

COUNCIL FOR PREMIUM VIDEO EUROPE

# mtm

# THE STATE OF EUROPEAN TV ATTRIBUTION

A REPORT BY THE FREEWHEEL COUNCIL FOR PREMIUM VIDEO, EUROPE IN PARTNERSHIP WITH MTM

**OCTOBER 2019 #TVAttribution** 

### **Executive Summary**

TV is becoming increasingly data-enabled and buy- side and sell-side industry participants are gaining access to more and more viewer data. This enables new offerings of advanced TV attribution products to the market, allowing advertisers to match viewer outcomes (e.g. offline/online traffic or sales, brand metrics and TV tune-in) to TV advertising exposure with increasing levels of accuracy.

To some extent, the TV industry is responding to developments in the online advertising market, where advertisers are able to see the impact of digital campaign touchpoints on online conversions and sales, often in real-time. Some digital campaign reports even offer the ability to track offline activity.

The advanced TV attribution market in Europe is less established than in the US: broadcaster sales houses have less access to set-top box (STB) data, smaller national markets impose natural caps on investment in ad tech, and the regulatory environment imposes more restrictions on data sharing. However, advanced TV attribution solutions are making headway in Europe with brand-led initiatives based on probabilistic approaches.

Specialist TV attribution tech vendors play an important role in this emerging ecosystem. These vendors use a variety of techniques - some deterministic, some probabilistic - to match ad exposure to outcome datasets. European vendors typically use probabilistic methods to attribute TV ad exposure to real-world outcomes as persistent device identifiers or personal identifiers are not as readily available. **Brands are increasingly using these tools to improve the accountability of TV campaigns through linking exposure to online outcomes.** There are a number of challenges to advanced TV attribution in Europe that are being addressed as the market develops. These include increasing the accessibility of return-path data from STBs and other connected devices; more support from broadcasters on industry efforts to determine a common approach to defining niche audiences and offer advertisers the ability to target audiences across broadcasters through a single channel.

This report focuses on the emergent state of TV attribution in Europe: where it is today, the vendor landscape, broadcaster initiatives and the key challenges the industry will need to overcome in order for advanced TV attribution to reach its full potential. The report uses interviews with industry stakeholders to inform its findings. Interviewees include representatives from European media agencies, tech vendors, trade bodies and broadcaster / pay-TV sales houses.

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TV advertising sales houses are starting to raise investments in data-driven advertising solutions such as audience-based planning and addressable TV. These developments, through their use of viewer data, lay the groundwork for advanced TV attribution.



**Dr. Jens Mittnacht** Managing Director Strategy & Operations, SevenOne Media.

# BACKGROUND & CONTEXT

# **Online video advertising in a fragmented market**

The TV market is experiencing a period of significant and accelerating change, as linear TV consumption declines and broadcast TV transitions into multi-platform TV. TV is becoming more fragmented and widely distributed, and new OTT video services such as broadcaster catch-up and SVOD are making their way onto TV screens across Europe. This creates greater competition than ever for audiences, advertising budgets and customers - and new challenges in how to measure audiences and effectiveness across this fragmented viewing landscape.

The report focuses on four of the largest markets in Europe: France, Germany, Italy and the UK. While these markets share superficial similarities such as affluent citizens, global brands, a high penetration of connected TV (CTV) sets and an appetite for advertising innovation, each has their own characteristics and industry participants. Understanding these different underlying market dynamics is crucial when considering advanced TV attribution in Europe.

#### Figure 1 Key market characteristics

Market size:				
Individuals	70.0m	82.5m	60.6m	65.8m
TV households	29.3m	40.7m	25.9m	27.5m
TV ad spend	€3.35bn	€4.54bn	€3.94bn	€4.68bn
Digital ad spend	€3.80bn	€5.49bn	€2.18bn	€12.78bn
Key TV advertising sales houses	Canal+ Brand Solutions, France.tv Publicité, M6 Publicité , TF1 Publicité	IP Deutschland, SevenOne Media, Sky Media	Publitalia '80/ Mediamond, Rai Pubblicita, Sky Pubblicita	4Sales, ITV Media, Sky Media

Source: RTL AdConnect, MTM London, Sept 2019

On the sell-side, each market has its own set of key sales houses operating within different national regulatory, trading and measurement frameworks.

On the buy-side, brands and marketers must establish relationships on a market-by-market basis, while simultaneously tailoring brand messaging to national cultures and languages and adhering to national advertising legislation.

Our clients like to work efficiently, but it's difficult to have a uniform approach across markets with different metrics, targeting capabilities, cultures and reporting methodologies.



Kevin Surgrue Director Insight EMEA, IPG Mediabrands Marketing Sciences

These different market dynamics have resulted in different rates of online video advertising spend in this study's four markets. Online video advertising spend in the UK is the equivalent of 38% of TV advertising spend, but only 8% in Germany. These variations also apply to the broader TV and online markets: TV advertising now accounts for 22% of total advertising spend in the UK, whereas in Italy it still captures 50% of total ad spend. Online advertising accounts for 59% of total advertising spend in the UK and 28% in Italy<sup>1</sup>. Germany is also a far larger market, with 10-15m more households than the other three countries in this report.





Online Video ad spend (2017) TV ad spend (2017)

Source: WARC ad spend data (2017), WARC, IAB Netherlands, IAB UK, IAB Europe, IAB Italia (2018)

## Data-driven TV and the rise of new forms of audience and advertising effectiveness measurement

Broadcasters, TV platforms, agencies and advertisers have increasing levels of access to proprietary data sets and rich consumer data from various sources. These new datasets include STB return path data, viewing information from OTT apps and ACR software embedded in Smart TV sets.

The datasets outlined above, combined with new delivery methods, have led to new forms of data-driven advertising on both online catch-up services and linear broadcast TV. **Broadcasters, pay-TV providers and telco operators can now offer agencies and advertisers the ability to better target their advertising campaigns and move consumers down the purchase funnel.** Beyond high-level demographics (e.g. adults aged 16-34, geo-targeting at a regional level), advertisers now have the ability to target audiences based on increasingly granular audience characteristics, such as pet ownership, or at postcode-level geographies. Through a mix of DAI (Dynamic Ad Insertion) and programmatic trading, broadcasters can serve the most relevant ad to an individual or household more efficiently.

Data-driven advertising creates exciting new opportunities for audience and advertising effectiveness measurement. The most advanced solutions in today's marketplace offer the ability to:

- Track audience consumption of both content and/or advertising across multiple devices
- Index network/programme viewing to advertisers- and campaign-specific target audiences (beyond age/gender) and use media rankers to efficiently reach the target audience(s)
- Match advertising consumption with consumer activity, whether activation (e.g. traffic, sales) or brand building (e.g. awareness, affinity) to enable performance-based attribution

# Figure 3 **The different components of measurement and effectiveness**



#### Source: MTM analysis, Sept 2019

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# TV attribution measures the impact of TV advertising on sales, traffic and other types of audience behaviour

Establishing the outcomes of a marketing campaign based on media buys and audience composition is a well-understood objective of marketers and advertisers.

Digital attribution for online advertising is well known and relatively widespread. However, in some cases, models for assigning value to different channels omit the important role played by TV advertising in the sales process.



In an era of online advertising, the need to understand and account for customer behaviour and purchase intentions in the TV environment is even more critical.

A widely adopted tool for TV attribution is media mix modeling (or marketing mix modeling, MMM). MMM is a 'top down' methodology for measuring return on media investments and considers performance across a range of channels (including TV, online, print, radio, etc.) to estimate ROI (Return On Investment) for each channel. MMM provides marketers with an overview of campaign performance, but it requires large volumes of historical data, is updated monthly or quarterly and the results do not allow for tactical optimisation (such as channel choice, daypart, etc.).

Algorithms or statistical models assign value to each channel's ability to drive desired business outcomes whether it's brand lift, consideration, web/in-store traffic or sales. This "bottom up" approach differs from marketing mix modeling since attribution exists at a micro level, relying on very granular data at the household, individual consumer and/or device level. Within this type of attribution model, there are different techniques for allocating the value of audience engagement at different points within a campaign, as shown in the Figure 4.



# Figure 4 **The evolution of attribution models**

	Marketing Mix Modeling	First/Last Touch Attribution	Multi-Touch Attribution	Cross-Channel Attribution
Approach	Top Down, Broadcast/Mass Media	Bottom Up, Single Channel, Targeted Media	Bottom Up, Single Channel, Targeted Media	Bottom Up, Mass & Targeted Media
Timeframe				
Data Granularity:	Media Investment/Sales	Individual	Individual	Individual & Household
Data Granularity: Results Updated:	Media Investment/Sales Quarterly	Individual Daily	Individual Daily	Individual & Household Weekly

Source: VAB/FreeWheel Council for Premium Video "Assigning TV credit" white paper 2018<sup>2</sup>

# The only attribution models we're running right now are MMM but the research is long-term and expensive - this is why we're in the process of building out our digital analytics capabilities.

#### **Digital Marketing Director - Pay-TV provider**

Demand for more advanced means to measure ROI across different channels is being driven by innovative approaches in online advertising, where marketers are able to track users from exposure to purchase decision and understand the contribution of each marketing channel to the outcome.

For TV advertising, the datasets that are required to feed attribution models are less readily available and, where detailed data from STBs and other connected devices is obtained, there is complexity in making the link between ad exposure and the associated outcomes due to privacy considerations.

With innovations in online advertising to address the challenges faced in current forms of TV attribution, new advanced solutions are being developed and these are likely to become pivotal in the marketer's toolbox. As multi-touch attribution is introduced into the market, it will help marketers assign a more representative value to TV advertising.

# At the core of advanced TV attribution is the link between data relating to advertising exposure and associated real world outcomes.

Our clients need to see sales uplift and ROI - conversion is what they want and attribution provides us with a huge amount of data that we can use.



**Simon Thomas** Global Director Audience Research and Media Investment, GroupM

Ad exposure datasets are generated from a range of sources but typically use a common method. Most solutions in Europe rely on automatic content recognition (ACR) to detect when an advert has been shown on a TV set. In some cases, the ACR data is then cross-referenced with broadcast schedule logs and traditional audience measurement data to correlate an ad exposure to a specific TV channel.

Outcome attribution datasets are more diverse. To date, most European TV attribution solutions focus on TV-to-web measurement, using data from web tracking or analytics tools as a means to understand engagement with TV advertising:

- 1. A baseline for 'normal' web traffic is estimated to establish an approximation of the type of website activity that is expected without any TV advertising
- 2. Solution providers track website activity in a short time period (5 to 15 minutes) after a TV advert is detected
- 3. Performance is evaluated by comparing the recorded website activity with the expected baseline

In some cases, solutions link with online search engines to measure changes in search frequency in a similar way to web traffic. For offline metrics, multi-source solutions have historically been necessary in order to, for instance, incorporate transaction records from datasets provided directly by brands and location-based data to estimate footfall at stores and venues.

#### Figure 5 Key advanced TV attribution dataset

#### Ad exposure datasets



Server-based content recognition





Broadcast schedule logs

TV-based

recognition

content

Source: MTM analysis, Sept 2019

#### **Outcome datasets**



The most sophisticated solutions offer attribution techniques that exploit direct links between ad exposure and outcomes by mapping census-level data from connected TVs (such as Smart TVs and pay-TV set-topboxes) to device and user identifiers. These persistent identifiers can be used to track user activity across a range of other data sources, including online ad exposure, purchasing journeys and location tracking systems (e.g. Foursquare, beacons). Typically, these approaches are more common in the US, as in Europe, post-GDPR, it is more challenging. Select advanced TV attribution providers are forming partnerships with organisations that track brand metrics, such as DataPlusMath's partnership with Kantar Millward Brown. These point towards a future where advertisers can use advanced attribution offerings to optimise at all stages of the marketing funnel.

Some vendors are pioneering single-source measurement of TV ad exposure, across all viewing touch points on mobile devices and TV screens. With these approaches, TV ad attribution can be measured at a very granular level from a GDPR-compliant panel community, albeit on a smaller scale due to panel size limitations.

Brands are increasingly using advanced TV attribution products to add greater accountability to their TV campaigns, improve campaign optimisation and build a more complete picture of cross-media attribution. In terms of adding accountability, advanced TV attribution tools provide brands with the ability to link outcomes with TV ad exposure and prove the effectiveness of TV ad spend. Brands can get more granular data than through a standard panel-based approach, making it easier to prove sales and traffic uplift.

TV advertising has a long history of being an effective branding tool. **Advanced TV attribution provides the evidence for using TV as a performance marketing tool as well, and provides brands with the ability to improve campaign optimisation.** While MMM is a well-established tool, it takes time to produce results advanced TV attribution is near real time, allowing brands to optimise their spend (whether by daypart or channel, or other methods) mid-campaign.

Whilst TV attribution only measures the very short-term, observable effects, they're an increasingly important tool to give marketers accountability of their TV activity and the ability to optimise their campaigns

#### **Research Director - Broadcaster Trade Body**

In the US, a range of media sales houses have worked with tech vendors to develop offerings that provide the ability to accurately link website traffic, online/offline sales and brand health impact via "deterministic" offerings. A series of case studies from the US can be found in the VAB/FreeWheel Council for Premium Video "Assigning TV credit" white paper.

The TV attribution market in Europe tends to rely on statistical inference rather than deterministic models i.e. 'probabilistic' offerings. The factors that have contributed to the growth and development of advanced TV attribution in the US are not as prevalent in Europe:

- Pay-TV penetration varies significantly across these markets: in Italy pay-TV penetration is 29%, in Germany it is 88%
- Broadcasters are contractually obliged to offer inventory to pay-TV providers in the US, allowing pay-TV operators to build sales houses with access to STB viewing and ad exposure data matched against household data. These arrangements do not typically exist in Europe and data sharing agreements are more limited in scope
- GDPR, national data legislation and cultural attitudes towards data sharing place restrictions, both perceived or real, on the amount of personal data that can be shared between organisations

In Europe, the vendors are important participants in the developing landscape and the next section discusses these players in more detail.

## Third party vendors are major participants in the European TV attribution landscape

Access to new datasets and advanced data analytics has provided fertile ground for third party vendors to develop more advanced TV attribution solutions. In particular, the adoption of connected TVs and STBs has increased the reliability and utility of viewing data that is captured by the OEM or TV operator at a device-level. In the US, connected TV household penetration has reached 72%, compared to 66% in France and just over 40% in the UK and Germany. Coupled with developments in data science techniques, marketers have more opportunities to extract value from previously unavailable data assets.

Advanced TV attribution is a high priority for us and our members, particularly performance-driven advertisers.



Brands, agencies and media sales houses are supported by an increasingly sophisticated supply chain of advanced TV attribution vendors that range from complex offerings (evaluation of viewing data from a range of sources and correlate it to a range of marketing outcomes), to more specialist ad measurement providers (use of advanced ACR for multi-touch ad exposure tracking and measurement). We define categories of TV attribution provider by considering the methodology used to link ad exposure datasets with information about real-world outcomes:

- **Single-source providers** solutions that rely on panels of users to track ad exposure and link with outcomes on an individual basis for a representative subset of the population
- **TV/Digital attribution providers** solutions that use TV device data (e.g. connected devices and STBs) and machine learning techniques to provide attribution for TV advertising
- Other (typically MMM providers with attribution & cross-platform) solutions that typically provide attribution solutions using media mix modelling, that have expanded into advanced attribution for specific clients



#### Figure 6 **Overview of selected advanced TV attribution providers**



Source: MTM analysis, Sept 2019

US-focussed

Typically, vendors in Europe use probabilistic methods to attribute TV ad exposure to real-world outcomes. Persistent device identifiers or personal identifiers are not readily available in Europe and limits the ability for household-centric measurement to use direct links between ad exposure and performance-based metrics. The table on the next page highlights different types of solutions provided by some TV attribution vendors.



# Figure 7 Selected vendor profiles

	🔊 admo.tv	Adalyser°	I.I.I BEATGRID MEDIA		
Key market					
Ad exposure					
Outcome datasets	<b>∠</b>	K d 🖥 🎘	Č∎ ♀		
Solution overview	Uses server-side video & audio fingerprinting to track broadcast ads & analyses spikes in client's web & app traffic in post-broadcast period. Profiles typical user that engaged with brand following ad broadcast and tracks additional metrics based on profiled audience.	Uses advanced macine learning to attribute web and app visits and downstream events to broadcast of TV ad. Can also work with advertiser to track offline events, e.g. bespoke call centre number in TV ad.	Uses GDPR-compliant mobile panels and proprietary passive ACR technology to accurately measure ad exposure across devices & channels. Can track geolocation of mobile phone to monitor offline traffic as well as unduplicated reach and frequency.		
Key clients	PUBLICIS MEDIA	Sky MEDIA denta Accus	🐠 🗿 💀		
Future focus	International expansion, integrating return path datasets, media prediction.	Trialling BVOD deterministic solutions through tag in creative.	Expansion into USA, Canada, Japan, Mexico, Spain and France.		
Launch	2015	2010	2015		
Web traffic Q Search performance Z Transaction Q Geo-location interaction TV tune-in					

#### Source: MTM analysis, Sept 2019

Server-based content recognition

Ad re-targeting

This selection of providers and analysis is meant to illustrate the differences in solutions, and is not an endorsement of certain providers over others.

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Broadcast schedule logs Mobile-based content recognition

## Laying the groundwork for TV attribution

Many TV sales houses are using increased levels of viewer data gleaned from VOD services, connected TVs and STBs, to develop new data-driven advertising products that lay the foundation for advanced TV attribution solutions. The initiatives are at different stages of development; some are live and in-market, while others are still in a 'test and learn' phase. Sales houses offer different data-driven advertising products: some offer addressable advertising in VOD environments, others in linear TV environments.

#### Data-driven TV advertising solutions in Europe typically fall into three categories:

- Addressable VOD: Broadcasters collect basic user data (e.g. email address, age and gender) on their VOD platforms and sell advertising against these characteristics, in conjunction with geo-location. The most advanced VOD services offer advertisers the ability to create custom target groups based on their internal customer datasets, allowing them to match ad exposure data against business outcomes at an individual level.
- Addressable linear advertising based on pay-TV STB data: Vertically-integrated pay-TV operators (i.e. those with STBs, channels and sales houses) are able to offer addressable linear TV advertising products in some European markets, enabling advertisers to substitute ads in the linear broadcast feed based on a broad range of targeting characteristics. The building blocks are in place for an attribution solution: pay-TV operators have account IDs and associated demographics (household/user) for their customers and can track ad exposure.
- **HbbTV-based addressable overlays:** The latest version of Hybrid broadcast broadband TV (HbbTV) offer the ability to add targeted advertising overlays to the linear broadcast feed based on household characteristics such as geographic location and composition. Some sales houses in Europe can track the level of audience interaction, alongside exact levels of reach and frequency, but these interactions are not currently attributable at an individual or household level.

All three of these approaches to data-driven advertising lay the groundwork for improved TV attribution - in order to attract advertisers to their new addressable offerings, sales houses can prove that they drive measurable business impact. The most advanced VOD offerings will allow for deterministic attribution at an individual level, offering the ability to match an individual ad exposure to real world outcomes. Pay-TV operators have the components in place to offer a mix of deterministic and probabilistic attribution offerings. HbbTV-based offerings can feed into probabilistic attribution models, particularly useful for campaign optimisation.

While these solutions can be used to improve deterministic models, the associated audiences that are exposed to an addressable TV ad is smaller relative to traditional TV campaigns. The audience impact may have implications on the effective sample sizes for probabilistic TV attribution models. Probabilistic modelling is the preferred approach in Europe today, and the evolution of addressable advertising on linear TV may undermine the accuracy and effectiveness of current models used for advanced TV attribution.

We have considered a sample of initiatives for data-driven TV advertising offerings in more detail on the next page, compiled from publicly available materials and interviews with representatives from European sales houses. **SKY** launched AdSmart, its linear broadcast addressable offering, in the UK in 2014 – AdSmart offers advertisers the ability to target customers using over 1,000 different attributes including postcode or MOSAIC categorisation. From a TV attribution perspective, AdSmart has the ability to match Sky customer data with advertisers' own records, meaning brands can accurately attribute their customer activity (e.g. online traffic and online/offline sales) directly against ad exposure. Sky holds several key advantages: it has direct customer relationship, control of delivery infrastructure, access to inventory and a media sales house. AdSmart is supported by an advanced set of TV attribution capabilities that Sky is able to offer to its advertising partners. AdSmart launched in Italy and Germany in 2017 and 2019 respectively<sup>3</sup>.

**CHANNEL 4** announced a new product, codenamed Project Agora, at their Upfronts event in June 2019. Once fully launched, advertisers and agencies will be able to buy custom audience segments on Channel 4's VOD platform matched against their internal datasets. There is no out-of-the-box attribution offering but Channel 4 will be able to match ad views against advertiser datasets - advertisers will be able to match views against known interactions within their internal datasets. Project Agora builds on Channel 4's existing Dynamic TV product - Dynamic TV allows advertisers to target viewers based on location, weather, time of day, date and audience demographics. Dynamic TV works with Channel 4's VOD offering across all screens, including smart TVs, mobile and desktop.

In October 2018 **CANAL**+ announced the development of CanalXChange - an offering that will allow for advanced data-driven advertising in linear broadcast TV. The product launched in January 2019 and builds on Canal+'s vertical integration (STB, channels, sales house) to offer advertisers improved household targeting against a range of known characteristics such as geolocation, household composition and likelihood of purchasing a known product. The offering has the ability to report on precise households that viewed the targeted ad. Full attribution - including integration with third-party datasets - has already been tested and new data partnerships are on the product roadmap.



# **Challenges and opportunities for TV attribution in Europe**

There are a number of challenges to TV attribution in Europe that will need to be addressed as the market develops. Many of these are linked to the structural issues discussed in the previous sections.

A coherent approach to addressable advertising within markets: The lack of a common approach to defining niche audiences across different broadcasters and sales houses is a barrier to adoption of TV attribution techniques. Standardised audience definitions for TV are broad and based on demography rather than observed behaviour. Advanced TV attribution akin to that currently available on digital channels requires a more coherent approach to defining niche, interest- and behaviour-based (e.g. 'pet owners' or 'mortgage renewers') audiences for TV advertising that is common across multiple broadcasters. Commercial broadcasters need to engage and make progress in developing common, industry-wide capabilities and standardised offerings. Alignment and interoperability between pay-TV/telco operators, broadcasters and manufacturers is required to build effective scale and improve the effectiveness of TV attribution.

Access to connected set-top-box and TV data: TV attribution vendors in Europe have limited or no access to return path data from connected set-top-boxes and Smart TVs. ACR and fingerprinting from TV viewing on connected devices can be matched with online traffic and activation using a range of identifiers, although our analysis and industry interviews suggest that this practice is not widespread in Europe due to the limitations of data sharing agreements between vendors and TV operators/OEMs.

**Regulatory environment:** The regulatory treatment of personal identifiers varies between the US and Europe and has implications for the ways in which TV attribution vendors can match ad exposure to real-world outcomes. One matching method is IP address: GDPR considers IP addresses as personally identifiable data and places constraints on the use and storage, whereas in the US, IP address is not typically considered as a personal identifier and is used with fewer restrictions. GDPR also assigns more responsibilities to broadcasters and other distributors to secure specific permissions for additional uses for user-related data. In practice, this can extend the deployment time for TV attribution solutions as partners are required to acquire consent from their user base prior to execution.

Even in more advanced markets such as the US, there is scope for improvements and innovation. Most advanced TV attribution models currently focus on short-term performance outcomes and could result in an approach that undermines long-term brand building campaigns. There is a need to introduce long-term brand building metrics into advanced attribution models, to protect and promote the advertiser's brand. Vendors and sales houses are focussed on integrating better attribution methods for less tangible campaign success metrics (e.g. brand recall and lift) and integrate these metrics to provide attribution across the full marketing funnel. The combination of performance and brand will allow marketers to measure the impact of their media investment and optimise to improve business outcomes in the short- and long-term.

Ecosystem participants are considering the means to integrate with other media to provide cross-channel attribution, thereby allowing marketers to assess their campaign effectiveness across a full set of media types and adjust their execution accordingly. Cross-media attribution is very much still in its infancy, especially in Europe. However, in combination with a full funnel approach to understanding business outcomes, these tools would offer new means for marketers to understand the ways in which their media is affecting change within their target audience.

Advances in TV attribution also offers opportunities for sales houses to create 'outcome-based' solutions that use metrics such as consideration, intent, web traffic, offline traffic, store footfall and sales for brands that wish to engage with quantifiable business results similar to those for online advertising platforms.

# CONCLUSION

Advanced TV attribution, as one element of a potential TV advertising offering, is in its infancy in Europe but many brands, particularly those with experience of advertising in the online environment, are experimenting on a campaign-by-campaign basis. These experiments are being conducted using technology from a growing ecosystem of advanced TV attribution specialist vendors who are using probabilistic techniques to, primarily, match linear broadcast ad exposure to web traffic.

European TV sales houses are developing their data-driven approaches to TV advertising in efforts to achieve a similar level of sophistication offered by online advertising solutions. Their focus is currently on developing their addressable offerings, laying the foundation for advanced attribution solutions, along three routes: VOD, pay-TV STB data and HbbTV. Individual-level addressable advertising is primarily developing within broadcaster VOD offerings - these appear closest to developing attribution capabilities as the technological investment required to link VOD viewer accounts to advertiser/agency datasets is minimal, allowing for attribution at an individual level within the VOD environment.

Household-level addressable advertising is developing along two routes: FTA (Free To Air) broadcasters in markets with high levels of HbbTV penetration are using the latest technology to target households across a range of variables, while pay-TV providers with an integrated supply chain are building out their addressable capabilities. Sky, which represents one of the most advanced participants in the European TV attribution ecosystem, considers advanced TV attribution on a case-by-case basis to suit its clients needs. The path to developing a full attribution offering is longer and will require significant technical development, particularly in the HbbTV environment.

In general, US TV attribution providers are able to establish a direct link between advertising exposure and the relevant dependent outcomes (e.g. sales, website traffic, offline traffic etc.) based on persistent personal identifiers. Similar techniques are being developed in Europe, offering brands and advertisers new means to evaluate their campaigns and understand the levers to pull to drive value within their target audiences. Brands are welcoming this additional layer of understanding and the benefits it provides to accountability and campaign optimisation.

As the market matures, a number of challenges to TV attribution in Europe will be addressed, including increasing the accessibility of return-path data from set-top-boxes and other connected devices for broadcasters and vendors. Increased collaboration to define niche audiences and offer advertisers the ability to target audiences across broadcasters will ensure that TV remains a robust and popular advertising medium that can substantiate it long-assumed effectiveness.

# GLOSSARY

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Addressable TV - Television technology platform able to serve different targeted ad content to different audience segments watching the same linear TV program on Internet-enabled TVs and set top boxes in live, playback or VOD mode.

Attribution - The statistical method of assigning credit to the media stimuli consumers encounter along the path to "conversion"—taking action, sales, etc.—a "bottom up," consumer-and transaction-level model. Legacy attribution methods have historically been top down (see Marketing Mix Models) but emerging providers are using advanced techniques to more accurately match ad exposure with outcome data sets.

**Census-level data** - Reporting relating to a full sample of a given population. For example, viewing data from all connected devices for a particular OTT application is 'census-level' for that application

**Cross-Channel Attribution** - The process of assigning credit to the touchpoints consumers encounter along the path to conversion, when all touchpoints, online and offline are included. Sometimes driven by "rules" or algorithms that arbitrarily assign credit to one touchpoint. More often by statistical models that infer the contribution of each touchpoint to conversion, (e.g., traffic or sales). When only online touchpoints are included, Multi-Touch Attribution is a more descriptive name.

**Data Matching** - The task of identifying, matching and merging records that correspond to the same entities, typically households, or devices, from several databases using a device graph based on personally identifiable information, IP Addresses, etc. (See Device Graph)

**Dependent Variable** - The variable to be predicted by the model (e.g. sales).

**Deterministic model -** In this context, an attribution model in which outcomes are calculated through known relationships between values and variables without inference or variation. In such deterministic models, a given input will always produce the same output.

**Device IDs** - A distinctive number associated with a smartphone or other mobile device. Device IDs are separate from hardware serial numbers. Important in data matching and assigning devices to households or individuals.

**Device Graph** - A device graph links a given individual or household to all known active devices. For example, a map that establishes the relationship between a user and their smartphone, laptop, connected TV and tablet

**Digital Video** - Digital video is video content delivered via the Internet, such as programs, short videos and ads run across publisher sites, as well as social media (including Facebook and YouTube). Typically viewed on PCs, laptops, tablets and via mobile phones.

**Exposed vs. Unexposed** - Commonly used approaches for measuring ad effectiveness in which the subsequent behavior of individuals exposed to an ad is compared to individuals not exposed to the ad. Due to collinearity and the effect of unobserved contextual variables, this approach does not necessarily reveal whether or not ads have a causal effect on outcomes such as purchases and site visits. (See A/B testing)

**First-Party Data** - Loosely defined, first-party data is information owned and collected by one entity from a group of people with whom they have a relationship. Could be directly from a panel, audience or CRM (customer relationship marketing) data. Typically appended with third-party data, publicly available or behavioral data.

**IP Address** - A unique string of numbers that identifies each connected device (e.g., smartphones, tablets, television sets) using the Internet protocol to communicate over the Internet. Useful when IP addresses are static, for matching data to households for targeting purposes. But when IP addresses are dynamically assigned, they do not provide persistent identities.

**Linear Television** - Traditional television programming that follows a schedule. Typically includes live viewing and time shifting via DVR and VOD that includes the same ad load as the live telecast.

Marketing Mix Models - Models involving the application of regression and other statistical approaches to estimate the impact of marketing elements on incremental sales. Historical data is used to fit the model, which then can be used for prediction of future outcomes (e.g., sales). They assess the effectiveness of spending by channel over and above a baseline of sales that would have occurred without any marketing efforts. Often called "Top Down" models. These models explain a high proportion of the variance in sales and typically include explanatory factors like seasonality, competitive activities, and trade and consumer promotion. They are most frequently used to inform budget allocation across channels.

**Media Interactions and Halos** - Degree to which media enhance or detract from each other's effects—coordinated, sequenced for maximum performance. Often called synergies.

**Multi-Touch Attribution** - The process of assigning credit to the touchpoints consumers encounter along the path to conversion. Sometimes driven by "rules" or algorithms that arbitrarily assign credit to one touchpoint. More often by statistical models that infer the contribution of each touchpoint to conversion (e.g., traffic or sales). In practice, MTA most often refers to digital touchpoints and is used to compare the impact of digital vehicles. When online and offline touchpoints are included, Cross-Platform Attribution is a more descriptive name.

Other Marketing Variables - Aspects of product marketing besides media and advertising that drive sales. Price, promotion, product features, in-store variables, competitive trade deals and impact provide the full picture of marketplace pressure and consumer response. Models that do not include these factors fail to provide a holistic view and implicitly overstate the contribution of advertising.

Other Non-Marketing Data - Non-marketing data typically includes outside variables that influence category sales such as seasonality, weather, consumer confidence, fuel prices, holidays, etc. Other Media Data - The inclusion of all media used in a particular campaign in the models, including addressable and non-addressable, online and offline media, traditional and non-traditional media. Important for determining the correct contribution of television or digital relative to the performance of other media in the mix.

**OTT** - "Over-the-top," a term used to describe the delivery of premium programming (i.e., full program episodes, games or films) delivered over the Internet to either a Smart TV or computer/mobile device. Subscriptions to traditional cable or satellite services are not required.

**Privacy** - Protections and security level of personal data published via the Internet. It is a broad term that refers to a variety of factors, techniques and technologies used to protect sensitive and private data, communications and preferences.

**Probabilistic model** - In this context, an attribution model in which outcomes are predicted using estimated relationships between values and variables. These models require inferences, and involve an element of random variation due to uncertainty in the relationships. In such probabilistic models, a given input will not always produce the same output

**ROI** - Return on Investment—a measure of profitability based on the incremental sales generated by advertising (or other marketing factor) in relation to its cost. Used to determine the value of advertising. Specifically a financial term, ROI represents the ratio between a marketer's net profit from that investment and the cost of an advertising campaign (or media element within the plan).

**Set Top Box** - A device from a cable or satellite television service that allows the service to be viewed. In media research, this data is used to passively measure viewing. The set top box output, called return-path data, is TV tuning data identifying when and to what channel the set is tuned, which must then be matched with a content library in order to determine what program the set was tuned to.

**Smart TV** - A digital television that is an Internet-connected, storage- aware computer specialized for entertainment. Smart TVs are available as stand-alone products, but regular televisions can also be made "smart" through connected devices and set-top boxes that enable advanced functions.

**SVOD** - Subscription video on demand. Subscriptionbased services such as Netflix, Amazon and Hulu that give users unlimited access to a wide range of programs for a monthly flat rate.

**Third-Party Data** - Any information collected by an entity that does not have a direct relationship with the user the data is being collected on. Oftentimes, third-party data is generated on a variety of websites and platforms and is then aggregated together by a third-party data provider such as a DMP.

**TV Tune-in** - The degree to which viewers tune into a particular program after exposures to network program-specific promotions.



#### **About MTM**

MTM is an award-winning international research and strategy consultancy specialising in media, technology, entertainment and advertising. MTM helps clients to understand complex, fast-changing markets and consumer behaviours, assess new opportunities for growth, develop new products and services, and improve their performance. Headquartered in London, MTM works with clients all around the world, with a long and successful track record delivering major engagements for leading industry participants including Google, Amazon, Facebook, Netflix, Spotify, Sky, Discovery, Turner, Disney, Comcast, Verizon, the FA, Formula 1, the BBC, ITV and many other major enterprises.

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### About The FreeWheel Council for Premium Video, Europe (FWCE)

The FreeWheel Council for Premium Video Europe (FWCE) was formed in June 2017 to serve the interest of those in the premium video industry through leadership positions, research, and advocacy. Aligned to the FWC formed in North America in 2015 (with members such as Turner, Fox and NBCUniversal), the FWCE consists of 20 members: Canal+ Régie, Channel 4, Discovery Networks International, DPG Media, European Broadcaster Exchange (EBX), France Télévision Publicité, Publitalia, NENT Group, Next Régie, Proximus, Sanoma Finland, STV, SevenOne Media, SFR Régie, Sky Media UK, Germany, Italy, Talpa, TFI Publicité and United Group. Across both Europe and North America, the FWC operates as an educational and organising resource to assist marketers to reach desired audiences in premium video environments, conduct research documenting the benefits of premium video and represent the interests of member publishers and the market

For more information on the FreeWheel Council for Premium Video please visit: www.FreeWheel.com/councils/ and follow us on Twitter @FWCouncil.