Android users, data for apps are also collected with a software meter. Video Research has made advances in measuring mobile data, which is often considered difficult to measure in a panel. However, much is being done to ensure close communication with panel members and making the meter light weight and easy to use to facilitate interaction. Video Research is currently in discussion with Nielsen Digital to determine how to deploy the Nielsen Digital Ad Ratings (DAR) in this service with the expansion.

Following GDPR in Europe and CCPA in the U.S, Japan will soon establish laws and guidelines for individual privacy protection. Video Research strictly enforces the use of an opt-in/opt-out method when collecting panel data from TV and digital, and it only uses the collected information for the intended purposes explained upfront.

Is there a TAM panel system?	Yes: From July 2021, the solution will include a dedicated household panel with a people meter. TV will also be measured within a multimedia panel using a mobile app which also measures radio and online.
Who runs it?	JIC (SKO – now part of NMO which comprises TV, radio, print and online JICs).
TAM panel size?	People meter 1250 households, 2750 individuals. App meter 3500 individuals.
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Broadcaster output on other screens is in scope of this measurement. For linear TV, content and commercials (breaks sold in GRP's) is already in scope. For other short-form online video, content is included in the online measurement. A separate online campaign measurement (commercials sold in impressions) will commence at a later stage as the NMO measurement rolls out.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method being rolled out. In the household panel, both people meters and router meters will be combined. In the individual panel, the app meter measures both TV and online. The TV measurement overlaps with the online measurement. Census data from broadcasters and operators' web/app viewing will be added to the measurement at a later stage.
Data sources used?	In the new setup, TV and online panel data as well as census data from the TV operators' apps and websites will be used.
How is deduplication done?	By using a single source panel.
Is advertising and/or content measured?	Both advertising and content are measured (for online, only tagged content is measured, and at the beginning of the measurement, only TV/GRP breaks that are shown online).
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	All tagged broadcaster content is measured. Non-participating platforms will be measured on a platform/domain level.
Is non-broadcaster content measured?	Kantar's Focal Meter and Ipsos' MediaCell app will be able to passively measure non-tagged video content from AVOD/SVOD platforms at domain level.
Data used for airtime trading?	For TV, the currency is a week worth of viewing measured VOSDAL +6 days after. This will not change in the new setup.
Are these data used for planning? evaluation? trading?	TV data is used for all of these purposes. Cross-media data is intended to be used for all purposes at a later stage.

THE NETHERLANDS

NMO: the new Dutch audience Measurement

The Nationaal Media Onderzoek (NMO), representing the interests of the Dutch Media Industry, has

appointed Ipsos and Kantar to build a new integrated total media audience measurement solution to measure viewing, listening and reading audience consumption across the Netherlands as of 2021.

Who are involved?

The new total audience measurement solution is managed by three joint industry committees (JICs) and VINEX, which will operate jointly under the banner of Nationaal Media Onderzoek (NMO).

- NOM (Nationaal Onderzoek Multimedia): The publishing JIC responsible for the reporting and publication of the official Dutch readership currency for published media.

- NLO (Nationaal Luister Onderzoek): The radio JIC responsible for the reporting and publication of the official Dutch audio trading currency.

- SKO (Stichting KijkOnderzoek): The TV JIC responsible for the reporting and publication of the official Dutch TV and video trading currency.

- VINEX (Vereniging Internet Exploitanten): The internet media owner committee responsible for NOBO, the Dutch online reach study.

These four bodies are responsible for appointing and managing the research providers and for ensuring that the highest standards in audience measurement are maintained and upheld for all shareholders.

Participating media owners

Over 100 media owners including broadcasters and publishers who distribute content across platforms and devices participate in the measurement. Their interests are represented by the industry bodies for magazines (MMA), newspapers (NDP Nieuwsmedia), radio (RAB), TV and Video (Screenforce) as well as the interests of internet publishers (VINEX) and public broadcasters (NPO).

Participating agencies and advertisers

17 media agencies, jointly representing 60% of advertising spend in the Netherlands, will also participate. Their interests are represented by the Platform Media Adviesbureaus (PMA), the official industry body for media agencies in the Netherlands. The Dutch Federation of Advertisers, bond van Adverteerders (bvA), represents the interests of advertisers. Agencies and advertisers not represented by PMA or bvA will also have access to NMO data.

Global Platform inclusion

Facebook and Google have been kept informed about project progress since its inception in 2017, and the Dutch media industry is open to further consultation with any content provider or platform who is consistent with NMO's vision for currency-level data. Discussions with Google about the form of participation is ongoing, and there is a particular interest to include Google (YouTube) to achieve real cross-media measurement.
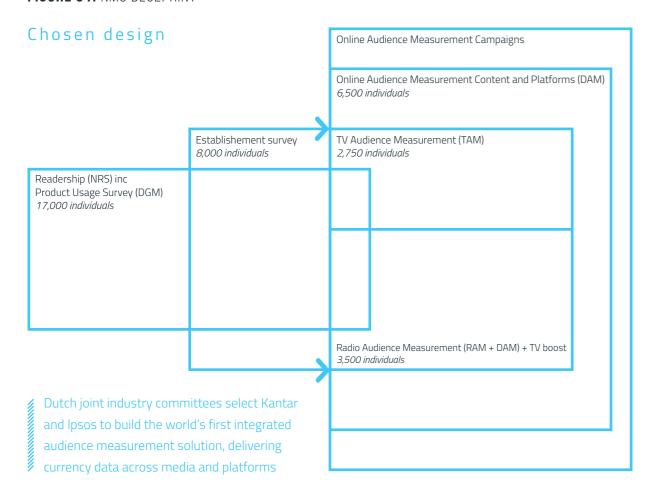
Design of NMO

The design is based on a single integrated measurement system to report all online media consumption and to fuel the TV, radio and reading media trading currencies. This single system is designed with a consumer-centric, rather than media-first, approach and will meet the highest standards for trading currencies, including design, data collection and processing. The total audience measurement system is designed to measure all media consumption of Dutch audiences – viewing, listening and reading – across all platforms, devices and environments. The design is flexible, enabling the measurement of new devices and technologies that may arise in the future.

NMO Roadmap

The first stage of the NMO has been to launch a new establishment survey which will be followed by the publication of the first NRS figures scheduled to

Chosen design

Online Audience Measurement Campaigns

Online Audience Measurement Content and Platforms (DAM)
6,500 individuals

Establishement survey
8,000 individuals

TV Audience Measurement (TAM)
2,750 individuals

Readership (NRS) inc
Product Usage Survey (DGM)
17,000 individuals

Radio Audience Measurement (RAM + DAM) + TV boost
3,500 individuals

Dutch joint industry committees select Kantar and Ipsos to build the world's first integrated audience measurement solution, delivering currency data across media and platforms

be available by July 2021. In January 2022, the new MediaCell radio currency will be introduced along with the new online figures. The last milestone is the start of the new TV audience measurement in July 2022.

The second stage is about cross-media measurement, which will be based on the Ipsos MediaCell panel. Expected to launch in 2022-Q4 or 2023-Q1, this panel will measure broadcast TV and radio as well as on-device usage of websites and applications. It is also likely that Kantar's Cross-Media Performance solution will be used to enable online campaign measurement. In developing a solution for online and cross-media measurement, the progress on WFA's cross-media measurement project and North Star ambition is being followed with a healthy interest.

Key points for TV

To make TV-measurement future-proof, SKO will invest heavily in scale and in technique to account

for the decline of linear viewing and the increasing fragmentation of content across devices. New techniques are required to support measurement of TV viewing on online devices and to prepare the measurement for upcoming addressable TV campaigns.

The key points of the new TV measurement within NMO

- The new Kantar people meter measures with high granularity which will enable fast identification, and will be essential for the recognition of addressable ads.

- Video viewing will also be measured within the Ipsos MediaCell radio panel using audio matching with the RealityMine technology included within the MediaCell app installed on smartphones. This will double the size of the TV panel.

- By enlarging the panel base with the Ipsos MediaCell panel, SKO can reduce the number of zero-rated ad breaks and will generate additional value to the broadcasters. Enlarging the panel base will also increase the reliability and stability of TV ratings for smaller channels and programmes.

- TV households will be equipped with Kantar's Focal Meter to measure online behaviour. This brings the possibility to identify 'other screen' usage on TV sets and to report TV viewing from SVOD platforms on a brand or possibly a programme level (if Kanter builds a SVOD reference site).

- The Ipsos Product Usage study from NRS will be integrated with TV data which provides the opportunity to plan TV campaigns on more sophisticated data (product, brand-usage and purchase intention).

- Online viewing via broadcasters and publisher

apps/websites will be covered by matching the census data with panel data. This form of TV viewing will be added to the trading currency.

- The integration with the radio and online panel will facilitate cross-media measurement and enable cross-media planning datasets and cross-media campaign analysis.

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"The announcement of the new Dutch audience measurement solution is a giant step closer to realising one true cross-media currency. We are proud to be co-leading the development of this advanced solution that leverages world-leading technology and data science capabilities. We will deliver an integrated measurement solution that provides the building blocks for cross-media planning, buying and evaluation of content and advertising."

Serge Lupas,
President, Media Division, **Kantar**

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"People have talked about cross-media measurement for a long time. But up to now the talk has been far louder than the walk. The Dutch JICs have succeeded where so many have failed in overcoming the many barriers to delivering this vision, which will measure media the way consumers and advertisers see and use it – regardless of platforms or media types. We very much look forward to delivering the first results; this project will be a real game changer."

Liz Landy,
Global Head of Audience Measurement, **Ipsos**

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NORWAY – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes
Who runs it?	MOC
TAM panel size?	2,500 households (in-home and out of home panels combined)
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes: Two separate panels capture in-home and out-of-home viewing with people meters and audio watermarks for channel identification. Online viewing is captured by tracking panel members' devices – router meters identify when online devices are being used in households and to measure viewing levels of non-participating services (SVOD, YouTube, etc.). TV, Connected TV, Connected Devices, Desktop, Mobile and Tablets are measured. Only linear data is currently used for trading.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method in use: Online viewing panel data is integrated with census level data for the broadcaster players in a daily calibration process, covering all device types.
Data sources used?	People meter data, router meter data, census data (Kantar SDKs and Kantar Scores tagging to identify content and ads).
How is deduplication done?	Using a single source panel for TV and online video across all devices.
Is advertising and/or content measured?	Both advertising and content are measured.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	Broadcaster content on broadcasters' platforms (broadcaster streaming services) is measured, but broadcaster content on TVE 2nd screen apps are not measured in-home.
Is non-broadcaster content measured?	Some SVOD (e.g. Netflix, HBO, YouTube) is measured at service level. Both viewing time and reach are measured, but not part of total TVOV (TV and Online Video). Instead it is reported as "Other usage".
Data used for airtime trading?	Linear broadcast and linear online.
Are these data used for planning? evaluation? trading?	All

NORWAY

In mid-2016, Kantar Media was awarded the contract to combine TV and online viewing in one measurement, also known as the Norwegian TVOV (TV and Online Video) measurement. Formally in place in January 2018, TVOV ties together the TV and online viewing of Norwegian households on all devices in and out of home, and provides a holistic view of potentially all TV and online video consumption, as well as valuable insights of how viewing is divided between screens and platforms.

Video measurement methodology

The TVOV measurement consists of two panels running in parallel (combined 2,500 households) and one census measurement for online which are combined in one dataset through advanced data integration.

Panel A consists of 3300 individuals (2-79 years) and captures broadcast in-home with people meters. Channel identification is based on Kantar audio watermarking and audio matching technologies. All online devices in a household are tracked in and out of home, and Kantar Focal Meters attached to routers in Wi-Fi homes help identify when devices are being used in households. The Focal Meter also measures non-cooperating players (Netflix, HBO, YouTube etc.) at service level, meaning that both viewing time and reach are measured, but it is not included in TVOV reporting. Viewing on online devices is done using Kantar SDKs and Kantar Scores tagging to identify content and ads. Online viewing in Panel A is calibrated towards census viewing levels using a virtual panel expansion which measures both content and ads.

Panel B consists of 1500 individuals (10-79 years) and has been employed to capture the high levels of out of home (OOH) viewing in Norway, particularly viewing in second homes. The panel deploys Médiamétrie's RateOnAir portable people meter, while channel identification is based on Kantar audio watermarks.

As with every multi-source measurement solution, the process requires a fusion of the different sets of data produced: the calibration of panel A data to census data, and the daily fusion of panel B data to panel A data.

The task for each participating broadcaster is to implement watermarks in the audio feed, to provide asrun logs, content metadata and to implement codes into player, channel and unique content-ID in streams. Commercial metadata is provided by Nielsen Media as an industry standard.

Challenges

As it is the case on many other markets, there is a general challenge with the tagging of online players and online content, as well as with keeping up with app/player functionality and design development. There is always some kind of uncertainty whether tagging is correctly implemented.

SINGAPORE – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes
Who runs it?	Government agency: Infocomm Media Development Authority (IMDA).
TAM panel size?	1,200 households
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	There is a single-source element between the TAM and digital panels. TVs, smartphones, tablets and computers are the devices covered. The integrated ratings are being used for trading.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method is in use.
Data sources used?	Census measurement (via tagging), people meter data and digital panel matching.
How is deduplication done?	Through the digital panel.
Is advertising and/or content measured?	Advertising (linear only) and content are measured.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	All content distributors that agree to tagging are covered, which includes all free to air broadcasters on the market.
Is non-broadcaster content measured?	All content distributors that agree to tagging are covered. A total of 42 content providers are tagged, of which many are non-broadcasters who carry video content.
Data used for airtime trading?	All linear data is used as well as integrated (linear + streaming) for free to air broadcast as a trading currency.
Are these data used for planning? evaluation? trading?	All

SINGAPORE

Bringing a fully integrated audience measurement solution to Singapore

As audiences are spoilt for choice and the devices that TV content can be viewed on become ever smarter and prolific, the challenge for content producers and advertisers to reach audience targets becomes ever more complex. At the same time, there is a significant challenge for the industry in measuring the audiences of this content.

With this background, the Infocomm Media Development Authority (IMDA) - a statutory board of the Singapore government - commissioned GfK to set up a more extensive and inclusive measurement in 2015, resulting in the launch of the SG-TAM service in 2016. For the first time in Singapore, this service delivers total TV viewership, which integrates linear and non-linear viewing and reports with standard metrics of TV audience measurement. This is achieved via a 1,200 TAM household panel, a 2,400 individual digital panel with a single-source element and census data from contributing broadcasters.

The purpose of SG-TAM is to measure content ratings regardless of the device they are played on. Although traditional live TV viewing still dominates in Singapore, streaming services are growing in popularity. The streaming services of contributing broadcasters are tracked using a dedicated digital panel with passive meters on smartphones, tablets and PCs to collect all online activity (*see figure 02 on page 66 for an illustration of the SGTAMpanel setup*).

With these developments, it is now possible to measure live viewing, catch-up viewing (up to 28 days) on up to 200 channels and streaming of TV content on partner broadcaster platforms. Advertising is measured on linear channels.

Hybrid system

SG-TAM provides converged video usage data (TV sets, desktops, smartphones and tablets) on a daily basis at programme level, with a time lag from measurement to disclosure of digital usage of just 3 days.

Such hybrid measurement covers not only the live consumption of TV content across different screens, but also the consumption of TV content, which is part of the broadcasters' online catalogue.

In order to measure the online consumption of TV content, both deterministic and probabilistic matching are performed:
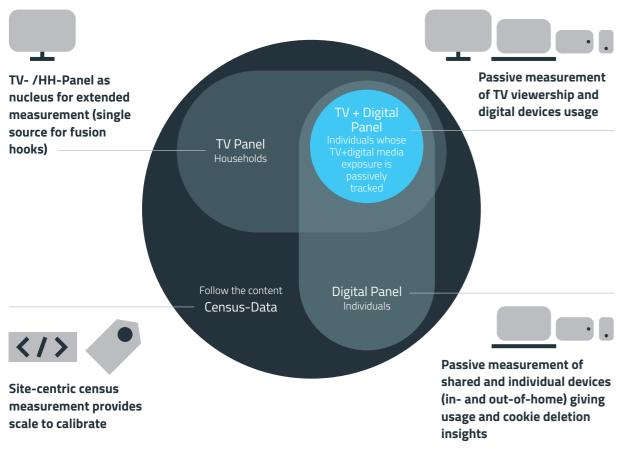
- Deterministic matching: Sound matching for TV panellists, panel/census matching for digital panellists, calibration of the final result to the census figures.
- Probabilistic matching: A fusion is performed between digital and TV panels in order to attribute digital usage to all the online devices owned by TV panel household members.

Data reporting

SG-TAM subscribers can access the daily results of the study (integrated viewership across platforms) through a GfK proprietary analysis and reporting tool. The tool allows users to measure the performance of different programmes, genres and channels across all screens (TV sets, desktops, smartphones and tablets) and consumption types (live, pre-broadcast, catch-up). It also reports the incremental reach of streamed views of TV content.

FIGURE 02: SG-TAM: THE PANEL

TV- /HH-Panel as nucleus for extended measurement (single source for fusion hooks)

Passive measurement of TV viewership and digital devices usage

TV + Digital Panel
Individuals whose TV+digital media exposure is passively tracked

TV Panel
Households

Follow the content
Census-Data

Digital Panel
Individuals

Site-centric census measurement provides scale to calibrate

Passive measurement of shared and individual devices (in- and out-of-home) giving usage and cookie deletion insights

Source: © GfK 2020

SWEDEN – TOTAL VIDEO MEASUREMENT – QUICK FACTS

Is there a TAM panel system?	Yes
Who runs it?	JIC (MMS)
TAM panel size?	3,000 households
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes: Through router meter. All device types are measured. These data are not used for trading.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method in use: Data are available and being used for commercial audiences.
Data sources used?	Comscore SDK and Kantar Online Panel.
How is deduplication done?	Work in progress
Is advertising and/or content measured?	Both advertising and content are measured.
Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	All output is measured on the broadcaster platforms, except SVOD. Broadcaster output is also measured on some Telco TVE services.
Is non-broadcaster content measured?	Yes, telco and publishers (Aftonbladet, Svenska Dagbladet (SvD), Expressen and Dagens Industri (DI)).
Data used for airtime trading?	TV and online video currencies (but also other sources for online).
Are these data used for planning? evaluation? trading?	All for TV. Evaluation and trading for online video.

SWEDEN

MMS: The integration of measurements towards a total video currency

The aim of Sweden's television and online video JIC, MMS, is to launch and maintain a fully accepted media currency covering all TV and online video viewing on all platforms, screens and in all situations. MMS is working on a Total TV solution, which produced its first figures for ads in early 2017. It later launched the first fused ad level figures in the analysis tool in October 2017, with the objective to launch data on programmes at a later stage. The approach MMS is developing leverages a larger number of separate data sources and involves data fusion across the existing TAM panel, one online panel and one census-level source to deliver Total TV viewing.

A solution built around the TAM panel, census measurement for content and ads as well as online panels

Television audience measurement in Sweden has been carried out by Nielsen since 1993, today using audio matching technology. The panel consists of 3000 households after an expansion done on January 1st 2018, to be able to cope with viewing fragmentation.

The Census measurement of video content using Comscore's SDK was introduced in 2011, and the census measurement of video advertising by Adobe in 2014. In 2017, Comscore took over the ad measurement as well. Using this census-level data, MMS began publishing live+7 days viewing figures of online video advertising for Sweden's television broadcasters in 2014, regardless of the platform on which it was accessed.

In November 2015, MMS introduced the first publisher, Aftonbladet, in the currency and, in the meantime, extended the scope of the measurement to cover other publishers. Since then, three additional publishers have been included.

Also included in the currency are ads through digital ad insertion (DAI) from the telecom's TVE-services. MMS is also working on including the content from the same players. The data collected from these services is added to each channel/site and not reported separately.

During the autumn of 2020, MMS included PlayAd as the first multi-channel network in the online currency.

In November 2020, MMS and Google announced a partnership to explore building a solution to include YouTube viewing in the MMS total video currency in Sweden.

The census measurement operates on the basis of events, which are created each time a viewer carries out some form of interaction with the video player. Examples of events include starting, stopping or pausing a video. MMS can calculate viewing durations from this data, and publishers provide the organisation with the necessary metadata to identify the content. Online measurement provides reach and frequency figures.

The MMS solution includes census measurement of online programmatic campaigns. The ultimate goal is for all programmatic campaigns to include a unique code, so that measurement is as granular as possible. A pilot project to reach this ran during the autumn of 2020.

Total Video Ratings

MMS is working towards a model that brings television, desktop and mobile data from panels together with census-level measurement for programmes and advertising using a data fusion model. The organisation is building the integration hybrid model with GfK, who does not deliver any data but helps with the fusion and modelling processes, as well as with the audit of the different data sources.

The first step of this process was to create profiles to enable work based on online demographics. In order to do this, user-centric data from the online panel is used

to build predictive modelling. The prediction model is then applied at cookie-level on census data (provided by Comscore) to try to estimate the probability of a cookie belonging to specific demographic target groups.

As a second step, MMS had to set up an aggregated reach model that combines data sources to correct issues like cookie deletion, device sharing and overlap between platforms. The model follows a two-step routine: mapping cookies to users within each type of platform and then calculate the de-duplicated cross-device reach. A representative online panel with cross-device measurement is being used to estimate the parameters needed for this model. MMS is using the same method to introduce TV as an additional platform, and complete step three of the process, namely the fusion between TV and online data. MMS has been publishing Total-viewing figures for ads this way since 2017.

MMS is currently working with GfK to take the measurement solution to a next level. In May 2021 MMS launched data deliveries of a virtual panel with a boosted sample size to be able to calculate reach and frequency on program and site level. The process involves modelling steps as imputation, panellist cloning, cookie deletion correction, weighting and calibration towards census measurement. This boosted panel will later be fused together with the TV-panel in order to get a panel data set with complete measurement across all platforms. The virtual panel model will also replace the current aggregated reach model used for reporting ads.
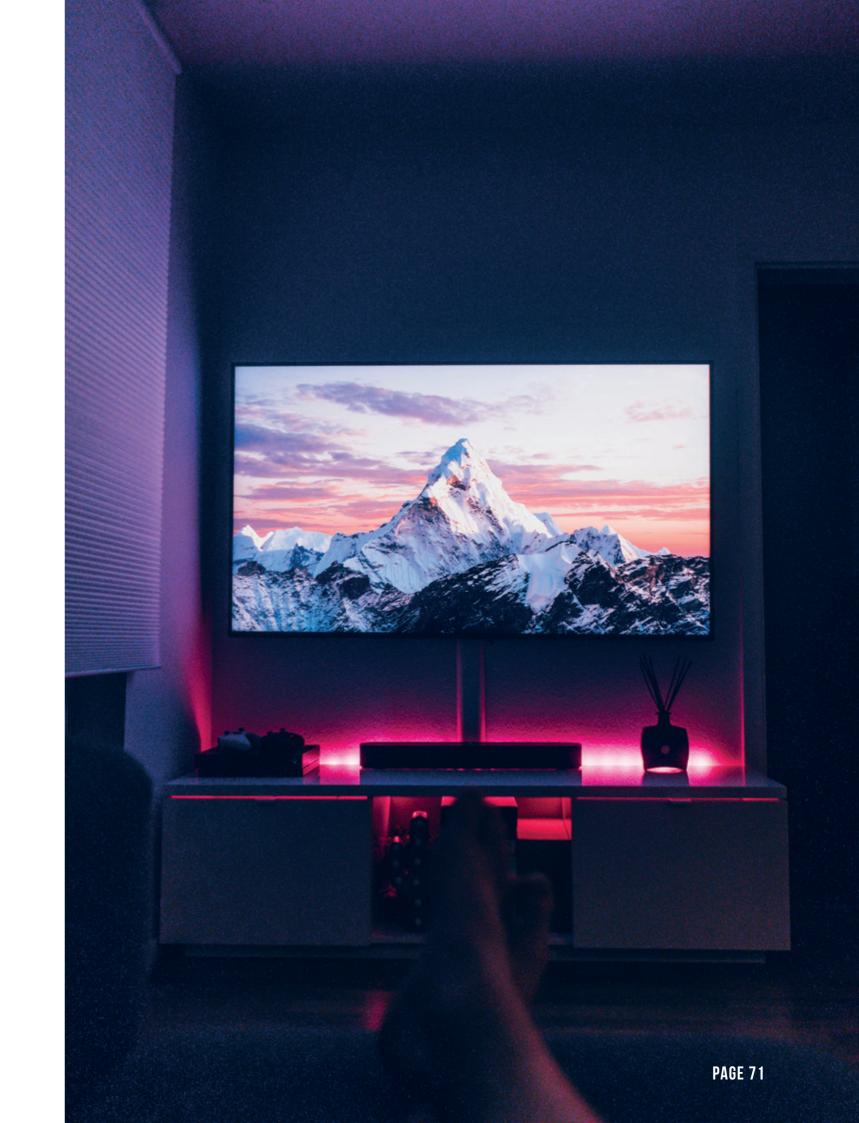
Challenges

There are several questions and challenges that MMS has been working hard to solve, for example modelling children's viewing and TV viewing as these are not measured in the Kantar online panel, and increasing the number of cross-device panellists in Kantar's online panel to make the prediction model even more efficient. Working towards daily delivery with a high number of sources coming together is also a challenge as well as meeting the needs of the

different types of clients in MMS portfolio (publishers, telecommunication companies, etc.) whose perspectives are quite divergent.

A currency?

MMS regards trust in the new currency as critically important, and the new methodology therefore needs to be open and transparent. MMS retains the TV and online currencies, alongside its new hybrid total video measurement – that is not yet a currency. How the market will use the data remains to be seen.

Is there a TAM panel system?	Yes
Who runs it?	JIC (BARB)
TAM panel size?	5,350 TV and broadband-only households
Is viewing of broadcaster output (incl. advertising) measured beyond television sets?	Yes: By combining single-source panel data with device-based census data through a process called Dovetail Fusion: 1. BARB's single source panel measures viewing on TV sets (via TV set meters) and PCs and tablets via software meters installed on panellists' PCs and tablets. Router meters are currently being installed into panel homes. 2. BARB collects device-based census data from metadata tags embedded into BVOD services on TV sets, PCs, tablets and smartphones.
Is TV viewing being measured using hybrid method? *i.e. viewing across linear and non-linear distribution channels for which panel-based measurement is complemented by census-level data*	Hybrid method in use/in progress: Multi-screen viewing data from the Dovetail Fusion process are being released in four stages: 1. Collecting census-level device data for programme viewing in 2015 2. Multi-screen programme ratings in 2018 3. Deduplicated programme reach and time spent viewing across TV sets, tablets and PCs in January 2020 4. BARB continues to work with its stakeholders to understand the best way of meeting the industry need for post-campaign evaluation across multiple screens.
Data sources used?	Single source panel data and census data from metadata tags.
How is deduplication done?	Panel data is calibrated with the census data which enables deduplicated viewing estimates through a two-stage process: 1. Viewing duration from census data and demographics and reach from the panel data are used to generate calibration targets. The calibration targets are reach and viewing duration/volume for each piece of content in the census data. 2. Within the respondent-level data file viewing levels for each piece of content are adjusted to meet the targets by removing statements if the estimates are above the targets and adding them if they are below. The calibrated panel (PVX) is produced containing unduplicated viewing data across TV sets, tablets and PCs.
Is advertising and/or content measured?	The three stages of Project Dovetail that have launched are for programme viewing. BARB is discussing with its stakeholders the fourth and final stage, the measurement of multi-screen BVOD campaign performance.

Is all broadcaster output on broadcaster platforms measured? What about broadcaster output on other platforms?	BARB measures viewing to BARB-reported channels and BVOD services. The tagged BVOD services are: All4, BBC iPlayer, ITV Hub, My5, S4C Clic, Sky Go, STV Player and UKTV Play. Consumption of original broadcaster content on SVOD platforms is intended to be measured from July 2021.
Is non-broadcaster content measured?	This will start from July 2021, when content on leading SVOD services is measured via audio-matching.
Data used for airtime trading?	Trading currency is live and time-shifted viewing of television commercials within seven days of broadcast.
Are these data used for planning? evaluation? trading?	Only programme data are currently available. These are used by broadcasters and agencies to understand the consumption of content across multiple screens.

🇬🇧 UNITED KINGDOM

BARB: Project Dovetail

In the face of fragmenting viewing, BARB, the UK JIC for television audience measurement, has developed its service. In recent years, it has devised techniques to report new ways of watching television, including the use of broadcaster video-on-demand (BVOD) services on tablets, PCs and smartphones; pre-broadcast and non-linear viewing on TV sets; and addressable advertising.

Project Dovetail was established to deliver deduplicated reach of programmes and commercial audiences across multiple screens. The method relies on combining single-source panel data with device-based census data through a process called Dovetail Fusion, run by Kantar.

The multiple-screen viewing data that result from this process are being released in four stages:

1. Collecting census-level device data for programme viewing – in 2015, BARB launched the BVOD services report (formerly known as the TV player report) which includes viewing time via all BARB-reported BVOD services on PCs, tablets and smartphones.
2. Multiple-screen programme ratings – in August 2018, BARB began to report the multiple-screen programme audience figures for all individuals across four screens: TV sets, tablets, PCs and smartphones. Demographic profiles on TV sets, tablets and PCs can also be analysed.
3. Deduplicated programme reach and time spent viewing – from January 2020, BARB started reporting deduplicated reach and time spent viewing across three screens: TV sets, tablets and PCs. This total three-screen viewing is reported alongside consolidated seven-day TV set viewing, BARB's previous definition of total TV.
4. Multiple-screen BVOD campaign performance – in June 2020, BARB launched a BVOD campaign planning tool to help agencies and advertisers plan advertising campaigns across BARB-reported broadcasters' linear channels and BVOD services. BARB is planning further enhancements to this tool in 2021, including more visualisation and the capability to optimise budgets across linear and BVOD campaigns.

A single source panel for viewing data

BARB operates a panel of 5,350 television and broadband-only households (over 12,000 individuals aged 4+) which represents television viewing across the UK. Broadcast viewing is measured with Kantar's TV set meter, which uses audio matching and watermarking technologies. Panellists use handsets

to register when they are in front of a TV set, to ensure that the number and demographic identity of people watching is recorded.

Census-level data from metadata tags

BARB also collects device-based census data whenever anyone in the UK watches a BVOD service on PC, tablet or smartphone, as well as collecting census data for some BVOD service viewing on TV sets. Kantar works with broadcasters to embed software code into their BVOD services across platforms, known as tagging. Verification that the census data represent actual viewing is essential and so the tagging implementation is independently audited by ABC (Audit Bureau of Circulations).

Whenever someone in the UK watches a programme through a tagged BVOD service, the embedded code generate data showing what has been watched and, to the second, for how long. These data show the number of devices used to watch programmes, but are not people-based figures. BARB reports these on-demand and live streamed census data in the BVOD services report (formerly known as the TV Player report, launched in 2015).

The multiple-screen viewing figures released in the first stage of Project Dovetail show that viewing on devices adds around 1% to TV set viewing on average, although this can vary widely by genre and demographic.

Router meters

BARB has commissioned Kantar to install its router meters in panel homes; the installation process is underway, with data currently expected to be reported from July 2021. Public-health restrictions in the UK have impacted the roll out of these meters, and BARB recognises that circumstances may continue to change in the future. At present, around 40% of panel homes are reporting via a router meter.

Router meters are attached to the broadband routers in panel homes and are designed to track streaming activity to a defined whitelist of sites by any member of the household on any device, with their consent.

They will enable BARB to deliver a number of service improvements:

- To distinguish whether post-broadcast viewing was done through a tagged BVOD service or via playback of a PVR recording (currently, BARB can only make this distinction in panel homes with Sky).
- To measure panellists' viewing on smartphones.
- To give greater clarity on viewing on PCs and tablets, replacing the software meters that are currently in use.
- To provide greater insight into unidentified viewing (TV set viewing that BARB cannot identify, which accounts for over 20% of total TV set use). A significant portion of unidentified viewing comprises of viewing to SVOD and online video services; router meters will facilitate the reporting of aggregate-level viewing of these services.

Measuring other types of viewing

BARB has commissioned Kantar to provide a programme measurement solution for the leading SVOD services, based on the audio-matching technology that it already uses for linear programmes. This measurement can be done with, or without, the participation of the relevant services – although BARB welcomes their involvement. BARB plans to roll out this feature from July 2021, alongside the integration of data from the router meters.

Other service improvements: Integration with IPA TouchPoints

From March 2020, BARB users have been able to use target audiences available in IPA TouchPoints after a fusion was conducted. The IPA TouchPoints data provide a rich range of new consumer profiling information and an understanding of how consumers use other media channels. Agencies and broadcasters have welcomed the opportunity to use the fused data for implementational TV campaign planning.

🇺🇸 UNITED STATES

TV Measurement in the US

TV Measurement in the U.S. is in the midst of significant changes that are being driven by fragmented viewing behaviour of consumers across multiple viewing devices and platforms, combined with new forms of data that come from each new distribution platform and partner. There is a growing availability of second-by-second tuning data from both smart TVs and set top boxes (STBs). Additionally, TV networks have all become digital publishers who have proprietary site and app data across all their digital properties, and they receive data back from the AVOD and SVOD platforms on which they distribute their content. However, there is no standardisation in how all these data are collected or reported.

A fragmented market

There is a growing desire among TV networks, agencies and marketers for a verified third-party or neutral JIC-style measurement system that captures and deduplicates content and ads from all forms of TV and premium video. This include linear and time-shifted TV, VOD, addressable TV and all forms of digital video delivered via the web or apps on computers, phones and smart TVs. However, since the US market does not employ joint industry groups due to anti-trust concerns, coordinated efforts to achieve the ideal measurement system are challenging. The efforts are left to individual vendors, who receive direction from their clients, with some guidance from the Media Rating Council and/or some collaboration with industry trade bodies, such as the 4A's, the WFA/ANA, the Video Advertising Bureau (VAB), the IAB, the Advertising Research Foundation (ARF) and the Coalition for Innovative Media Measurement (CIMM).

As such, there are a variety of approaches, each with differing levels of coverage, and it is challenging for the industry to coalesce around a single new approach. This has led to continued reliance on Nielsen for linear and time-shifted ratings, since they have been the incumbent provider of TV ratings for decades,

and they continue to work to add in data from other platforms. However, the networks do not all want to implement Nielsen's SDKs in all their digital apps, primarily since the apps are cumbersome to install and can negatively impact consumer experience and also add significant cost to Nielsen's fees. Additionally, some of the new SVOD companies, who do not yet rely on advertising revenue (such as Netflix and Amazon Prime Video) do not participate in third-party measurement, and only provide data to their content partners for their specific content. Nielsen has made progress measuring some of this content using a combination of fingerprinting technology to identify the content and router technology to identify the source of the content.

The result of all these fragmented approaches to measurement is that each TV network group has created their own proprietary approach to providing cross-media measurement for both content and ads (such as NBCU's CFlight). Each has their method of combining Nielsen data for linear and time-shifted viewing with the VOD and addressable data they get from MVPD partners. This is additionally combined with their own proprietary data from their sites and apps and additional data from distributing their content on apps from other AVOD aggregators, such as YouTube, Pluto TV, Facebook, Tubi TV and more. However, these approaches have not been created to be comparable, and there is not a lot of transparency around comparing the methodologies.

Approaches to cross-platform and total TV measurement

Nielsen still provides the traditional panel-based ratings service upon which the majority of national and local TV advertising is traded. They use a variety of meters from people meters to set meters to portable people meters that also capture out-of-home TV viewing. However, they do not measure ads, but rather average all of the minutes in a program with a preponderance of ads. These are called the

C3 Rating, meaning the Commercial Rating with 3 days of time-shifted viewing); or the C7 Rating (with seven days of time-shifted viewing). However, a new technical development which is "breaking" this metric is dynamic ad insertion (DAI) on national network inventory (both via MVPDs and through new Smart TV ventures on broadcast networks such as those from Nielsen and Project O.A.R.). When ads are replaced, Nielsen cannot separate the addressable from the non-addressable spots in their national ratings system, since they do not measure spots. This is creating the need for second-by-second spot measurement.

Comscore provides second-by-second measurement and is gaining ground in using STB data to create local market TV measurement, based on household impressions against audience segments beyond simple demographics. However, they also have not been able to completely solve cross-platform measurement, in that the networks have not universally implemented their SDKs. Comscore also

has a digital panel to measure web behaviour and a Total Home Panel that uses a router meter to measure app usage, but they can only identify the source of the app and not the titles of the video content playing on SVOD apps.

Additionally, there are a number of other approaches emerging in the U.S. to measure complete cross-platform TV/Video measurement of all forms of linear TV, VOD and addressable TV, along with digital video and all forms of OTT. Companies such as VideoAmp and 605 are making progress combining smart TV and STB data, but they still have not been able to include data on who is viewing and cannot measure co-viewing or out-of-home measurement. There has been a big increase in the number of companies using smart TV and STB data to conduct attribution analysis, which can divide households based on exposure to an ad and compare both groups against sales or against other performance indicators for advertisers, such as site visits.

In addition, there are two new in-home TV measurement panels at various stages of development. One is called TVision and uses a combination of automatic content recognition (ACR) on a tablet next to the main TV, along with facial recognition technology that measures eyes on the screen. The other venture is a new panel called Personicore which expect to launch a Pilot Test in 2020. Personicore deploys a meter-based technology with 8 HDMI ports for all the TV plug-ins. It uses image recognition software to identify content and ads and is matched to schedule information for program and ad names. They can measure content and ads for all types of linear and time-shifted content, including OTT apps, gaming and even product placement in both TV and OTT. This panel hopes to provide a smaller and less expensive calibration panel for data providers who are not permitted to license Nielsen data.

Finally, there are a number of industry initiatives currently seeking to accelerate a solution to these challenges. The WFA/ANA has launched a marketer-driven framework for understanding deduplicated reach across all media channels, including large digital players as well as TV. The ANA is planning the U.S. Pilot Test, once a design for TV measurement has been agreed upon. CIMM launched an initiative called the TV Data Interoperability and ID Resolution Design Initiative, which grew from a series of Future of Television (FoT) Workshops with senior executives in the TV/premium video industry that were run by consulting firm EY. This is an effort to normalise data across all TV/premium video platforms so that it will be interoperable and can be deduplicated using various solutions for identity resolution. The new system will need to be combined with accurate program and ad names and potentially with a panel to provide data on who is in front of the TV set and co-viewing. Additionally, the industry group that measures all forms of out-of-home advertising, GeoPath, is exploring new approaches to measuring out-of-home TV viewing. The combination of these initiatives will hopefully create agreement around a plan for the industry to follow in the coming years[3].

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[3] For an overview and comparison of media attribution providers and their services in the US, visit www.cimm-us.org and download the latest TV Attribution Guide

NIELSEN: THE PROVIDER OF TELEVISION RATINGS IN THE US

Nielsen provides television ratings services in the US, with electronic measurement, nationally and across all local markets. Broadcasters and cable networks use the Nielsen television audience ratings as the primary currency to establish the value of their airtime and more effectively schedule and promote their programming. Advertisers use this information to plan television advertising campaigns, evaluate the effectiveness of their commercial messages and negotiate advertising rates.

The most commonly used metric for national linear television advertising is the Average Commercial Minute rating (ACM), introduced and agreed upon by the industry in 2007.

This standardised measure for commercials averages all minutes of the program that contain national commercials from the live telecast, via playback or on-demand. The ACM is also referred to as "C3" or "C7" which includes the live day plus 3 or 7 days of viewing. However, media companies, advertisers and agencies can negotiate deals beyond Live +3 or +7 days and for this Nielsen provides additional windows of crediting for the ACM ratings out to 35 days which enables clients to evaluate opportunities beyond traditional viewing intervals.

A major enhancement to the linear television currency was the inclusion of Out Of Home (OOH) ratings as a standalone service, introduced in April 2017, which is particularly important for networks that distribute sports and news content. Nielsen is currently working towards the inclusion of OOH ratings into the existing national currency.

Additionally, Digital in TV Ratings (DTVR), was introduced in October 2014 and accounts for linear TV viewing occurring on desktop and mobile devices for participating programming sources. This is the first solution to receive accreditation from the Media Rating Council for its contribution to TV audience measurement for programming viewed on computers and mobile devices. DTVR is included in the C3/7 currency, and is implemented on both TV network and provider apps using a census-based SDK methodology.

Separate and distinct from traditional linear TV ratings, Nielsen also offers measurement of VOD content once the linear advertisements have been removed via its VOD Content Ratings Service launched in December 2006. In addition, Nielsen began offering measurement of SVOD content in August 2017, and currently includes Netflix and Amazon Prime (expanding to Disney+ and Hulu in September 2020) as syndicated services. These measurement services are based on the same panel methodology as traditional TV ratings and include viewing through TV sets.

The two areas of rapid change that are enveloping the US media landscape are the rise of streaming consumption through TV sets and the rise in technologies available to insert addressable ads on linear TV platforms. To address the rise in streaming TV usage, Nielsen is in the process of introducing a new "Streaming Meter" on its national TV panel households. The Streaming Meter identifies when streaming takes place on the TV and from which app. This will allow Nielsen to create total ratings for streaming services such as Netflix, Hulu and YouTube.

To address the rise of technologies available to insert addressable ads on linear TV, Nielsen is in the process of building an infrastructure capable of measuring addressable ads using a combination of big data inputs (return path data, smart TV ACR technology) and TV panel data.

COMSCORE: OVERVIEW OF TV & CROSS-MEDIA MEASUREMENT SERVICES IN THE US

The convergence of TV and digital has upended the media ecosystem, creating both challenges and opportunities when it comes to measuring audiences and advertising across platforms. Comscore is ideally suited to address these challenges and to help media buyers and sellers exploit these opportunities. As TV content extends across platforms and digital media consumption continues to grow, media buyers and sellers rely on Comscore to plan, transact, and evaluate media across platforms with confidence.

For TV, Comscore's solutions provide television ad buyers and sellers in the US with precise, massive-scale measurement of national television programming and advertising. For video, Comscore delivers a total view of consumer digital video consumption across desktops, smartphones, tablets and OTT devices. Premium video content and advertising can be strategically planned, bought and sold across platforms using digital-exclusive and TV-comparable GRP metrics available from Comscore.

Comscore's linear television measurement products **(TV Essentials (TVE), StationView Essentials (SVE)**, and **Comscore TV**, which is a next generation TV measurement platform launching in September 2021) measure and report linear TV viewership using second-by-second intelligence from Comscore's measurement footprint of approx. 75 million TVs in approx. 40 million U.S. households. TV Essentials provides national measurement across all U.S. television households, while StationView Essentials measures television stations and selected cable networks in all local U.S. television markets. Beginning in September 2021, Comscore TV will offer clients a single sign-on solution for both local and national television measurement.

Comscore's projection system takes the viewership data from 40 million households and uses that data to make estimates for TV viewership in the entire U.S. This means that Comscore receives data from more than one in three TV households in the U.S. (this ratio varies by market, but over 50 markets have a ratio equal to or better than one in two households). Comscore's reporting provides the marketplace with a level of granularity and stability that is unmatched in the industry. By integrating TV viewing information with consumer segmentation systems and syndicated consumer behavioral information available from its data providers such as IRi, Experian and MRI Simmons, Comscore empowers stakeholders—including agencies, advertisers and television networks and stations—to direct the right message at the right audience, providing buyers and sellers with a deeper understanding of the true value of their television viewing audience.

OnDemand Essentials provides precise census-level measurement of video on-demand (VOD) programming. Leveraging VOD consumption information from more than 115 million TV screens and nearly every multichannel video programming distributor (MVPD) across the U.S., OnDemand Essentials allows TV networks, MVPDs and movie studios to make more timely and accurate programming and marketing decisions.

OTT Intelligence, powered by Comscore's Total Home Panel using meters attached to household routers, reports on video viewing data collected from digital devices that are connected to televisions and streaming services—including Netflix, Hulu, Disney+, Prime Video and Twitch— and streaming directly onto the TV screen. OTT Intelligence provides clients with data on the OTT market size, its growth, the

competitive landscape of OTT services, opportunities to reach hard-to-reach audiences (such as Netflix viewers), profiles of OTT households and OTT device usage by service.

Video Metrix® Multi-Platform delivers a total view of consumer digital video consumption across desktops, smartphones, tablets and OTT devices. This provides insight into audience size, reach, engagement and demographic composition across digital content and ads. In addition, Video Metrix Multi-Platform measures audiences and viewership on distributed platforms, including YouTube and its Partner Program.

Comscore Campaign Ratings™* (CCR) provides in-flight measurement of cross-platform campaign delivery across TV, over-the-top (OTT), desktop and mobile. Powered by Comscore's massive data scale and person-level measurement methodologies, CCR aims to provide marketers and media companies with a trusted third-party currency for evaluating campaign delivery across platforms, including co-viewing lifts and unduplicated reach, frequency and GRPs for key demographics.

LiveRamp Save Haven Offering: With the cookie-based approach to measurement being on its way out, it stands to reason that the sell-side and the buy-side might seek an alternative approach to determining ROI by comparing their first-party datasets. In order for these comparisons to work, they need to ensure that their shared first-party data does not include personally identifiable information and that it retains its value as proprietary information. This is where concepts like "data clean room" comes into play. A data clean room is a safe space that aggregates multiple first-party datasets and reports to each contributor only information on how that contributor's data interacts with that of other parties. In the past, data clean rooms have had high setup costs, required an advertiser to link with multiple data platforms separately, and have not supported real collaborative interactions between partners to accelerate the discovery of key audience insights.

To address these issues, Comscore recently announced a partnership with LiveRamp under which Comscore will serve as the preferred data provider for LiveRamp's Safe Haven offering. LiveRamp's Safe Haven solution goes beyond traditional clean rooms to offer a neutral and secure environment based on a framework of data governance for privacy-first data collaboration that drives performance optimization, campaign incrementality, and richer audience understanding. For advertisers, this will enable data collaboration and custom analytics, and the solution is available today on a brand-by-brand permission basis. LiveRamp's Safe Haven provides just one example of the advantages of working with a neutral third-party like Comscore.

PART 03:
AN OVERVIEW OF THE VIDEO AUDIENCE MEASUREMENT SERVICES PROVIDED BY LEADING RESEARCH AND MEASUREMENT COMPANIES

comscore

Comscore is a trusted partner for planning, transacting and evaluating media across platforms. With transformative data science and vast audience insights across digital, linear TV, over-the-top (OTT) and theatrical viewership, we are a powerful third-party source for reliable measurement of cross-platform audiences.

Media disruption has upended the way marketers and media companies connect with audiences to drive growth. Comscore measures such disruption, among other things. As a pioneering audience measurement company, Comscore was founded with a mission to solve the most complex challenges in the media ecosystem. Today, those challenges include accurately measuring audiences in an increasingly cross-platform world, which is a major focus for Comscore.

Operating in more than 29 countries across the world, Comscore brings trusted data to clients across the advertising ecosystem.

Cross-Media Audience Measurement projects

Cross Media Audience Measurement (CMAM) provides solutions for International markets, in cooperation with JICs and other partners, to cover the expanding scope required by advertisers.

The foundational element is validated census data of stream plays collected via Comscore's streaming tag inserted in broadcasters' players. This forms the basis to collect digital viewing data of TV programmes and TV channels (extended TV data). Via labels, the broadcaster provides metadata to identify and classify the streams e.g. link to the original TV programme or whether the stream is offered online only.

The connection to Television Audience Measurement (TAM) household panel members happens via a meter, such as the Kantar Focal Meter (router), that identifies devices in the household. The devices of the TAM panel members are known to the panel management and Comscore provides the census data of the household devices back to Kantar or the

JIC, together with aggregated census data at the level of TV channel, TV programme and TV episode. This allows Kantar or the JIC to build a model where they can integrate data to produce daily audience data and report the results in a deduplicated way with the linear TV data. Countries where this methodology is applied are Italy, Canada and Switzerland.

In other countries, the link to devices of panel members to census measurements happens via a so-called virtual meter. Similar to the process with the Kantar Focal Meter, Comscore provides the census data of the household devices, together with (aggregated) census data at the level of TV channel, TV programme and TV episode. Countries where this methodology is applied are Spain, Sweden, Netherlands and Turkey.

The census data for the households or panellists can be provided by Comscore to a project partner or to a JIC using a privacy-preserving mechanism like double-blind data exchange to keep the identity of panellists undisclosed and just with the company managing the panel.

Connected TV (CTV) data provides a rich source of information about TV audiences that can be leveraged in the CMAM projects.

Connected TV Measurement

Comscore now also provides international connected TV (CTV) measurement capabilities across select geographies, delivering connected TV ad exposure and viewership data through custom reporting, including lift studies, attribution studies and session-level data sales.

The new CTV measurement includes series-level ad exposure data, which expands Comscore's measurement footprint for its custom marketing solutions to help brands better understand the impact of their advertising efforts across platforms. Specifically, this new offering will bolster ad effectiveness studies designed to help clients understand the extent to which their campaigns met established KPIs.

Predictive Audiences

Comscore's patent-pending Predictive Audiences are the industry's first cookie-free targeting capability that enables advertisers to reach audiences based on granular consumer behaviour through privacy-friendly contextual signals. With third-party cookie deprecation fast approaching, advertisers and agencies need new solutions to ensure that their campaigns continue to reach the right audiences across desktop, mobile and CTV.

Clients can reach audiences aligned to their campaign goals based on age and gender demographics, CTV/TV viewership, OTT/Gaming consumption, and consumer behaviours within leading Demand Side Platforms (DSPs).

Video Metrix® Multi-Platform

Another service offered internationally by Comscore is the Video Metrix® Multi-Platform service which delivers a total view of consumer digital video consumption across desktops, smartphones, tablets and OTT devices. It offers deduplicated, person-level video audience measurement across digital content and ads, providing insight into audience size, reach, engagement and demographic composition across digital content and ads. In addition, the Video Metrix Multi-Platform measures audiences and viewership on distributed platforms, including YouTube and its Partner Program.

Evolving Standards

Comscore closely follows and participates in industry initiatives around standardisation of cross-media measurement in a cookie-less and more privacy-focused world. Comscore adapts its methodologies as appropriate.

In 2022, Comscore will start the roll out of its new methodology that supports privacy-preserving cross-media measurement, which will be compatible with the Cross-Media Measurement (XMM) methodology from the World Federation of Advertisers (WFA), while also supporting publishers that do not participate in the WFA framework.

FIGURE 03: COMSCORE CROSS-MEDIA AUDIENCE MEASUREMENT (CMAM) - OVERVIEW

	CORE TV	EXTENDED TV	TOTAL VIDEO	TOTAL VIEW	TOTAL MEDIA
CONTENT	Live broadcast DVR Broadcaster catch-up	Broadcaster VOD	Free streaming sites SVOD OTT	Other online content Inc. e-sports	+ Print + Radio + OOH
ADS	Linear & addressable	Addressable	Addressable	Addressable	Addressable

Source: Comscore, 2020.

How GfK unlocks value from audience measurement and provides valuable insights to the players in the media ecosystem who need to understand TV and media consumption patterns? GfK firmly believes that one size does not fit all, which is why multiple solutions have been developed.

Approach to hybrid measurement

The aim of our measurement is to follow the user on all devices for a 360-degree understanding of viewing consumption. To deliver it, we have developed a modular approach that measures viewing behaviour across all devices reported in our panels. All these measurements are combined in our central One Media Platform, enriched and, if necessary, supplemented with census data and/or third-party data.

TV data collected via audio tracking is melded with digital data from an in-home router measurement and/or digital on-device measurement and with digital video census data sets. In an ideal scenario, this happens in a single source panel, but we have also developed fusion approaches to deliver integrated total video ratings based on a hybrid panel approach.

To include the growing longtail, we have developed methods to generate viewing insights based on qualified census data and/or return path data to enrich our panels.

All these solutions are modular so we can guarantee a high-quality currency measurement for total video ratings for each market adjusted to the local conditions and needs.

Different approaches

We use different approaches ranging from the traditional - where one research agency wins the tender and collects, processes and reports all the data - to the scenario where an agency provides some of the data; and finally, to where we only connect the data. GfK has extensive experience across the entire spectrum (see figure 05).

Key to all of our contracts are common principles: transparency of methodology, flexibility in approach and thinking, and adaptability to create a solution that works for each unique market. This increasingly means collaboration with other research agencies, data providers and other third-parties, an approach that has worked well for us.
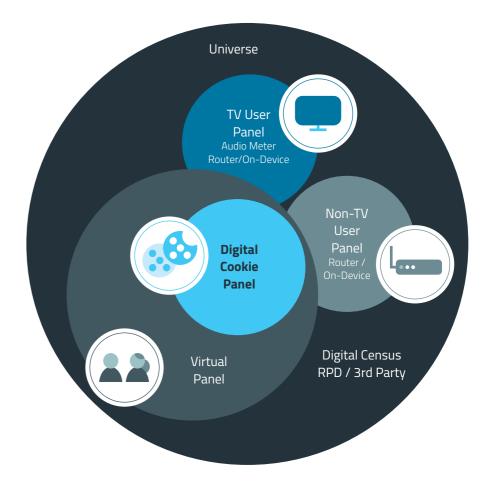
Data integration

In instances where we do not own any of the data, there are a number of agencies collaborating in a data integration approach. We start with a TV measurement panel that covers content and ads, then we add census measurement that covers all devices and big screens. The next ingredient is an online panel with cross-device measurement. And finally, we integrate all these data assets with the help of advanced data science techniques.

We use this approach, for example, in our data integration project in Sweden, where three research agencies provide data assets and GfK performs the data integration work to deliver an integrated streaming and linear audience reporting. The interesting aspect of this approach is that the TV and online panels are completely independent. During the first step, we expand the online panel with virtual panellists from census data applying data science solutions, and in the second stage, we fuse the linear and the virtual panel data. The outcome is the integrated dataset that includes both linear and streaming usage.

In instances where we provide part of the data, for example TAM in Germany, we work with third parties who provide the online panel to complement our cross-media panel, as well as the German JIC AGF and

FIGURE 04: HYBRID PANEL APPROACH

Source: © GfK 2020

online platforms. In this scenario, one of our key skills comes into play - data integration - to capture the digital viewing of TV and video.

Bringing a fully integrated audience measurement solution to Singapore

GfK has run a full audience measurement solution in Singapore - SG-TAM - for Singapore's Infocomm Media Development Authority (IMDA) since 2016. Acting as a total video currency, it combines live TV viewing, catch-up TV and streaming TV content to deliver fully integrated, deduplicated video ratings. Read the full description of our work in Singapore on page 64.

Beyond Video…Total Media Measurement

Ultimately, we aim for a comprehensive Total Media Measurement where we track analogue and digital consumption viewing, listening and reading – online and offline. Then we add consumers' interests, product use, advertising attention and more for all domains measured through our consumer surveys. To this we add the holy grail of actual sales data, directly linking media consumption with purchase behaviour. This approach supports the growth of media businesses by providing a stable transition of the existing media currencies into a smart, relevant and trusted cross-media solution.
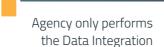
We combine panel and census measurement using our Audience Ascription Modelling (AAM). AAM provides a dataset for analysis and reporting large enough to

Media measurement

Agency provides
some of the Data

Agency provides
all of the Data

Agency only performs
the Data Integration

Source: © GfK 2020

cover any digital use by integrating census and panel data – but importantly, it also retains the special value of each dataset in the final output. That is, keeping both the in-depth information about the profiles from the panel as well as having reliable information on the longtail by closing any panel measurement gaps through using the huge numbers of the census measurement. The enriched cookies from the census data can flow back into programmatic systems to optimize targeting processes.

In other words, we put digital first and combine our state-of-the-art media audience measurement with an open platform ready for integration with external data sources and systems.

Conclusion

We want to embrace differences in approaches while recognising commonality and have a collaborative mindset to give the users of the data what they want - a single, integrated system for planning and buying - and one that can handle programmatic data. At GfK, this is our key focus for the future of audience measurement, and we are building technology platforms to deliver not only integrated video and digital data, but which are also prepared for a future where all media data - TV, radio, digital, print media – will come together.

Gemius is an international research and technology company providing data and advanced tools for digital and traditional marketing activities such as web analytics, online campaign management and ad serving. The company offers comprehensive cross-media solutions for marketers, advertising agencies, publishers and e-commerce. Gemius has been on the market since 1999. It is a member of IAB Europe and I-COM Global.

In 2018, Gemius launched the first single-source cross-media study in Poland covering advertising campaigns on TV and internet, including walled garden ecosystems. One year later, Gemius extended its research to radio measurement. In 2020, together with The Polish Internet Research, Gemius prepared the implementation of an innovative single-source solution that enables passive measurement of media consumption across TV, radio and internet.

Gemius products and methodology have been recognised by the IAB Europe Research Awards. Since 2015, Gemius has been awarded for the Behavioural Panel Synthesis methodology, the Overnight methodology and the gemiusAdReal market intelligence tool. In 2019, the project *True Single Source: gemiusPostBuy & gemiusAdReal*, brought Gemius the fourth statuette. In 2020, Gemius received the IAB Research Awards trophy for its single source solution that provides data about media consumption and post-campaign ad exposure on TV, radio and internet. In 2021, Gemius and TVision started a cross-media study as a pilot project in the United States.

gemiusAdReal: Enabling cross-media measurement

gemiusAdReal is a cross-media advertising research study covering traditional (TV, radio) and digital (PC, mobile) channels, conducted with the use of a proprietary single-source study panel method. The study enables its users to check total net reach for advertising campaigns on television, radio and online (cross-media coverage).

It is a passive research based on a panel, i.e. a representative group of the Internet users who have a research software installed on smartphones distributed by Gemius (mobile – hardware panel) or in browsers (PC – software panel). The software measures the media behaviour of panellists focusing on exposures to audible-offline and all-online advertising. Data collected in the study is categorised and processed in order to extrapolate an overall picture of the cross-media advertising.

Currently, gemiusAdReal data is available for ads served on PC platforms in France, Germany, Poland, Romania, Russia, Turkey, Ukraine, Hungary and Latvia while measurement for mobile platform and TV / radio (cross-device) is available in Poland, Germany (PC, mobile, TV) and Turkey (PC, mobile). Radio data was officially introduced in October 2019, with the possibility to analyse data retrospectively.

gemiusAdReal process

The gemiusAdReal data production process includes four main stages:

(1) Panel recruitment

The single source panel is the primary source of data for audience duplication and total net reach of the campaigns analysed in gemiusAdReal. This panel is currently composed of approximately 1500 panellists in Germany, 2800 in Poland and 550 in Turkey (as of August-2020) who all have smartphones (hardware-based panel) with a meter installed on the operating system. In the recruitment process, panellists are also obliged to install a meter on their PCs if they use them (above 90% of hardware panellists use PCs, so they also participate in the software panel).

Gemius also owns an independent software panel which increases the precision of online data. The recruitment process ensures that panellists are a representative sample of the population of the internet users in a given country.

(2) Data collection (recognition of ads)

The data collection method depends on the used data source (panel) and the type of medium where the campaign is carried out.

- Contact with television and radio ads is measured on the mobile panel with use of sound matching, whereas reporting is available for top 35 TV channels (3 days' time-shift) in Germany and for top 37 TV channels (7 days' time-shift) in Poland;
- Contact with ads on digital platforms is measured on PC web browsers and in mobile apps (web browser, Facebook, YouTube, Instagram).

Sound matching (TV and radio)

The sound matching technology is used by some research companies for the purpose of studying media consumption. In Gemius' hardware panel, the meter installed on panellists' smartphone makes it possible to collect background sound samples without using a dedicated measurement app. The collected sound samples are displayed in a spectrogram showing changes in sound frequency as marked points which will be coded as fingerprints.

The data collected are compared with the reference database of fingerprints for a particular media which Gemius updates on an on-going basis, and which makes it possible to determine whether a panellist has watched a given TV channel. Sound fingerprints collected from panellists are compared with the available reference media database up to 7 days back to take into account time-shifted media consumption.

In practice, this means that a sound source may be identified as television or radio if the advertisement was heard, and if a given contact with an advertisement was not assigned to its playback on a PC or mobile device after the deduplication process.

(3) Categorisation of ads

Creatives recognised via the TV or radio reference signal, or recognised and downloaded by the browser extension or from within a mobile app, receive an automatic or manual description by industry and advertiser>brand>product.

(4) Data processing and publication

In the last stage of the process, a virtual version of the panel is created with a high number of virtual panellists with equal weight. This 'constant panel' solves rotation problems and gives equal and stable weights to all panellists.

Thanks to this innovative methodology, it is possible to calculate consistent results for any given time period. Simultaneously, the TV and radio channels watched or domains visited by the panellists are matched with a media tree structure: Publisher > Media Channel / App / Website > Section (for digital).

Data provided by the gemiusAdReal study

The most valuable data provided by gemiusAdReal is the cross-media reach or real users value which can be expressed in different target groups (age and gender segments). Another aspect of describing the advertising is an estimation of the number of contacts as well as its quality, i.e. viewability, viewing time, and also viewable reach across media. An added value of gemiusAdReal is its library of all competitive ads that have been captured by panellists' meters. It enables precise measurement of cross-media video campaigns with qualitative and quantitative analysis of the attribution of different media and channels to the whole campaign.
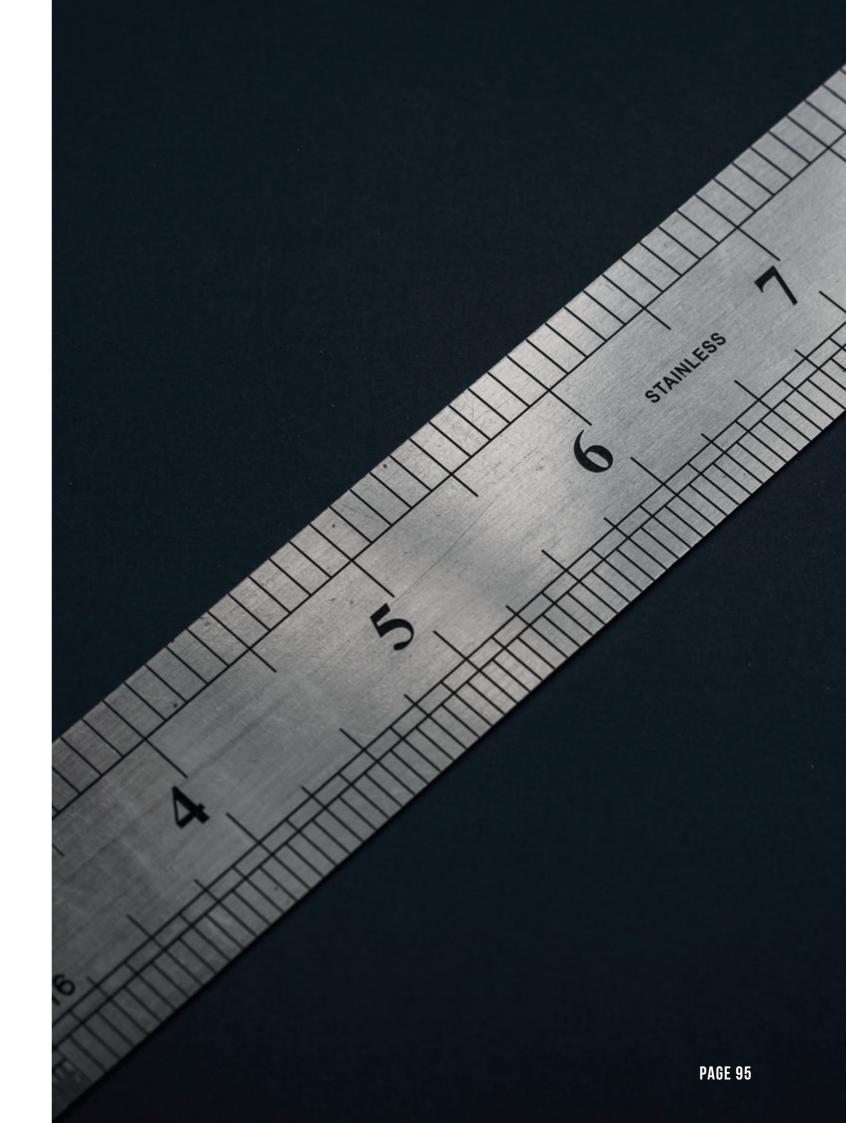
Apart from analysing the data via the interface, it is also possible to receive additional reports, e.g. about display chains, or alerts about the ad appearing on blacklisted sites.

Viewability measurement

Since viewability of digital ads has grown to become a vital issue for all players on the advertising market, here is the approach that is used in gemiusAdReal to measure viewability:

- Viewability of TV: Viewability is always met in terms of TV ads (contact longer than 2 sec. and 100% of a TV screen assumed). All TV ads are treated as viewable.
- Viewability in digital: The viewability statistics definition is consistent with IAB standards[4].
- Viewability in cross-media comparisons: Apart from the viewability rate and viewing time, there is also an additional indicator available: Estimated Viewable Impressions. It is calculated as viewability rate * impressions for video, display and text ads.

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[4] Hereby we refer to the "MRC Viewable Ad Impression Measurement Guidelines. Prepared in collaboration with IAB Emerging Innovations Task Force Version 1.0 (Final) – June 30, 2014", available here: https://www.iab.com/wp-content/uploads/2015/06/MRC-Viewable-Ad-Impression-Measurement-Guideline.pdf.

Overview

Ipsos is the world's third largest market research company. We are present in 90 countries, employing more than 18,000 professionals with turnover of over €2 billion in 2019.

We start from the principle that, in a world of rapid change, the need for reliable information to make confident decisions has never been greater. In the media measurement area, as in our many specialisations, we endeavour to use the best of science, technology and know-how to help our clients meet their goals while applying the principles of security, simplicity, speed and substance to everything we do.

We currently offer TV audience measurement services in 21 countries across Africa and the Middle East, mainly using non-metered approaches, as well as providing establishment surveys in several countries including the UK, Italy and Hong Kong.

Approach to hybrid audience measurement

The key technology we offer to broadcasters is MediaCell. MediaCell is built around a mobile application uploaded onto devices possessed by individuals.

This application enables passive detection of exposure to any audio signal. The system can work in one (or both) of two ways:

- Via audio matching, which takes an ambient characteristic or 'digital fingerprint' and matches it to an audio library of some kind (i.e. the broadcast output of radio or television stations being measured). The resulting markings are picked up via the MediaCell application to determine the precise time and date that the person carrying the device is exposed to the broadcast.

- Via encoding. This involves the introduction of an audio watermark into the content transmission chain (either by hardware or software) of a broadcaster. This places an echo-based, inaudible code or watermark directly into the broadcast stream. These resulting markings are picked up via the MediaCell app to determine the precise time and date that the person carrying the device is exposed to the broadcast. Encoding also enables platform detection, for example whether someone is watching television on a TV set or online and can report on time-shifting for up to two years.

The open design approach of MediaCell allows for the integration of third-party applications and data. In the UK, for example, we have incorporated RealityMine's on-device meter into the MediaCell app, enabling tracking of online behaviour as well as TV and radio usage.

Panels at the heart

Panellists sit at the heart of our measurement approach. We generally find panel participation to be consistently long-term, regardless of project and country. On top of our participation guidelines and rules, exit surveys confirm that panel members tend to forget MediaCell is on their phone; in other words, participation is genuinely passive.

Throughout various MediaCell projects, including a six-month trial in the Netherlands, a similar pattern emerges; after around the first three months of a study where there is an initial dropout and removal of non-compliant panellists, we see a yearly panel churn of just 20%.

A prime example of this 'stickiness' can be seen in the London Radio Listening Panel. This was set up several years ago in consultation with RAJAR, the UK radio measurement body, and still endures as a technical testing ground for MediaCell. Despite there being an absence of recruitment 'top ups', a third of original panellists were still participating more than five years later.

This long-term participation is not just economically efficient but also guarantees a richness of longitudinal data where a population's listening habits can be tracked over time, through technological, political and market change.

Recruitment and on-boarding

When MediaCell respondents are recruited either face-to-face, by CATI or online they are provided with an overview of the project, its purpose and what is expected of them in terms of participation. Most of the interview consists of the details we want to collect; contact information, demographics, media consumption etc. and tends to be fairly short.

After the survey has been completed, the respondent is sent a link to our terms and conditions and privacy policy and, following acceptance, the quick and effortless installation of the MediaCell application onto their Smartphone ensues. Shortly after this, respondents receive the relevant panel literature in the post.

Respondents will be contacted by Ipsos a few days' later via a telephone courtesy call when they will be reminded of the purpose of the study, the panel rules and, if necessary, any queries they may have or issues they are experiencing will be addressed.

For most, this will be the last they hear from us except for when they receive their periodic incentive. After the call, should they have any further questions or concerns at any stage, a quick contact can be made via the application to either call, SMS or e-mail us directly.

The MediaCell Backend Production System

The processes we go through behind the scenes to make the panellist journey as smooth as possible is managed by a specialist team utilising our panel management tool, the MediaCell Backend Production System (MBPS).

The system is designed to cover the full panellist life cycle, from recruitment to data production. A full history of our communication with panel members is stored in the system. Compliance data can be reviewed and listening data edited, weighted and reported in a format recognisable to audience measurement software analysis tools.

All communication and compliance metrics can be examined via various in-built quality control reports,

FIGURE 06: MEDIACELL: ENABLING CROSS-PLATFORM MEASUREMENT

Employing **familiar** devices

Real time audio matching and encoding, to provide audience ratings on any platform, any time

Built around **software**

Source: Ipsos, 2020.

enabling transparent panel management. Data is sent back when a panellist is connected to the internet, via either 3G/4G or Wi-Fi, on a regular basis. MediaCell panels invariably hold a very solid rate of connectivity, on average, over 90% of devices send back data within a 24-hour period.

Other keys metrics commonly used for compliance monitoring include:

- Motion / carry-time – does the handset follow the person?
- Audio level – is the microphone picking up audio?
- Charging / battery level / phone on – is the phone functional for audience measurement?
- Termination of app – does the panellist terminate the MediaCell app?
- Interaction with phone (screen taps, calls) – is the phone used in a normal way?

Continuous monitoring of all these metrics has enabled Ipsos to recommend minimum compliance standards such as how long a phone should be in motion every day and how long on charge.

Extending to Cross-Media Measurement

At the end of 2016, Ipsos was commissioned by the BBC to build a cross-platform measurement system to report on audiences to a total of 250 television, radio and the internet stations, all media where the BBC enjoy significant audience share.

At present, the panel – known as Compass – continues to provide a passive, single-source, cross-platform and multi-media audience reporting system for BBC. The panel size is 3,000 individuals. Panel members are asked to upload an app combining both MediaCell audio metering (TV and radio) and Reality Mine's passive On-Device meter onto all the devices used to access content.

During the COVID-19 crisis, we see additional value from the approach: not only are people recruited using virus-resistant methods (CATI and online), but the panel is also managed remotely and data capture is entirely passive.

Data output includes minute-by-minute audiences, covering viewing and listening both in the home and outside, as well as all viewing to catch-up and streaming services.

Currency Audience Measurement

In 2021, Ipsos was appointed by the NMO in the Netherlands to provide MediaCell for the TV, radio & digital currency measurements (see full description on page 58), and by BRC in South Africa to provide MediaCell for their new radio currency measurement.

Digital Audience Measurement

In 2019, Ipsos were appointed by UKOM to deliver Digital Audience measurement in the UK. This mobile focused project, branded Ipsos Iris, will future proof the measurement of digital content in the UK.

The core components of the new service are:

- The Establishment Survey, providing the universe estimates and recruitment targets;
- A 10,000 individual single source mobile first, multi device panel which levers on the BBC Compass panel (described previously);
- Site Centric Measurement of websites and applications;
- Campaign Measurement;
- Data Science;

Most importantly the service will be within the MediaCell Technology infrastructure, allowing the introduction of the audio matching, to provide single source, cross media measurement.

FIGURE 07: BBC COMPASS: A PIONEERING APPROACH TO CROSS-PLATFORM MEASUREMENT

- A **single source, multi device passive panel** (3 000; UK nat-rep)
- **MediaCell+** a single app that integrates mediaCell audio metering and RM passive on-device tracking
- **250** TV and radio stations measured
- Reality Mine on **other devices**
- Supplemented by a **mobile-first media diary**

Source: Ipsos, 2020.

KANTAR

Driving a deeper understanding of TV and online video content

While broadcast still dominates the TV & Video landscape, media owners are increasingly designing offerings to revolve around an individual's preferences. Streaming and subscription services are firmly mainstream and, as competition heightens, audience engagement and personalisation have never been more important.

The Cross-Media Audience Measurement we provide to clients gives industry players a true understanding of how individual types of media and channels perform. It shows how people are accessing content, whether on live TV, catch-up and online video streaming services. And it shows what content they are viewing.

Kantar's solutions deliver gold-standard currencies in Cross Media Audience Measurement to the industry. This enables all players to understand and monitor audiences and media consumption habits so they can make informed business decisions.

Media owners can measure TV and video consumption across all devices and get a clear view on how their content is performing. They can benchmark against their competitors and make decisions about programming to maximise revenues for their advertising space and air time.

Media agencies and brands can use this data to make comparisons across different media and platforms. They can strategically and tactically plan campaigns. They can optimise their media planning on the fly and guide their investments decisions to deliver the best results.

We deliver hybrid measurement solutions around the world with live services in Chile, Denmark, Finland, Netherlands, Norway, Spain, and the UK. We are also deploying Cross Media Audience Measurement services in Switzerland, Brazil, Canada, Colombia, Peru, Israel, Slovakia, Hong Kong, Italy, Russia and Turkey. Hybrid measurement is at the heart of gold-standard audience measurement and we look at further expanding the footprint over the next few years in the nearly 50 markets where Kantar operates.

Kantar's hybrid measurement models are built on our expertise, from recruiting and managing nationally-representative audience panels through to integrating datasets. These are sourced by leveraging the latest metering technologies running on advanced content detection technologies.
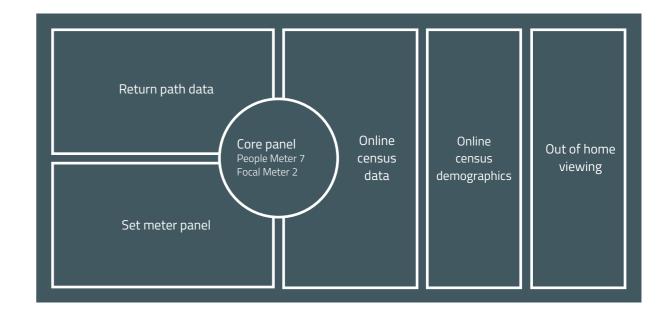
Cross-media audience measurement methodologies

At the heart of our blueprint for Cross Media Audience Measurement are core TV audience panels (see figure 08). We then expand or combine this core panel data with online behaviour data and 'census', or 'total viewing' data from publishers' own platforms. This powerful combination provides an accurate and deduplicated view of not only how many people are watching, but what type of people they are - with demographic profiles obtained from our panels or other first or third-party data sources.

Further data can be collected from set-top-boxes and other devices, through multiple well-established data partners, to accurately measure 'long tail' programming with smaller ratings and for niche audience segments on the TV screen. And Kantar's blueprint also enables insights on out-of-home viewing using the latest portable metering technology.

Kantar works in partnership with Joint Industry, Media Owner Committees and of course individual clients directly to deliver hybrid audience measurement models that are structured to meet the needs of local markets. We have recently been appointed to measure digital audiences of eight regional TV channels in Colombia. Our relationships with the

FIGURE 08: KANTAR BLUEPRINT FOR CROSS-MEDIA AUDIENCE MEASUREMENT

Source: Kantar, 2020.

industry will continue to strengthen as we finalize our roll out for cross-media audience measurement services in countries like the UK for BARB and Israel, where Kantar has been chosen to deploy our latest router metering technology.

Metering and content detection technologies focus

To measure viewing beyond the main TV set across platforms and devices, Focal Meters are attached to routers in the home. Kantar's Focal Meter 2 can identify all TV and video content that is tagged by content owners, whichever digital device is detected within the home network. In combination with this router metering technology, video tagging delivers granular and accurate viewing data for programmes and advertising, in and out of home, enabling the creation of TV and video currencies.
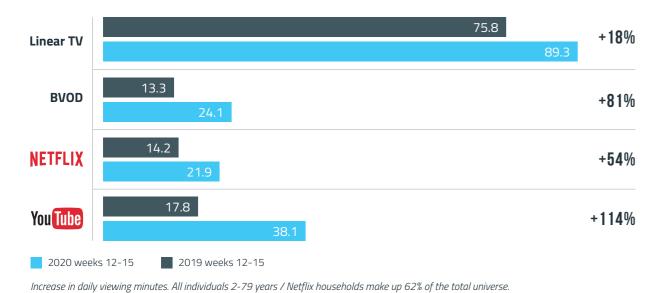
At a time where TV and video viewing has seen a dramatic shift as audiences have adapted to the new environment, cross-media audience measurement solutions are critical to enable all media players to respond to trends in a timely fashion, so they keep existing and reach new audiences.

To illustrate this point, we have seen how Norwegian audiences have been using all screens to consume more content. During the outbreak of the COVID-19 pandemic (week 12 – 15 2020) there was a considerable increase in daily viewing minutes across all devices including computers (83%), tablets (77%) and smartphones (75%). In comparison, increase in TV viewing only increased by under a third (30%).

All Video On Demand platforms also enjoyed an uplift but, more surprisingly, the cross-media audience measurement data from the market reveals that Norwegian households with a Netflix subscription actually increased their viewing on YouTube & broadcaster players more than Netflix (see figure 09). Through the Focal Meter, we are able to capture top line reach and time spent viewing even for Subscription Video On Demand and free streaming sites where content has not been tagged.

Kantar is constantly developing the technology to provide the most accurate and timely data. Our newly developed People Meter 7 is currently on a field trial in the UK and will be rolled out further from this year onwards. The latest people metering technology

Platform	2019 weeks 12-15	2020 weeks 12-15	Increase
Linear TV	75.8	89.3	+18%
BVOD	13.3	24.1	+81%
NETFLIX	14.2	21.9	+54%
YouTube	17.8	38.1	+114%

■ 2020 weeks 12-15   ■ 2019 weeks 12-15

Increase in daily viewing minutes. All individuals 2-79 years / Netflix households make up 62% of the total universe.

Source: Kantar, 2020.

comes in the form of an aesthetically pleasing tablet device that improves panellist experience and helps build a more sustainable panel with remote software upgrades. The People Meter 7 runs Kantar's most advanced audio matching (i33) and watermarking (SNAP and INK) technologies, which are integrated as a native capability (see figure 10).

Data integration techniques

Kantar integrates data sources that are external to the core panel. This improves the granularity and the robustness of the insights on audience behaviour.
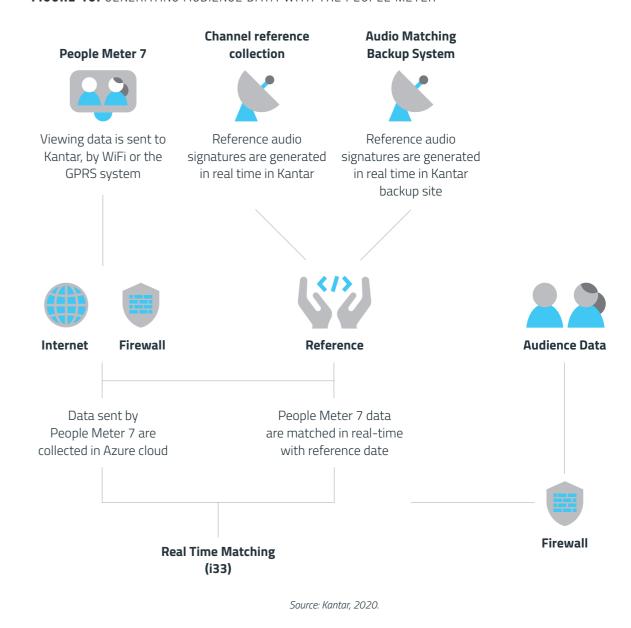
The service enables integration of broadcaster and other publishers' VOD player data, gathered using Kantar's tagging solution, or delivered via a direct integration with people-based behavioural measurement. By combining both panel and external data sets, the potential of both can be leveraged:

- Panel data provides an overview of the viewing landscape. Offering individual level insights from a well-managed, well balanced panel.
- Census data provides high granularity through passive measurement, providing reliable viewing totals at device level for the platforms that it measures.

We leverage data science to enhance audience measurement in a variety of ways. In Canada, Kantar has been commissioned by Numeris to provide its data science methodology to fuse television audience measurement and return path data into a single dataset. This will allow for more reliable and granular data for all TV channels and programs.

Kantar's Cross Media Audience Measurement service is a step forward in the understanding of audiences. Video over IP and 'long tail' programming is more accurately measured, whilst the strengths of panel-based measurement and currency data delivery are maintained[5].

5 For more information on Kantar's Cross Media Audience Measurement, visit https://www.kantar.com/expertise/advertising-media-pr/audience-measurement.

Source: Kantar, 2020.

Measurement at scale with HbbTV

As television viewing fragments, Kantar is responding with new TAM solutions that integrate first- and third-party data to virtually scale our panels. The solution employs data science to fuse large-scale behavioural TV data (e.g. HbbTV, ACR) or return path data with panel data to expand and enrich representative audiences with new granularity on their viewing behaviours.

Incorporating behavioural data to scale measurement has enhanced TV ratings for deeper audience insight. With reduced zero-rating spot incidents and decreasing fluctuation in programme ratings and ad breaks, enhanced TV ratings have shown audience viewing to be less volatile than previously indicated by panel data. This insight has enabled broadcaster and agency clients to optimise inventory management and campaign planning with reference to the fused dataset.

In 2020, Kantar completed a proof of concept using hybrid broadcast broadband TV data (HbbTV) from connected TVs. In conjunction with the Spanish broadcaster RTVE and HbbTV provider Konodrac,

Kantar built a virtually expanded panel of 100,000 individuals using data processed from 3,000,000 TV sets alongside the existing TV currency. The scaled solution has enhanced television audience measurement in Spain with a richer audience sample generating lower volatility and fewer zero cells in the data output of daily TV ratings.

In Canada, Kantar has delivered a scaled solution that uses first-party data from the return path to enhance panel measurement and enrich TV trading currencies. As evidenced by our work in both Spain and Canada, Kantar continues to leverage the power of its panels and the richness and granularity of behavioural TV data to bring new, enriched datasets to market.

"Scaling panel measurement with behavioural TV data gives new stability and granularity to currency datasets and TV ratings. This hybrid solution allows us to maintain and improve television audience measurement in markets while empowering our clients to monetise and reach fragmenting target audiences in new ways."

Bas De Vos,
Senior Director, Product (Audience), **Kantar**

NIELSEN

Total Audience Measurement

Consumers have endless options for consuming their favourite video content on multiple devices. This has fundamentally changed how media owners sell their advertising. Measuring audiences and their engagement in today's media environment and producing a currency-grade output while keeping costs under control is a challenging task. A complex mix of methods and technologies is required for complete total audience coverage of traditional and digital content. It is critical that all inputs can be combined to provide an accurate output.

Nielsen is fully committed to supporting the industry through this with our Nielsen Total Audience Ratings. A few years ago, we connected all of our audience measurement capabilities and launched a comprehensive ratings framework for both content and ad campaigns across all consumer access points. The ultimate goal is to deliver metrics that enable comparability of audiences between traditional viewing on TV sets and media consumption that occurs on other devices and platforms. These next-generation metrics allow content owners to better understand the true total audience of their programs and marketers to compare their options so that they can better decide how to put their ads in front of the right consumers, on the right platforms, at the right time.

Nielsen Total Audience Ratings is a universal solution that considers the specifics of each market and is based entirely on Nielsen solutions.

Today's marketplace can be characterised by fragmented audiences who have access to a myriad of content options across multiple platforms and devices. This has fundamentally changed the way in which audience measurement is carried out. Following the evolution of audiovisual content consumption, the scope of the panels has expanded well beyond measuring viewing of broadcast TV content on TV sets. Moreover, considering that the panel-centric approach as a stand-alone solution is not enough to measure these fragmented audiences, the integration of census-level viewing data is unavoidable. Nielsen has developed both the technical and methodological capabilities to address the issues associated with highly fragmented audiences. Our Total Audience solution is underpinned by three fundamental pillars.

1. A **Single Source Panel** constitutes the first pillar and the core element of this solution. Measurement of all viewing devices across all platforms using a combination of TV people meters and router meters provides an optimal balance between pricing and statistical relevance. Nielsen's Nano People Meter and Streaming Meter are the latest generation of our metering solutions, and they have been designed to accurately measure all new viewing modes while at the same time optimising panel management tasks. Both meters deliver enhanced functionality and efficiencies in terms of performance and costs. These proven metering technologies have already been deployed in different markets, such as the United States, Sweden, Australia, Hong Kong, Poland and Ireland.

   In countries with low penetration of broadband access (fibre or ADSL) and where online traffic takes place mostly through mobile devices, the router meters would only allow us to measure a small part of the universe and therefore in these markets we use On-Device Meters to measure streaming on digital devices. A combination of mobile panels and census-based measurement is therefore implemented to capture internet, video and other media on smartphones and tablets.

2. **Digital Census** measurement, the second pillar, is another key element of our Total Audience solution, and it is aimed to collect census-level data of streaming of tagged content. Our Digital Census solution is enabled through the integration of the Nielsen SDK, which was developed leveraging years of experience in measuring digital environments and designed to guarantee an accurate measurement of all devices across all platforms for all content types. Integrated directly within native apps and web-based players used by the participating streaming services, the Nielsen SDK provides a reliable and future-proof approach tailored for the market needs. The content can be identified either via tags that are introduced using the client's content management systems or through ID3 tags converted from audio watermarks if these are implemented for TV audience measurement.

   As a supplement to the Single Source Panel, the Digital Census measurement preserves the required level of granularity by adding information which cannot be captured by the meters installed in the panel households. In particular, for those streaming services measured at census level through an SDK, the devices monitored by the Streaming Meter in the panel can be identified in the captured census database and the streaming of the tagged content on these devices can be included in the daily crediting at the panel level. The integration of the Digital Census data, for all the streaming devices measured in the panel, allows us to deliver full Single Source Panel data including program/content level data for each measured device used by the panellists.

3. The third pillar of our solution is to bring together the panel and census datasets and deliver **daily respondent-level Total Audience data**. The Digital Census solution will measure every single streaming session but it will not identify who actually saw the content if the device does not belong to a panel member. As explained above, the Single Source Panel data with integrated census records for the panel devices can tell us who saw the content in those cases, but the sample size is usually insufficient to measure fragmented audiences (i.e., audiences of programs with small reach figures), especially on new screens. To address this problem, we designed a special algorithm that brings both datasets together (panel data and census data) and delivers daily respondent level Total Audience data.

By Total Audience we mean the ability to deliver consistent, deduplicated cross-platform audiences, combining viewing via traditional broadcast TV, OTT and streaming services. The audience figures report the combined audience between TV and digital platforms, as incremental or unique by platform, for any time-segment and defined content. In a nutshell, our Total Audience solution is based on a full integration process of the Digital Census data into the Single Source Panel sample, with each panel device (panel sample unit) covered by a certain number of unique census devices representing this particular panel device. In other words, the panel sample units will not only represent the population but will actually include the true census devices covering a portion of the represented population.

Depending on the market needs, these three components can be combined to deliver different services. For example, a single source panel would be more than enough to deliver traditional TV ratings. When combined with the other two pillars, we would have a total audience measurement solution for TV and Audio. However, the same components could be used to provide ratings for digital content only (i.e. non-linear TV) through DCR, or digital ads only (i.e. non-linear TV) through DAR, or radio and audio measurement, as described below.

Digital Content Measurement

Viewing of non-linear content through PC and mobile devices is provided through Nielsen's Digital Content Ratings (DCR) service. As with DTVR, DCR is also a census-based SDK approach; however, digital panel data is also used to measure digital content for sites and apps that do not yet have an SDK implementation. All of Nielsen's content measurement, including traditional linear TV ratings, DTVR, VOD, SVOD and DCR are combined together in Nielsen's Total Content Ratings (TCR), launched in the US in 2016, which provides clients with total, deduplicated measurement of content across platforms and add models. DCR has been adopted by the online JICs in Australia and Italy, and has been launched in Japan and Thailand.

Digital Ad Measurement

Nielsen provides measurement of dynamic ads across PC, mobile and connected TV platforms via its Digital Ad Ratings (DAR) service. Just as with DTVR and DCR, DAR is a census-based measurement of dynamic ads based on ad campaigns. Nielsen's Total Ad Ratings (TAR) provides deduplicated reach of ad campaigns across digital and linear ad models, including inputs both from DAR and C3/C7 ratings which are used in the US. DAR is available in many European markets, incl. UK, Germany, France, Italy, Spain, Belgium, Netherlands, Greece, Poland, Czech Republic, Hungary and Norway.

Audio Audience Measurement

Nielsen provides measurement and consumer research for stations, advertisers and agencies in the audio industry. The size and composition of radio audiences nationally and in local markets and of audiences to network radio programming and commercials in the US are estimated. Broadcasters use this data to price and sell advertising time, and advertising agencies and advertisers use the data in purchasing advertising time.

We have developed an electronic Portable People Meter TM ("PPM®") technology, which is deployed across many of our customer offerings and have licensed to other media information services companies to use in their media audience ratings services in countries outside of the U.S. We have commercialised our PPM ratings service in 48 of the largest radio markets in the U.S. Nielsen's PPM technology is also used commercially for national TV Out-of-Home, as well as integrated into Local TV measurement in 2019 in 44 local markets. Outside of the US, PPM panels are currently being used in Canada and Iceland (in both cases for TV and radio measurement) and in Norway and Denmark, for radio measurement.

Beyond measurement:
Advanced Video Advertising

In addition to building the infrastructure to measure addressable advertising, Nielsen has developed an addressable advanced video advertising platform that enables real time targeted ad replacement in live linear TV across connected, enabled Smart TVs.

The Nielsen Addressable TV Ad platform can be integrated across all Smart TV brands and into all existing broadcast infrastructures and agency workflows to unlock the full value of linear.

By unlocking addressable inventory, media sellers will enable maximum delivery of ROI to advertisers across both linear and addressable TV impressions. Programmers can establish whether certain addressable ad loads are open to single or multiple advertisers, and manage campaign pacing. Its open and flexible approach will allow brands and agencies to ingest various third-party data sets to create target audiences, upload ad creative and manage ad budgets, pricing, pacing and frequency capping through the platform.

Nielsen is currently in the beta phase of its Addressable TV Ad platform roll-out. This is a first step towards unlocking the potential of linear addressable TV advertising with programmers as commercial launch is being prepared for the second half of 2020 in the US, and in 2021 for International markets.

Nielsen ONE: towards one single cross-media currency for content and for ads

In December 2020, Nielsen announced its plans to launch a single, cross-media solution to drive more comparable and comprehensive metrics across platforms. Nielsen's new cross-media solution, called Nielsen ONE, will evolve the current metrics (C3 and C7) in the US using a phased approach to a single metric and currency for content and ads across all forms of video, including linear TV, all types of VOD as well as viewing on big digital platforms.

To do so, Nielsen has begun unifying its technology platform to help make its audience measurement products more interoperable, flexible and scalable. This solves for cross-media measurement by embracing a one-currency mindset to modernise its panels, platforms and products.

- **ONE Platform:** Nielsen has developed a unified, cloud-based platform that allows easy integration and normalisation of big data sets including automatic content recognition (ACR) data and return path data (RPD), as well as direct integrations with digital platforms and CTV providers. It will also be underpinned by a flexible technology stack, which enables large scale models using machine learning techniques and algorithms to more quickly deliver true comparability and consistency across sources.

- **ONE Panel:** Nielsen will unify its gold-standard panels and meters into one single-source, geographically representative panel that will gather viewing across devices including TV, CTV, mobile devices and computers. The Nielsen ONE panel underpins its new ID resolution system to validate audiences and deduplicate exposures across ads and content.

- **ONE Product:** Nielsen is simplifying its TV and digital solutions portfolio into a single cross-media product that provides reach and frequency metrics by delivering a holistic, deduplicated view of both content and ad performance regardless of screen, device or platform. A key component of this solution is a new proprietary technology that will measure every single ad on linear TV at the sub-minute level to account for exact commercial minutes.

The process is expected to start in Q4 2022, and be completed by the Autumn of the 2024 TV season in the US market. The Nielsen ONE solution is also intended to be rolled out in other markets, but implementation and timeline will vary as Nielsen navigates regional market conditions and align with various stakeholders.

With evolving consumer privacy laws and industry standards, including the demise of cookies used for audience measurement, Nielsen continues to align with these changes. Principles of privacy have been incorporated by design to Nielsen's proprietary technology and datasets in preparation for such changes. Similarly, the platform is flexible by design so that it can adapt to new technology, data and industry requirements, while conforming to applicable laws and industry standards around the globe.

PART 04:
INTERNATIONAL AUDIENCE MEASUREMENT INITIATIVES AND COLLABORATION
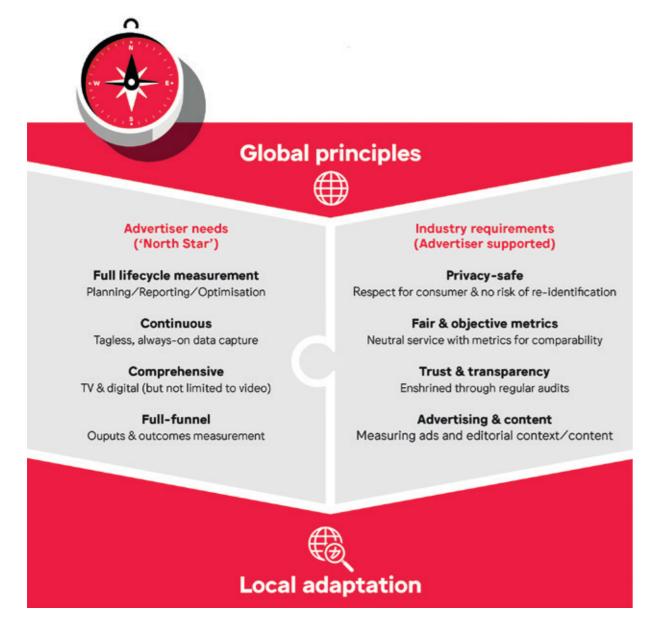
The WFA cross-media measurement Initiative: Advertisers take matters into their own hands

Advertisers have long been asking for the ability to measure viewers of their advertising across screens, platforms and channels with a single measurement – something that existing measurement solutions have not been able to fulfil entirely. They want full convergence of the way that media exposure is measured, and the opportunity to understand the true coverage of an advertising campaign.

Throughout 2019, a group of global advertisers, through the World Federation of Advertisers (WFA), decided to agree on a framework for cross-media measurement, and to develop systems that measure audiences across all screen types and content suppliers. The process was initiated with a series of cross-industry assessment calls and working group sessions around four key topics: *Standards and Currencies, 'Plumbing'* (technical infrastructure), *Privacy* and *Governance*.

In October 2020, the WFA published an Industry Framework for Cross-Media Measurement[6] that formulates global principles which are split between the advertisers' requirements (also known as the 'North Star') and industry requirements to enable cross-media measurement (see figure 11).

While this framework formulates global principles, advertisers acknowledge that the implementation will require local adaptation to various degrees depending on market differences. To that end, two pilot markets were announced as testing grounds for the framework; in the UK, a cross-media measurement solution is being build and managed by the local advertising body, ISBA, under the name "Project Origin", and in the US, a project is spearheaded by the Association of National Advertisers (ANA).

The solution being built in the UK and US is based on a technical proposal developed by Google and Facebook, which was subject to an industry peer review in the summer of 2020. This blueprint by data engineers from the global platforms proposes a solution based on Virtual IDs (VID) to deduplicate ad impression data. While this approach seems to be a viable solution to bring together data from different digital platforms, questions remain on how to incorporate television data.

At the time of writing, cross-media solutions are being built in the pilot markets, but there are many issues yet to be clarified. While much progress has been made, it remains to be seen how solutions will be constructed technically for all media and to what standards whilst maintaining privacy rules. Who will fund, manage and operate the measurement and how? Advertisers aim for the solution to be used for media planning, but how will it fit next to existing currencies, measurements and Joint Industry Committees (JICs) in the countries involved? Will the existing measurements be used or will new ones be produced, or a combination of the two? To which degree will there be standardisation across countries to meet the needs of those who advertise across screens, platforms and countries or, if not, how will the needs of those advertisers be met? Broadcasters and other participating media groups still need to decide what role they, their measurements, their JICs and their input - both in terms of effort and financial resources - should have in this initiative.

egta has been following the WFA initiative closely since it started with a clear objective to make sure that the broadcasters' voice is heard and to argue that existing TV measurement solutions should be strongly considered in any proposed solution. In January 2020, egta organised a meeting in Paris called *Bridges in Audience Measurement*, which brought together approximately 150 key stakeholders in the advertising and measurement industry to discuss how progress can be achieved in cross-media/total video measurement. In addition, as a response to the WFA's cross-media measurement framework, as well as the technical proposal, egta initiated an extensive internal consultation process amongst its members to collect feedback, ideas and constructive criticism to formulate a response to the process and output so far on behalf of broadcasters. As the work has moved to local markets, egta continues to seek progress updates by consulting with key industry stakeholders.

In general, egta encourages broadcasters to remain positive and openminded as the industry moves towards cross-media measurement solutions. In relation to the advertiser-led initiative, it is understandable that some feel reluctant to participate fully, for various reasons. For example, broadcasters are already funding their own national measurement systems, and are thus unwilling or unable to co-fund another. Another issue is the fact that the solution being pursued by the advertisers has been developed

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FIGURE 11: WFA'S INDUSTRY FRAMEWORK FOR CROSS-MEDIA MEASUREMENT (PRINCIPLES)

Source: WFA 2020.

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[6] Establishing principles for a new approach to Cross-Media Measurement. An Industry Framework, WFA, October 2020, https://wfanet.org/l/library/download/urn:uuid:ea16e189-7592-416e-be8e-063bd674de9e/wfa+industry+framework+for+xmm.pdf?format=save_to_disk&ext=.pdf.

entirely by data engineers from global platforms with little consultation and no involvement of other media groups. However, this is new territory for every media involved, and it is safe to assume that this initiative will not disappear, as those involved are moving fast. egta is determined to protect the interests of broadcasters and to uphold the value and standards of the solutions in place or currently being developed and adapted by national JICS, but it also believes that the TV industry stands more to gain from getting involved to secure a fair and qualitative representation of TV data in the developed solution rather than sitting on the side-line.

CFlight – A TV approach to holistic video measurement

While national JICs and data currency providers are developing industry-supported solutions to measure audiences across screens and platforms, advertisers have long criticised the speed of these developments and are calling for faster solutions, which will allow them to plan, compare and assess the results of their video campaigns holistically. As a result, many companies are proposing to answer some of the questions raised by advertisers through their own proprietary solutions.

CFlight is an example of such proprietary solution from within the TV industry. It seeks to answer one of advertisers' most pressing questions: how to deliver unified campaign measurement within the premium video ecosystem across screens, platforms and markets. CFlight was first introduced as a concept by NBCUniversal in the US in 2018 on the occasion of the Winter Olympics, and adopted by Sky Media in the UK the year after. Both TV companies are owned by Comcast and thus share certain data and technologies. CFlight is based on a collaborative approach around a set of principles for comparison between linear and online contacts/impressions at the most comprehensive level possible. These can be adopted by anyone, but implementation will differ depending on the availability of data in markets, as well as the data assets available to individual broadcasters. The

core principles of CFlight are: to leverage existing industry measurement for linear while utilising the best available measurement for digital/VOD, to converge linear commercial impressions by duration and completed digital ad impressions, and to include co-viewing on the TV screen for both TV and digital. CFlight is in use in the US, while it is being introduced in the UK and Germany in 2021, and it is attracting interest as a concept in additional markets.

One of the main objectives of CFlight is to capture total consumption within a broadcaster's video ecosystem to enable advertisers and agencies to think more holistically about premium video usage. It does so by leveraging the best available industry measurement to the widest extent possible and then 'filling the gaps' with the best available additional data sources in a market. As an example, to protect the core market currency, Sky UK uses BARB data for linear measurement, but as there is currently no industry-approved way to calculate deduplicated reach for linear and VOD for demographic audiences in the UK, CFlight uses other data sources and methodologies to calculate reach. The audience data comes from various trusted sources, including BARB, Freewheel and Sky's own 500k household panel. The methodology used by Sky UK has been created by a trusted independent source and data-processing, operations and methodology are independently audited.

Another key objective is to raise the bar in cross-platform measurement and enable apples-to-apples comparisons between linear and online impressions, e.g. in relation to viewability and duration. For example, NBCU and Sky maintain shared principles around the minimum standards required for the measurement of VOD impressions across all screens and devices. Sky UK offers deduplicated campaign reach for all platforms and devices, and NBCU is also working towards a reach solution.

As of mid-2021, CFlight is being adopted by Channel 4 and ITV who together with Sky UK represent the vast majority of commercial broadcast viewing in the UK. Using the same principles and standards, they aim to

enable a holistic view of linear and BVOD campaign reach. Sky is also bringing CFlight to Ireland, while it has already been launched in Germany by Sat 1/Seven.One Media and Sky Germany. For Sat 1/Seven. One Media, launching CFlight is a way to apply the high standards and quality of television measurement to online video, and thereby establishing a high-quality total video branding. They have for example agreed on a fair and meaningful comparability of cross-media reach and agreed on high standards so that only campaign video impressions that meet a 100% view-through rate, 100% audio-on and 100% visibility are counted.

Global Alliance for the Measurement of Media Audiences (GAMMA)

In May 2019, BARC (India), Médiamétrie (France), Numeris (Canada) and Video Research (Japan) – all of which are individually covered in Part 2 of this report - announced their collaboration to align audience measurement operational processes and technical standards across the globe. A common feature of the four members is that they all act as both measurement companies as well as JICs in their respective markets. The primary objective of this alliance is to create a common technical framework, whereby global digital platforms may actively participate in an effort to further enhance and monetise their digital footprint worldwide. The global body will also work towards future video audience measurement initiatives.

GAMMA aims to leverage the collective knowledge and sector expertise of each member to advance audience measurement solutions worldwide. Through closer cooperation, the participants intend to identify strategies and solutions that are more transparent and standardised. This will ensure greater efficiency, consistency and scope for audience measurement providers and their partners from this point forward.

The four founding nations collectively account for a total population of more than 1.5 billion and represent a combined advertising spend of USD 78 billion (15% of the world total).

The audience measurement activities of egta

In addition to publications such as this one, egta has held regular meetings of its own Audio-Visual Currency Group so that broadcasters, JIC's and as appropriate research agencies can update each other on their plans, learn from each other and work to develop the hybrid solutions.

egta has also done this in communication with the WFA for the advertisers and EACA for the advertising agencies. Alongside the I-COM conferences, egta has met annually to further these discussions amongst others with those from outside Europe. In due course, egta has been able to bring representatives of some of the larger new suppliers of audio-visual content via the internet into these conversations which have highlighted some of the issues discussed throughout this publication.

Audience measurement is also a recurring topic on the agendas of egta's annual Market Intelligence Meetings, and we have organised several stand-alone conferences and events dedicated solely to the topic of measurement. Since 2018, egta has held independent meetings termed Bridges in Audience Measurement which aim to create discussion and dialogue between the otherwise siloed measurement approaches and practices of different industry groups; e.g. between TV and digital, between markets, between metrics and business outcomes, and between industry partners from both buy and sell side. For example, a meeting held in January 2020, gathered key stakeholders from the industry to discuss the WFA cross-media measurement initiative at a global stage.

egta continues to follow and take part in audience measurement initiatives, foster dialogue and promote robust and future-looking audience measurement solutions for the TV industry and beyond.

The TV Charter: TV companies' commitment towards the responsible and transparent measurement of advertising in the Total Video ecosystem

A key focus in cross-media/total video audience measurement must be to strike a balance between media owners' legitimate claim to see all their audiences measured and accounted for, and advertisers' demand for solutions which will allow them to plan, compare and assess the results of their campaigns across screens and platforms in transparent and brand-safe environments. To get 'apples to apples' comparison across TV and online advertising, standards, definitions and metrics must be discussed, aligned and agreed. It is fundamental to any total video solution that the industry agrees on how to compare advertising formats and the environments in which ads are shown, and that differences are represented fairly. Setting standards for viewability, transparency, accountability and data comparability is vital to creating a level playing field.

To this end, egta has launched a TV Charter which outlines broadcasters' commitments to raising the bar for the whole industry. It defines a set of simple principles which aims to raise the bar with regards to measurability, data transparency and accountability and defines measurement standards for the entire TV industry. It serves as a reminder that TV's premium environment – both on-air and online – already meets advertisers' legitimate demands for brand safety, transparency and access to verified data, as outlined in the *Global Media Charter*, published by the World Federation of Advertisers in 2018.

Launched in October 2019, the TV Charter was adopted by a vast majority of egta's 155 member sales houses active in over 42 countries, as well as by notable industry trade bodies such as Screenforce (DE, AT, CH, FI, NL), Thinkbox (UK), ThinkTV (AU/CA) and the VAB (US) which comprise The Global TV Group. The ultimate goal set forward by egta and The Global TV Group is to build a solid foundation for the TV industry to move forward in unison – evolving audience measurement, setting the highest standards allowing for comparability on a global level and building bridges with industry stakeholders in an increasingly digital, multi-screen and cross-platform advertising landscape.

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"In a fast-evolving media landscape characterised by changing viewing behaviour across screens and platforms, audience measurement too must evolve. As a growing amount of companies develop proprietary solutions in an attempt to solve part of the equation, it seems increasingly clear that the adoption of common industry guidelines is a much better option and that setting standards for viewability, transparency, accountability and data comparability is imperative to creating a level playing field. This is what this Charter is all about; it outlines TV companies' commitment to raising the bar for the whole industry. It is a reminder to advertisers that TV's premium content and environment – both on air and on line - already meet their growing demands for brand safety, transparency and access to reliable and verified data."

Malin Häger, Commercial Director, Advertising Nordics, TV4 Media and former President, **egta**

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THE EGTA TV CHARTER

egta.

on TV companies' commitment towards the responsible and transparent measurement of advertising in the Total Video ecosystem.

WHAT IS A **VIEW** TO **ADVERTISING**?

A *view* - whether on linear TV and on TV companies' online properties - is a view. TV companies, in their dealings (negotiations, planning, reporting and billing) with advertisers and their agency, will only apply the notion of a *view* to:

Premium content seen in a brand-safe environment over which TV companies have **full control** and for which they take **full responsibility** as publishers

Content that is seen at **normal speed**

With the **sound on**

Full screen or **fully viewable**

To a **minimum completion rate of 75%** - with the objective of quickly reaching 100% (*once the practical and technological challenges of such a precise measurement are solved*)

CONSISTENT APPROACH TO **MEASUREMENT**

TV companies commit to a **continued** and **consistent approach to measurement**:

They will apply the **quality and transparency** of TV measurement to their online properties

They are and will always be **clear and transparent about the origin of the data used** (panel, census, set-top box at household level, etc.)

They are willing to be **independently measured**

They are willing to be **audited**

They will strive for solutions that allow for **cross-platform measurement and comparisons**

PART 05:
AVAILABILITY OF DIGITAL VIDEO AND CROSS-PLATFORM MEASUREMENT SOLUTIONS BY MARKET

In March 2021, egta surveyed a number of markets to explore the extent to which **digital video** and **cross-platform video** (please see the list of definitions below) measurement systems for both content and advertising are available (or expected before end-2022) and regarded as currencies.

The survey includes input from 15 markets (please see the list of countries below). In this report, egta is only able to bring a summary of the answers which means that some details have been left out, but it still provides a good overview of where each market is in terms of developing solutions for measuring digital and cross-platform video. The full version of the survey is available to all egta members and to the JICs that participated upon request.

▶ *The results of the survey are available on pages 124-127.*

Definitions:

- Broadcast TV: Linear TV broadcast on traditional platforms (cable, satellite, terrestrial), incl. traditional playback. It also includes linear stream that is distributed via a set top box by a network operator.
- Digital video: Any kind of video that is NOT broadcast on traditional platforms (cable, satellite, terrestrial).
- Cross-platform video: Broadcast TV + digital video

Countries covered:

- Austria (AT)
- Bulgaria (BG)
- Canada (CA)
- Finland (FI)
- France (FR)
- Germany (DE)
- Hungary (HU)
- Italy (IT)
- The Netherlands (NL)
- Russia (RU)
- Slovenia (SI)
- Spain (ES)
- Sweden (SE)
- Switzerland (CH)
- United Kingdom (UK)

DIGITAL VIDEO MEASUREMENT

	Content		Advertisisng	
Is there a measurement of digital video inventory that is regarded as a "currency" by most of the market **available or expected by end of 2022?**	**Yes**	AT, BG, CA (by 2023), CH, DE, FR, HU, IT, NL, SE, UK	**Yes**	AT, BG, CH, DE, IT, NL, SE
	No	ES, FI, RU, SI	**No**	CA, ES, FI, FR, HU, RU, SI, UK
Type of currency	**Planning**	BG, CA, CH, DE, ES, HU, NL, SE, UK	**Planning**	CH, DE, ES, NL, SE, UK
	Reporting	AT, CA, CH, DE, ES, FR, HU, IT, NL, SE, UK	**Reporting**	AT, CH, DE, ES, IT, NL, SE, UK
	Trading	CH, HU, SE	**Trading**	BG, CH, SE (by 2022)
Who "owns" the content and advertising measurement?	AT: GfK BG: Gemius CA: JIC CH: JIC DE: JIC ES: Comscore FR: Médiamétrie/NetRatings HU: JIC IT: JIC NL: JIC RU: Mediscope, Gemius SE: JIC UK: JIC		AT: GfK BG: Gemius (using AdOcean) CH: JIC DE: JIC & Nielsen DAR ('Follow the Campaign') ES: Comscore FR: Nielsen DAR IT: JIC NL: To be decided RU: Mediscope, Gemius SE: JIC UK: MOC (CFlight)	
Type of measurement used	**Common measurement** (common external measurement library mandatory for all publishers)	AT, BG, CA, CH, DE, FR, HU, IT, NL, RU (but not mandatory), SE, UK	**Common measurement** (common external measurement library mandatory for all publishers)	AT, BG, CH, DE, NL, RU (but not mandatory), SE
	1st party measurement (each publisher using own server logs)	CH (tags, not server logs), ES, FR, HU	**1st party measurement** (each publisher using own server logs)	CH (tags, not server logs), DE, ES, UK
Publishers covered	**Total Cross-Platform** (incl. FB, YT, Netflix etc. albeit on a more aggregated level, e.g. market level)	CA, CH, DE, NL, SE, UK	**Total Cross-Platform** (incl. generic campaigns on FB and YT)	DE (DAR-certified publishers), SE (maybe by 2022)
	Participating publishers only	AT, BG, CA (program-level info), CH, DE, ES, FR, HU, IT, RU, SE	**Participating publishers only**	AT, BG, CH, ES, IT, NL, RU, SE, UK

DIGITAL VIDEO MEASUREMENT (CONTINUED)

	Content		Advertisisng	
Type of inventory measured	Linear formats (e.g. catch-up, live stream)	AT, BG, CA, CH, DE, ES, FR, HU, IT, NL, RU, SE, UK	In-stream video ads	AT, CH (planned), DE, ES, FR, IT, NL, RU, SE, UK
	BVoD	AT, BG, CA, CH, DE, ES, FR, HU, IT, NL, RU, SE, UK	Out-stream video ads	CH (planned), DE, ES, FR, IT, NL, RU, SE
	Any in-stream video from any publisher	CA, CH, DE, ES, FR, HU, IT, NL, RU, SE, UK	In-page ads (display)	CH (planned), ES, FR, NL, RU
	Out-stream (any type of video)	CH (planned), DE, ES, FR, HU, IT, NL, RU	Audio ads	FR, RU
	In-page (display)	BG, CH (planned), ES, FR, HU, NL, RU		
	Audio	CH (planned), NL, RU		
Digital metrics available	Impression	BG, CA, DE, ES, HU, IT, NL, RU, SE	Ad impression	BG, DE, ES, FR, IT, NL, RU, SE, UK
	Video View	AT, BG, CH, DE, ES, FR, HU, IT, NL, SE, UK	Ad view	AT, CH (planned), DE, ES, FR (DAR option), IT, NL, SE, UK
	Reach	CA, CH, DE, ES, FR, HU, IT (by 2022), NL, SE, UK	Reach	CH (planned), DE, ES, FR, IT (by 2022), NL, SE, UK
	Duration	AT, CA, CH, DE, ES, FR, HU, IT, NL, SE, UK	Duration	AT, CH (planned), ES, FR (DAR option), IT, NL, SE, UK
	Audience	BG, CH, DE, ES, FR, HU, IT, NL, SE, UK	Audience	CH (planned), DE, ES, FR, IT (by 2022), NL, SE, UK
			In-target rate	CH (planned), DE, ES, FR, IT (by 2022), SE
			CPM	BG, FR, NL
	Other	CA: Deduplicated reach, device consumption, in- & out-of-home DE: Cumulated watch time FR: Profiles SE: TV+Online Ratings		

	Content		Advertisisng	
Is there a measurement of digital video inventory that is regarded as a "currency" by most of the market available or expected by end of 2022?	**Yes**	AT, CA (by 2023), CH, DE, FI, FR, IT, NL, SE, UK	**Yes**	AT, CH, DE, FI (expected), FR (only post -campaign w. XCR), IT, NL (expected), SE
	No	BG, ES, HU, RU, SI	**No**	BG, CA, ES, HU, RU, SI, UK
Type of currency	**Planning**	CA, CH, DE, FI, NL, SE, UK	**Planning**	CH, DE, FI, NL, SE, UK
	Reporting	AT, CA, CH, DE, FI, FR, IT, NL, SE, UK	**Reporting**	AT, CH, DE, FI, FR, IT, NL, SE, UK
	Trading	CH, SE	**Trading**	CH, FI, SE (by 2022)
Who "owns" the content and advertising measurement?	AT: GfK CA: JIC CH: JIC DE: JIC FI: MOC FR: JIC IT: JIC NL: JIC SE: JIC UK: JIC		AT: GfK CH: JIC DE: JIC & Nielsen DAR ('Follow the Campaign') FI: To be decided FR: Médiamétrie/NetRatings IT: JIC NL: JIC RU: Mediscope SE: JIC UK: MOC (CFlight)	
Publishers covered	**Total Cross-Platform** (incl. FB, YT, Netflix etc. albeit on a more aggregated level, e.g. market level)	CA, CH, DE, FI (partly), NL, SE, UK	**Total Cross-Platform** (incl. generic campaigns on FB and YT)	DE, SE (maybe by 2022)
	Participating publishers only (e.g. BVoD sites along with linear TV in the same system)	AT, CA (program-level info), CH, DE, FI, FR, IT, SE	**Participating publishers only**	AT, CH, DE, FI (TBD), IT, NL, RU, SE, UK
Type of inventory measured	BVoD	AT, CA, CH, DE, FI, FR, IT, NL, SE, UK	In-stream video ads	AT, CH (planned), FI, FR, IT, NL, RU, SE, UK
	Any in-stream video from any publisher	CA, CH, DE, FR, IT, SE, UK	Out-stream video ads	CH (planned), FR, IT, RU, SE
	Out-stream (any type of video)	CH, DE, IT, SE	In-page ads (display)	CH (planned), FR, RU
	In-page (display)	CH (planned), IT	Audio ads	RU
	Audio			

	Content		Advertisisng	
Digital metrics available	Impression	CA, DE (online only), IT, NL, SE	Ad impression	DE (online only), FR (online only), IT, NL, RU, SE, UK
	Video View	CH, DE (online only), FR, IT, SE, UK	Ad view	CH (planned), DE (online only), IT, SE, UK
	Reach	AT, CA, CH, DE, FI, FR, IT (by 2022), SE, UK	Reach	AT, CH (planned), DE, FI (TBD?), FR, IT (by 2022), SE, UK
	Duration	AT, CA, CH, DE, FI, FR, IT, SE, UK	Duration	AT, CH (planned), DE (not all publishers covered), FI, IT, SE, UK
	Audience	AT, CH, DE, FI, FR, IT (by 2022), SE, UK	Audience	AT, CH (planned), DE, FI, FR, IT (by 2022), SE, UK
			In-target rate	CH (planned), DE, FR, IT (by 2022), SE
			CPM	AT, DE (only TV)
	Other	CA: Deduplicated reach, device consumption, in- & out-of-home FR: Profiles DE: Cumulated watch time SE: All available metrics		

ACKNOWLEDGMENTS

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egta is the Brussels-based trade association of more than 160 television and radio advertising sales houses. egta's members are spread across over 40 countries, mainly in Europe. Together, egta's TV members represent over 80% of the European television advertising market, whilst egta radio members collect 60% 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.

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