



# egta insight

## **VOD & OTT SERVICES (PART II):**

EXPLOITING NEW MONETISATION OPPORTUNITIES  
THROUGH BETTER USAGE OF DATA AND AD TECH

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**egta.**

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## INTRODUCTION

In today's advertising climate, any company, product, or service looking to attain a sustainable offering and market share must invest in innovation. The growing popularity of VOD services and the global shift to streaming is creating fantastic opportunities for broadcasters to become truly data driven.

Detached from the legacy of the cable infrastructure, over-the-top (OTT) technologies have enabled the automated buying and selling of spots, which were previously only sold manually. The Internet-driven revolution has also resulted in the many opportunities linked to addressability and personalisation. Broadcasters are aware that understanding viewers' digital behaviour is key in order to match the experience provided by the streaming platforms. This mass consumer landscape must be targeted and engaged using data. Broadcasters are therefore building sophisticated data and tech strategies that are becoming central elements of each media company and impact on all areas of its business – from content distribution to user identification, ad delivery and many more.

Staying relevant means that publishers have to build a comprehensive tech stacks to harness the power of data as well as to effectively control and monetise their video inventory. However, capitalising on the opportunities presented by the VOD/OTT revolution is no simple matter. It often requires large investments of resources, new infrastructure and new ways of thinking about the business environment.

egta has designed this report to help its members as they consider the need to adopt new data strategies and build their ad tech stacks. This publication is a continuation of egta's previous *Insight on VOD/OTT services* published in June 2019. The first chapter of the new report highlights the many ways broadcasters can benefit from data and innovation. It also explores the challenges they are facing while navigating this complex ecosystem. The following parts (chapters 2,3,4 and 5) explain the data and ad tech environment and how its different components can be put at the service of advertising. Chapter 6 focuses on the advancements in the field of user experience. The final section examines some of the additional trends linked to the use of data and tech with regard to VOD and OTT services.

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# CHAPTER 01: WELCOME TO THE ERA OF ADDRESSABILITY

## 1.1 Definitions

The promise of targeted advertising has been heralded as a way to safeguard the future of the TV business. While the fast development of data-driven products enables marketers to deliver messages and connect with specific audiences, it has also created certain confusion when it comes to the various terms used for such solutions as well as content distribution models.

**Advanced TV** is an umbrella term that refers to television content that evolves beyond traditional, linear TV delivery models.<sup>1</sup> It enables advertisers to serve ads to households/users based on granular targeting criteria. It also allows for the direct measurement of actions taken by the viewers (such as clicks and sales) after seeing an ad. Advanced TV includes: VOD and OTT services, connected TV and addressable TV.

In broad terms, **addressable TV (linear addressable)** refers to the ad inventory available through cable (set-top box) providers.<sup>2</sup> It allows advertisers to purchase specific audiences as opposed to traditional methods of buying based on programming.<sup>3</sup> More specifically, this term encompasses the ability to serve different ad content to different audience segments watching the same TV programme on IPTV and set top boxes, based on specific audience targeting in either live, playback or VOD mode. Therefore, the concept also includes addressable VOD, where the

ad is inserted into cable programmes within VOD content, accessible through a cable provider's set-top-boxes (STB). Advanced TV inventory can be bought programmatically or through direct sales, depending on the publisher.

**Connected TV** refers to any TV that can be connected to the Internet and access content beyond what is available via the normal offering of a cable provider.<sup>4</sup> This term also applies to devices that use a television as a display and can connect to the internet to access content. A smart TV is a television set with integrated Internet (older television sets can also be made "smart" through set-top boxes that enable advanced functions).

**Programmatic TV** means advanced TV purchased programmatically.<sup>5</sup> Usually, this term refers to connected TV and TV everywhere, but VOD and linear addressable can also be sold programmatically with limited scale.

**TV Everywhere (TVE)** is a business model in which broadcasters allow their customers to access live or on-demand video content from their channels through a variety of devices and platforms, including linear and Internet-based services and platforms.

**OTT (over-the-top)** refers to any service that is directly delivered to users over the Internet, bypassing telecommunications and broadcast platforms that traditionally act as controllers or distributors of such type of services. In broad terms, OTT can describe a wide range of solutions and products (such as messaging apps, video streaming systems, etc.) that once depended on satellite or cable delivery mode (texts, video calls, access to TV programming, etc.) but now use the

Internet instead. In broadcasting, OTT refers to the delivery of video content via the Internet, without requiring users to subscribe to a traditional cable or satellite pay-TV service.

**VOD (video-on-demand)** should be considered as video content that is controlled, enabled, and consumed whenever and wherever a viewer chooses to watch it. VOD content can be found on set-top-boxes, OTT devices, mobile web, mobile apps, and video streaming services. In this context, VOD refers to OTT understood in a broadcasting context. Videos can be distributed either by downloading them and storing on the user's computer hard drive (or another device) or as streamed content (also called progressive download). In this case, the programme is not permanently stored on the user's device: the process permits video only to be played. VOD services on the Internet cover a wide range of offerings, whether free of charge or subject to payment. The video sharing services of the type provided by YouTube or Dailymotion normally employ streaming.

In the context of this publication, a **publisher** is defined as any cross-media website operator.

## 1.2 Data and technology in the video environment and why they matter for broadcasters

Historically, TV broadcasters and their sales houses, have been able to collect two main types of information about their audiences:

- Information provided by TAM (Television Audience Measurement) system(s) present on the market: this data, based on representative samples of the viewing population, is (in most markets) collected by independent bodies and then made available to all relevant parties for planning operations and for the transaction of advertising.

- Data coming from the many interactions television broadcasters have with their audience beyond the TV set (including competitions, votes, live shows and other events, etc.). While this type of information offers an indication as to the nature and the behaviour of the audience, it also tends to be sporadic and unsystematised. If collected at all, it has limited commercial value beyond enhancing the connection between the broadcaster and its viewers.

With the emergence of the video on demand market, and the increasing household penetration of Internet-connected devices, broadcasters gained access to a third source of data, which can be generally classified as machine-generated return-path data. This includes interactions on desktops/laptops, mobile devices (smartphones and tablets), connected TV devices as well as other non-linear digital destinations (such as channel websites, second-screen apps) and additional data sources available through third-party data suppliers.

### a. Opportunities brought in by new data sets and tech

With regards to VOD/OTT services, the availability of new data sets presents several opportunities both for brands and publishers:

- **New ways to report and measure campaign results:** by complementing the existing TAM systems, the new data sets may facilitate bridging the gap between exposure and sales results making it possible to reshape the campaign if it is not working. Advanced analytics tools offer new possibilities when it comes to measuring additional aspects of TV consumption and campaign performance (including brand recall, sales, store visits, and many more). Such new data sets can also help solve common attribution problems (eg. the in-market bias, i.e. the situation where a viewer, who was already going to buy a given product, sees an ad and the

1 *Advanced TV targeting primer*, IAB, November 2018, [https://www.iab.com/wp-content/uploads/2018/11/IAB\\_Advanced\\_TV\\_Targeting\\_2018-11.pdf](https://www.iab.com/wp-content/uploads/2018/11/IAB_Advanced_TV_Targeting_2018-11.pdf).

2 *Advanced TV*, NuSpark Media, <https://www.nusparkmedia.com/advanced-tv/>.

3 *Advanced TV targeting primer*, IAB, November 2018, [https://www.iab.com/wp-content/uploads/2018/11/IAB\\_Advanced\\_TV\\_Targeting\\_2018-11.pdf](https://www.iab.com/wp-content/uploads/2018/11/IAB_Advanced_TV_Targeting_2018-11.pdf).

4 *Linear vs. Advanced TV: The Current State of Television Advertising*, <https://www.cuebiq.com/resource-center/resources/linear-vs-advanced-tv/>.

5 *What Is Advanced TV? All the Definitions You Need to Know*, <https://goodwaygroup.com/blog/advanced-tv-definitions-need-know/>.

marketer incorrectly attributes the sale to the ad). In addition to connecting exposure to results (also in real-time), it is also possible to measure other parameters such as interruptibility, i.e. the frequency in which viewers tune out of an ad.

- **Improved campaign effectiveness through advanced targeting solutions and personalisation:** the new data sets enable publishers and brands to deliver more relevant and personalised TV ad experiences to more specific, new or underexposed audiences. Addressable advertising makes it possible to go beyond demographics and target consumers (viewers) with both video content and commercial messages based on lifestyle, behaviour, interests, preferences or even current needs. *(For more information on addressability please refer to page 29).*
- **Budget optimisation, accountability and new monetisation opportunities:** thanks to advances in analytics and reporting tools, marketers can better plan their budgets and choose media channels that work best for their campaign goals. Data use minimises waste and provides more precise targeting while looking at audiences holistically. By offering advanced data-driven ad solutions (in a brand-safe and data privacy compliant environment), broadcasters can improve their position on the video advertising market and increase the value of their inventories (and thus their revenues) through optimised pricing strategies.
- **Better user experience and greater engagement:** advanced data sets (and the related tech) constitute a crucial element for producing better viewing experiences. For publishers, they translate into optimised user interfaces (UI), recommendations systems, content discovery mechanisms and innovative advertising formats. For brands, they mean new opportunities when it comes to facilitating interactions with consumers and improving

direct response rates to campaigns. Building high-quality user/viewer experiences has a positive influence on brand awareness, loyalty, traffic and sales – both for media owners and advertisers. *(More information on the importance of user experience (UX) in OTT can be found on page 39).*

- **Potential simplification of the media buying process:** Thanks to the additional data sets and the related tech, the buying and selling of broadcasters' inventory can take advantage of the increased efficiency resulting from automated workflows, simplified dashboards as well as audience segmentation and profiling. *(For more on this topic please see page 42).*

#### **b. Technical challenges faced by broadcasters in the video environment**

Delivering video on demand comes with a number of technical challenges that both publishers and marketers need to face:

- **Content storage, delivery and security:** growing video libraries require an advanced infrastructure to deliver videos to viewers at the quality and performance level they expect (across a wide range of devices), while ensuring secure access to the content. The user interface (UI) must also meet a number of requirements in terms of content consumption and discovery (recommendations) to ensure a quality user experience *(see page 39 for more details).*
- **Ad formats and delivery:** Publishers offering video advertising solutions must ensure that their brand integration offering supports a multitude of devices. This aspect has a significant impact on the publishing workflow and the technical requirements for the creatives.
- **Data collection, processing, activation and security:** Managing large amounts of data remains the main challenge for both publishers and brands. The key issues include the choice



of solutions (provider) and techniques when it comes to user identification, data storage, tracking, content discovery and ad serving *(see pages 15 – 38)*. These systems must also take into account strict regulatory data privacy requirements *(more information on page 45)*.

- **Booking and selling of advertising inventory:** the main challenge in this area remains the lack of unified solutions allowing marketers to book their campaigns across publishers' diversified portfolios (linear and non-linear), on the basis of consistent audience segments *(see page 31)*.
- **Audience measurement:** While there are many analytics products available for publishers and advertisers to measure their campaigns' performance, these tools cannot be used as a replacement for unified audience measurement systems when it comes to trading. From the methodological point of view, the availability of a vast array of data sets presents a number of challenges, including questions such as the

need for a single currency for linear TV and online video, and the viewability criteria *(see page 44)*.

## CHAPTER 02: CLASSIFICATION OF DATA AVAILABLE TO BROADCASTERS

### 2.1 Classification based on ownership: first, second and third-party data

Data can be classified as first-party (publisher or advertiser), second-party and third-party. Each category offers different benefits within the advertising ecosystem.

#### a. First-party data

A *first party* is an entity that collects information from or about users and is the owner or controller of the website or service with which the user interacts directly.<sup>6</sup> There are broadly two types of first-party data: publisher first-party data and advertiser first-party data.

In the case of VOD/OTT services, this may be names, email addresses, location, age and gender of people who registered to access the online video platform or purchase history information held in a CRM platform. First-party data may also take the form of machine-generated data derived from user activities across digital platforms and apps, such as statistics about videos viewed, articles accessed and so on. This information may come both from tracking cookies as well as user registration systems.

First-party data is very valuable, as for the most part, it is unique and accurate. In many cases, there are limited operational costs associated with collecting such information (with possible

exceptions when it comes to registration data).

The owner of the data may use it for their own purposes (increasing the value of their advertising inventory in the case of a publisher or improving the effectiveness of their campaign in the case of an advertiser), or they may choose to make this data available to others under a negotiated deal with the informed consent of the users.

Another benefit of first party data is that, with an appropriate policy in place, privacy concerns surrounding this type of information are minimal: publishers and marketers, who collect it, know exactly where it came from, own it and can decide how to use it.

#### b. Second-party data

Second party data can be described as someone else's first-party data sold in a private marketplace that can be purchased directly from the source.<sup>7</sup> There is no data aggregator or other "middleman" in the exchange of second-party data. Through a direct relationship with the users who shared their data, the data owner can choose what to sell, at what price and who will have access to it. By transacting directly, the data exchange remains fully transparent to both parties: the seller can be confident the data will not be mismanaged and the buyer can be confident the data is accurate and coming from a verified source.

Second-party data is characterised by a greater level of accuracy than third-party information as the provenance of the latter is often unclear (purchasers are getting a large bundle of information, collectively contributed by anonymous sources).

Second-party data has a wide variety of uses and can create value for publishers, brands and

customers. It has many of the positive attributes of first-party data, but it can add greater scale than the latter. Under an agreement between the two (or more) companies, an advertiser and a publisher can, for example, match their own data sets in order to identify attributes about their users that they did not know before. This can be used for more targeted advertising, content personalisation or potentially as a source of revenue in the exchange of data itself.

Second-party data is usually pre-analysed and organised (generally by the data owner), which makes it easier for the data buyer to translate into actionable insights. Companies do not have to spend time organising this information – they can simply purchase or sell the exact groups, demographics and niches they wish to target.

Another interesting aspect of second-party data is that it requires actors in the advertising ecosystem to develop new strategic partnerships, which can be very valuable in a competitive marketplace. Such information is not usually commoditised (unlike third-party data), and it offers both audience extension and targeting. The data sharing may be negotiated between two or more publishers, between a publisher and an advertiser, or between two or more advertisers, providing all the involved actors share some common marketing objectives. The data exchange may take place through a data management platform (DMP) or elsewhere, and it may be negotiated on a simple transactional basis or under a more complex commercial deal.

In the context of VOD/OTT services, an example of second-party data that can be used by broadcasters is the information that is collected through social media logins. When users register for access to a streaming service (through a website or an app) using their social media profile, the broadcaster can – with the user's agreement

– access certain information. The broadcaster can use this data, but it remains the property of the social media network/tech platform in question.

#### c. Third-party data

Third-party data is aggregated and packaged information that is available for licenced purchase. In the online environment, it is typically provided by DSPs, DMPs, public data exchanges or data aggregators. These organisations do not have a direct relationship with the customer or user about whom the information is being collected. Third-party data is widely available on the open market, and while it is therefore not unique, it offers scale and targeting capabilities.

When purchasing third-party data, there are many factors that the buyers should take into account. To decide on a data provider, the purchaser needs to evaluate the quality of the available information (find out how, when and where it was collected) and how it can be used to meet the campaign objectives. The buyer also should determine what kind of data is being offered. Some common options include:<sup>8</sup>

- **Declared data:** information voluntarily shared by a user (eg. through an online form when a user creates his/her profile to log in to a publisher's website or subscribe to an online newsletter). It is generally considered to be of very high quality, as it is knowingly provided by the user. That said, it is not completely immune to deliberate or accidental inaccuracies;
- **Inferred data:** non-demographic information and characteristics assigned to a person based on qualitative or algorithmic inferences regarding their behaviour online (eg. user's interests and preferences derived from a browsing activity pattern or by a more complex mathematical modelling of personality scoring).

6 *Data Segments & Techniques: A New Lexicon*, IAB, February 2016, <https://www.iab.com/wp-content/uploads/2016/01/IAB-Data-Lexicon-Update-2016.pdf>.

7 *1<sup>st</sup> Party Data, 2<sup>nd</sup> Party Data, 3<sup>rd</sup> Party Data: What Does It All Mean?*, Lotame, August 2019, <https://www.lotame.com/1st-party-2nd-party-3rd-party-data-what-does-it-all-mean/>.

8 *1<sup>st</sup> Party Data, 2<sup>nd</sup> Party Data, 3<sup>rd</sup> Party Data: What Does It All Mean?*, Lotame, August 2019, <https://www.lotame.com/1st-party-2nd-party-3rd-party-data-what-does-it-all-mean/>.

Using such data sets, data buyers can assign individuals to a specific classification depending on what they searched, read, watched or bought. This information can be further matched with declared data to build richer consumer profiles. A brand could, for instance, learn that a particular customer prefers to consume video content instead of text, or is particularly interested in certain genres of shows;

- **Observed data:** more concrete information gathered by tracking users' engagement in relation to a particular category of products or online content. Such data sets offer more specific insights about individual users (who are often lower in the purchase funnel) than inferred data. Although the user might not have purchased the product/service or filled out an online form (as with declared data), the person spent time visiting pages about a concrete category of products or services. This information can serve as the basis for further retargeting that persuades a potential customer to return to the site with the promise of the desired content, product or deal.

In terms of audience categories, third-party data sets may include:<sup>9</sup>

- **Observed audience,** i.e. users who took a specific action (eg. bought a particular product or visited a website).
- **Modelled audience,** i.e. audience segments created by data providers through the identification of users with characteristics similar to an observed audience (these

similarities can be further used to predict the future behaviours of particular groups of people or for finding new sales prospects).

## 2.2 Classification based on users' behaviour

In relation to users' behaviour data can be classified as follows:

- **Interest data** is information about what the user is interested in, and it may be collected based on the type of content that an individual consumes. This type of information can be used, for instance, for targeted display advertising campaigns, aimed at building awareness of a brand, a product or service.
- **Intent data** derives from users' behaviour that suggests they have an intention to purchase a particular product/service or consume a specific piece of content (eg. watch a video). This may be through searching for particular terms, comparing pricing options or adding items to a shopping cart. This type of data provides the basis for search engine marketing by identifying keywords and terms that will target potential high-intent buyers. It can also be used for retargeting campaigns for prospects who may have abandoned a shopping cart, compared products or received a price quote on another site. The three main sources where intent data can be gathered are: data co-ops<sup>10</sup>, stand-alone publishers and bidstream.<sup>11</sup>



## 2.3 Sources of data and data collection tools for broadcasters

Depending on their digital and non-digital assets, marketing and programming activities, and on the sophistication of their technology infrastructure, broadcasters can extract data on their audiences (and in some cases link to the audiences of other media platforms) from a range of online and offline sources.

### a. Publishers' own assets

#### Registration tools

When making their video content available on their own online properties (self-run VOD services, websites, apps), many broadcasters choose to place some or all of it behind a registration wall, which allows them to collect valuable first-party data. The registration may be enabled by a dedicated in-house solution or by other customer identification and access management (CIAM) tools available on the market.

Self-registration is a cornerstone of user identification, and therefore a registration tool is a critical component of any login-based data ecosystem. Different approaches to registration mechanisms can be taken, but in most cases the registration tool will offer the following options:

- **Creation of a new account specifically for the publisher in question:** the main advantage of this solution is that it allows publishers to collect, retain control and ownership of all first-party data. However, this option may be perceived by users as a burden as it forces them to create a separate account and remember their login details;
- **Social login, in which a social media account is used as the basis for the registration:** the key advantage for users is that this solution is easy to manage as it does not force them to create new accounts (and remember any additional set of identifiers). Publishers, on the other hand, gain access to verified, granular

<sup>9</sup> 1<sup>st</sup> Party Data, 2<sup>nd</sup> Party Data, 3<sup>rd</sup> Party Data: What Does It All Mean?, Lotame, August 2019, <https://www.lotame.com/1st-party-2nd-party-3rd-party-data-what-does-it-all-mean/>.

<sup>10</sup> For example Bombora's B2B Data Co-op.

<sup>11</sup> Data co-ops are made up of combined first-party data gathered from multiple publishers that make up a collective third-party source. Stand-alone publishers may also offer intent data from their own web properties but this information is often limited in scale. Bidstream data is collected by ad exchanges across biddable online advertising inventory. The most valuable bidstream data is the information about the user's location. It is the only piece of the bidstream that is actively excised and sold separately (usually by app developers or publishers) to location data specialists for targeting or attribution. Despite the considerable amount of information, this data source presents several drawbacks, including those related to its (often) low quality and the GDPR compliance risks (many SSPs include restrictions against commercialising derivative data without direct user consent).

and advanced data sets from social network/tech platforms. However, by allowing this functionality, publishers rely on second or third-party data. If users deactivate their social account, the website owner loses access to the collected information. Moreover, the publisher does not have full control over how data on users' browsing activity collected on his website is used by the social network/tech platform. This might involve certain risks when it comes to data security and privacy.

- **Single sign-on (SSO), i.e. using a single registration system to access a number of connected services, apps and/or platforms:** this solution becomes more and more popular among publishers as it allows them to acquire data across a wide range of different touchpoints. It offers an easy access for the user, while reducing possible risks when it comes to any potential data misuse by third-party providers. SSOs are beneficial to publishers that offer a rich portfolio of suitable assets as they require more sophisticated data processing and technology and thus involve greater development costs. While SSO systems have been widespread in many sectors for years (eg. e-commerce), the media world has been relatively slow to adopt such solutions. With the rise of the GAFAs, which has dramatically changed the video landscape, putting customers' data at the centre of the game, broadcasters became increasingly interested in developing single sign-on solutions, often in cooperation with other publishers. Examples of such initiatives include: a single log-on system by the NetID Foundation (Germany) or Peach (a single sign-on and recommendation system for public broadcasters developed by the European Broadcasting Union).

## Other data sources

Even where no registration exists, or for those parts of a digital platform that can be freely accessed by any visitor, the broadcaster can collect large amounts of data about its users. There are numerous tools that can be used independently of a login system that can provide valuable information on viewers' behaviour. These include:

- **Web analytics:** this is one of the longest established areas of online data collection and analytics. Using web analytics tools (eg. Google Analytics, SE Ranking, Piwik, Kissmetrics, Woopra, Chartbeat, Gauges and others), it is possible to extract information from cookies, server logs and tags (including third-party and social network tags). Such insights can then be used to analyse the size of an audience and its dynamics, sources of referral traffic, the effectiveness of audience acquisition campaigns, user profiles and so on, as well as to connect with user IDs created using data from other sources. Web analytics data may also be enriched with third-party tracking information to match website visitors with wider audiences;
- **Video ad server:** the video ad server (*see page 29*) acts as a central piece of technology in the choice, management and delivery of spots to the video player, taking in data from various sources depending on the publisher's infrastructure and delivering data back to indicate whether an ad has been served, an interaction has taken place and so on;
- **Data collection on second-screen apps:** depending on settings and on the opt-in status of users, apps allow the generation and/or collection of the following (non-exhaustive) types of data: registration data; email addresses; mobile advertising IDs (Apple's IDFA, Google's Advertising ID, Facebook App User ID); geo-positioning; type of OS and device; activity time and usage patterns, etc.;

- Other forms of interaction: TV broadcasters have long had numerous touchpoints with their audiences beyond the TV screen, which sharply increased with digital, mobile and social. They include one-to-one communication enabled by viewer interactions, phone and SMS voting, competitions, e-commerce and newsletters. Each such form of interaction is a valuable source of first-party data and allows for behavioural analysis of the audience. This information is typically stored and managed using CRM databases and email services. Additionally, other specialised engagement tools and competition engines are now available on the market to help publishers activate their audiences and collect additional first-party data, which can then be used in marketing or advertising activations.

## b. Third-party data providers (data brokers)

A number of companies (such as Acxiom, Datalogix, Epsilon, Experian and similar) collect information about consumers that can be used by media buyers in targeted advertising campaigns. Data is not typically bought, in that no change of ownership takes place, but rather licenced for a particular use.

DMPs, such as Lotame and others, also act as data market places, allowing companies to exchange their own first-party data sets, enabling them to leverage the benefits of second-party data.

## c. Automatic content recognition (ACR)

Another valuable source of data that can be used by broadcasters is information provided by the ACR systems (*see page 26 for more details*).

ACR may help broadcasters bolster their offerings as it is currently one of the few technologies allowing for the true glass-level measurement of viewers' watching behaviour (especially for smart TVs).

# CHAPTER 03: DATA AND THE AD TECH ECOSYSTEM EXPLAINED. DATA COLLECTION, STORAGE, PROCESSING AND ACTIVATION

There are several technologies that can be used to collect, organise, store and use data (both by publishers – on the sell-side and marketers – on the buy-side) in the online video environment. In many cases, there is a degree of overlap in functionality between these systems. The following section looks at the above-mentioned processes mostly through the lens of the data management platform. That said, such operations are not exclusively carried out by that particular component of the ad tech stack.



## More on ad tech providers

For more information on the leading providers of advertising technology and data solutions for television and radio companies, please consult egta's interactive AdTech Navigator platform at [www.adtech.egta.com](http://www.adtech.egta.com).

## 3.1 Data warehouses

A data warehouse is a system that provides a consolidated view of either a physical or logical repository of data collected from various systems used by a given company.<sup>12</sup> The reports derived from the queries within a data warehouse are used for reporting and analysis allowing an organisation

<sup>12</sup> *The Difference Between a Data Warehouse and a Database*, <https://panoply.io/data-warehouse-guide/the-difference-between-a-database-and-a-data-warehouse/>.

to make business decisions and improve its market intelligence activities.

While the primary focus of a data warehouse is to provide a correlation between data sets derived from existing systems, it may also be used as the basis to activate data for operations such as recommendation engines.

A data warehouse typically handles incoming information at the enterprise level, in contrast with the data mart – a set of data, which is typically oriented towards a specific business line or department (sales, marketing, finance, etc.).

Data is moved from its source into a data warehouse using a trio of processes (ETL):

- **Extract:** data is collected from sources, validated and stored in a temporary database;
- **Transform:** data is processed to ensure all data conform to common formats;
- **Load:** the transformed data is moved into the permanent target database.

This ensures that all the information is properly formatted and normalised. The three processes are commonly carried out in parallel.

Data warehouses may be built in-house, however, there are a number of companies that offer the compatibility to analyse large data sets, some of the best-known being Amazon RedShift, Google BigQuery, Panoply, Vertica (Hewlett-Packard), Teradata and many more.

## 3.2 Data Management Platforms (DMPs)

DMP is a centralised system to collect, organise, analyse and activate large sets of information originating from disparate sources.<sup>13</sup> It is mainly used by marketers (brands and agencies) to improve the targeting of online media campaigns. Publishers can also use DMPs to optimise the monetisation of their ad inventory and personalise their online outlets with product and content recommendations. As DMPs collect large amounts of data, they are useful for performing advanced analysis of user behaviour as well as cross-device and cross-channel attribution.

In its simplest form, a data management platform could be a no-SQL database management system that imports data from many systems and enables marketers and publishers to view this information in a consistent and structured manner. A high-end DMP might combine data management technologies and data analytics tools into a single software suite accessible through a unified dashboard.

In the digital marketing context, a DMP collects, stores and analyses data from a variety of first-, second- and third-party data sources. This information is used for generating audience segments (which share common attributes) that can then be made available to other platforms (such as DSPs, SSPs) and ad exchanges to be used for targeted advertising, personalisation, content customisation, etc.

Examples of such systems include: Loatme's DMP, solutions offered by Salesforce (as a part of Salesforce Marketing Cloud), OnAudience.com (popular among advertisers), SAS Data Management, Oracle DMP, Adobe Audience Manager, Mapp DMP (part of Mapp Acquire), Relay24, Nielsen DMP and many more.



## 3.3 Data collection

Data collection (also referred to as data input or data ingestion), is the process through which data is added to the DMP via event trackers (JavaScript tags and SDKs usually controlled by a tag manager – *please see page 24*), server-to-server integrations, and application programming interfaces (APIs). The data is collected from various sources, including CRM systems, app and web analytics tools, ad tech platforms, DMPs or data brokers.<sup>14</sup>

A DMP can collect data in three ways:

- It can receive data that is sent to it by the publisher (*for more information on onboarding see page 18*);
- It can collect information from a publisher's digital properties using data collection tags (*see page 24*);

- It can also use APIs to collect server-to-server data.

## 3.4 Data standardisation and enrichment

Through standardisation and enrichment processes, data is organised and systematised into a common format, which helps increase its consistency, quality and value. It is normalised by gathering IDs from web cookies (*see page 21*), eliminating any redundant details and adjusting the schema of the incoming information so that it fits that used in a given DMP. The data is then enriched so it is useful and relevant for users (eg. this process may involve turning IP addresses into geolocation coordinates or extracting the information about the device type or the operating system from the user agent string).

<sup>13</sup> Data management platform (DMP), TechTarget, <https://searchstorage.techtarget.com/definition/data-management-platform/>.

<sup>14</sup> The Anatomy Of a Data-Management Platform (DMP), <https://clearcode.cc/blog/anatomy-of-data-management-platform/>.

### 3.5 Data storage, organisation and user profiling: IDs, attributes and taxonomies

All incoming pieces of data are either used to create new user profiles or incorporated into the pre-existing ones (eg. if an incoming cookie ID matches a cookie ID found in another profile that is already present within the DMP, this new data set will be incorporated into the existing record).

A DMP uses IDs and attributes to identify information about individual people and categorise them as distinct user profiles that can be activated later in the process. These categories are also known as data taxonomies. IDs may, for example, take the form of customer IDs, platform IDs, device IDs or DMP IDs. As one user may have many IDs, the DMP requires a key to map one ID to another and develop a coherent record associated with each individual.

### 3.6 Segmentation

Segmentation involves grouping profiles by attributes (eg. demographics, location, device type), behaviour (eg. clicking on a link), frequency of actions, type of device, and many others. This process helps the DMP identify and define pieces of data that are similar in meaning. For example, instead of having two taxonomies like “user” and “visitor”, the system could choose to use one single taxonomy (eg. “user”) that represents both terms.

### 3.7 Audience creation

DMP tools allow marketers/publishers to create audiences by combining various segments grouping users who share similar characteristics. For example, if a beauty brand wanted to promote its new line of face creams, a DMP could be used to create an audience that includes the following: women, age 35+, who have purchased a similar

product in the past six months. Many DMP solutions provide users with the possibility to create multiple variations of the same audience while differentiating them by location, language of the operating system, device type and many more.

### 3.8 Analytics and reporting

DMPs usually include in-built analytics options and enable users to generate detailed reports about the overall campaign performance, engagement and user behaviour across different online outlets. Many DMPs also perform various modelling tasks to find new audiences that are characterised by attributes and behaviour similar to the existing ones.

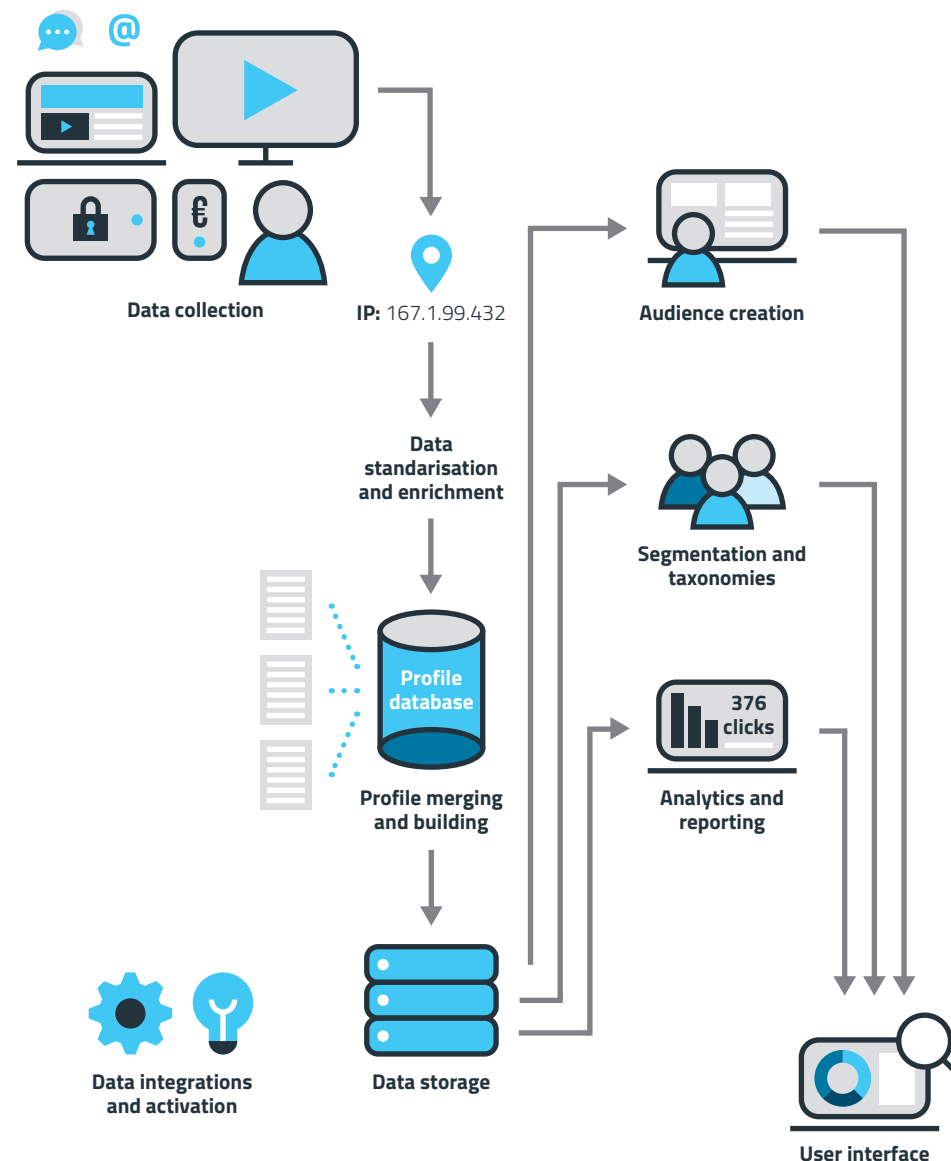
### 3.9 Integrations and activation

Activation refers to the process through which audiences (segments) are being sent/exported to other systems (eg. DSPs and SSPs) for online media buying purposes. Audiences can be exported via server-to-server integrations with other tools and platforms or manually (eg. using .csv files).

### 3.10 Onboarding

Data onboarding is the process of transferring offline data to an online environment for marketing needs.<sup>15</sup> Through this operation offline customer records (eg. from publisher’s CRM) can be connected to online data sets by matching personally identifiable information (PII; gathered from offline data sets) to find the same customers online. During the process, offline customer records are uploaded, anonymised (PII is removed in a process known as hashing) and matched to online devices and digital IDs. Data segments can then be activated for use in marketing applications and media platforms.

FIGURE 01: INSIDE THE WORKINGS OF A DMP



Source: The Anatomy Of a Data-Management Platform (DMP), <https://clearcode.cc/blog/anatomy-of-data-management-platform/>.

<sup>15</sup> Back to Basics: What is Data Onboarding?, <https://www.lotame.com/back-basics-data-onboarding/>.

Data onboarding presents many benefits for both marketers and publishers:

- It allows them to measure the impact online ads have on offline sales by connecting data from advertisers' purchasing systems to marketing applications responsible for online advertising and attribution. Data onboarding makes it possible to analyse purchase behaviour across devices, creating new opportunities for campaign optimisation;
- It helps marketers and publishers to increase marketing reach across their digital properties;
- It enables them to better optimise their online and second-screen proprieties (both in terms of administration and UX);
- It allows for better targeting and customer experience. This can be done through:
  - Look-alike modelling (reach additional consumers who resemble the *best customer* category);
  - CRM retargeting (increasing the lift by targeting current customers based on their respective purchase/viewing history and browsing activity);
  - Ad suppression (improving the efficiency by removing existing customers from the company's new customer acquisition campaigns;
- It helps deliver increased segmentation and personalisation through precisely crafted audience segments;
- It enables a better management of data privacy requests and makes responding to the requirements imposed by the data protection legislation easier;
- It brings flexibility to the company's IT infrastructure. Integrated ad tech stacks are slowly emerging but so far, no single

stack vendor comes close to addressing the full spectrum of marketing opportunities. Onboarding makes data portable from one application to another (even when one solution is replaced with another).

While data onboarding brings in significant benefits for both publishers and marketers, one of the key aspects to be taken into account is data privacy. Many providers offer data solutions that prevent them from coming in direct contact with PII stored by their clients. Data upload operations are done using an industry standard Secure File Transfer Protocol (SFTP) and securely stored on the destination server. While the information in the files uploaded by the client can neither be accessed nor modified by the provider, the customer (publisher or marketer) can request that the provider erases such data.

## CHAPTER 04: ABC OF USER TRACKING MECHANISMS

Web (user) tracking is the practice by which websites identify and collect information about users' behaviours and preferences. In relation to VOD/OTT services, such insights can be used:

- For audience profiling and targeted advertising;
- To optimise performance, functionalities, improve user experience and engagement (including content discovery mechanisms and recommendations, UI, ad formats);
- For statistical purposes and analytics (to complement the existing audience measurement systems and track audiences across different platforms and devices).

### 4.1 Cookies

Cookies are pieces of code (in a form of text files) sent from a website and stored on the user's computer by the user's web browser.

While cookies serve many functions, their primary purpose is to help identify the user so his/her web experience can be customised. From the technical point of view, cookies are a convenient way to carry information from one session on a website to another, or between sessions on related websites, without having to burden a server machine with massive amounts of traffic and storage. Storing the data on the server without using cookies would also be problematic as it would make it difficult to retrieve individual user's information without requiring a login for each visit. If there is a large quantity of information to store, cookies can be used as a means to identify a given user so that further related data can be looked up on a server-side database.

In a marketing context, ad servers use cookies to

set unique identifiers (IDs) so they can identify the same individual across multiple touchpoints. When an ad server receives an ad display request from a user who does not have an existing cookie, the ad server assigns a new unique ID (a random alpha-numeric string of numbers and letters – eg. 131Z187Y8561). On each subsequent request (when a user visits the site), the cookie returns the same unique ID that is received by the ad server. This allows the ad server to know that it is the same user. Ad servers record all cookie requests, which makes it possible to record all the touchpoints for each individual user, giving a fair overview of people's online activity.

Cookies are an essential element of the digital ecosystem as they allow publishers to arrange the content and the layout of the website, and recognise the devices that have previously visited their platforms:

- **Functional cookies** enable users to move around the website easily and use its functions (eg. accessing restricted areas). They securely save identification and authentication information (login and password). They remember individual user settings and preferences (eg. the choice of language, region, etc.) or information about user actions (eg. adding items to his/her shopping cart or play list). Certain functional cookies are essential to the functioning of websites as without them these online services could not work;
- **Performance cookies** monitor the website performance. They also allow publishers to measure the number of visitors, frequency of visits and users' browsing activity. They provide information that helps website administrators adjust the web products so they best fit their audiences' needs;
- **Advertising cookies** are used to recognise users and present them with tailored offers. As information about people's visits to different websites is collected over time by their browser,

it can further serve publishers and marketers to predict preferences of their customers and present them with more relevant ads.

Based on their duration, cookies can be divided into two categories:

- **Session cookies** are temporary and are deleted when the browser is closed. These types of cookies are often used for e-commerce purposes (eg. to store items placed in user's shopping cart).
- **Persistent cookies** are designed to store data for an extended period of time – even after the browser is closed – until they expire or are deleted. Each persistent cookie comes with an expiration date, which may be anywhere from a few days to several years in the future. Once the expiration date is reached, the cookie is automatically deleted.

Based on the origin, cookies can be classified as:

- **First-party cookies**, created by the website the user is visiting and are necessary to keep track of his/her personal preferences and the current session.
- **Third-party cookies**, created by a website other than the website that the user is currently visiting (eg. such cookies can be created by a third-party advertiser or entity that manages ad space and serves ads on this particular site). The purpose of such cookies is usually to track user's surfing behaviour for marketing purposes.

Cookies are privacy-conscious by design in the sense that only the server domain of a website that sets a cookie is able to retrieve it. However, as they are used to collect data about users' behaviour and may store personal information, these tracking mechanisms are at the centre of all data privacy debates. For this reason, web browsers are equipped with functions allowing Internet users to decide if and which cookies they accept. For instance, a user can choose to accept

only first-party cookies and disallow all cookies coming from third-party providers. While rejecting cookies in a browser may provide a higher level of data privacy, it may have a negative impact on user experience. Many websites require cookies to function properly and publishers may require that users accept certain cookies in order for certain services to work.

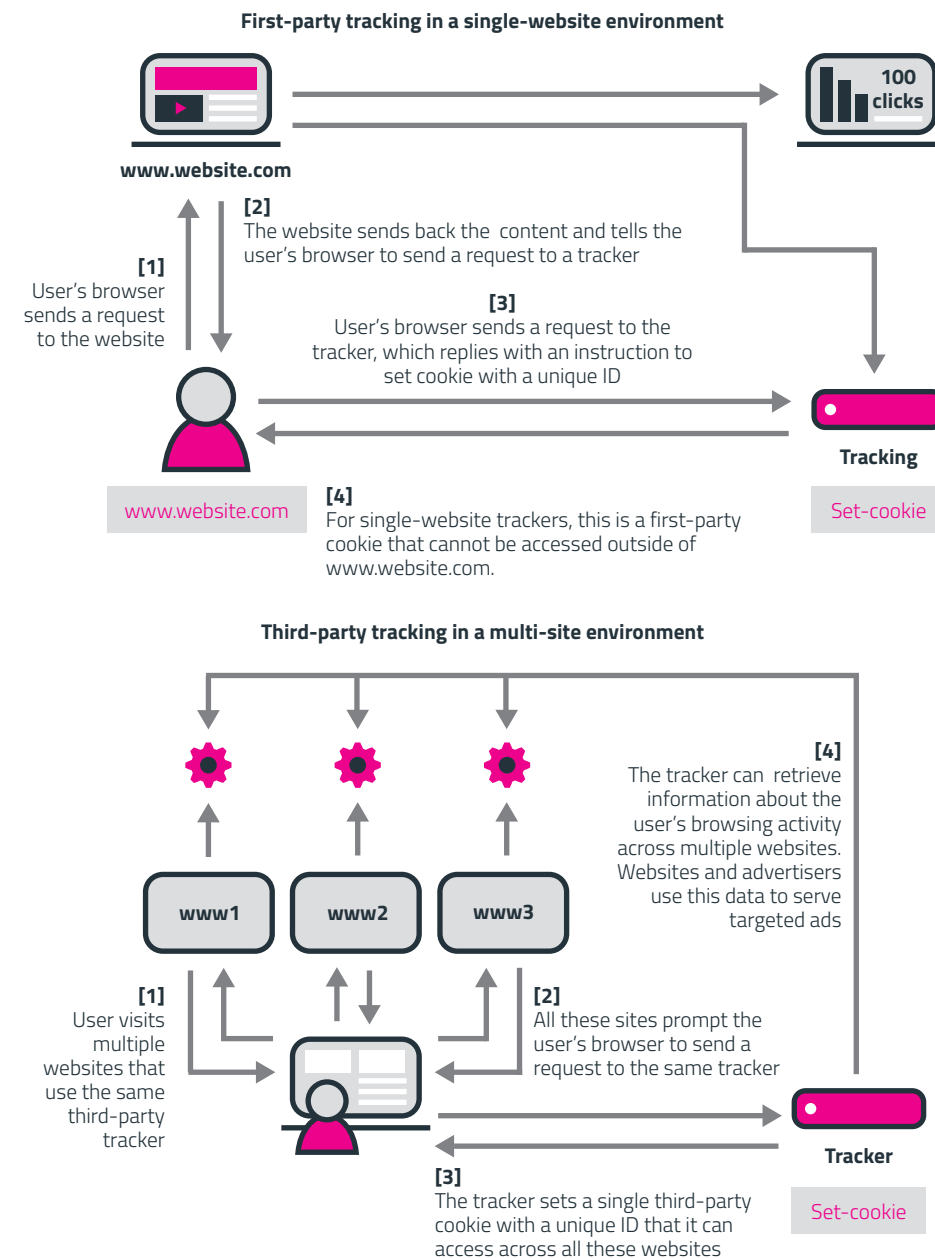
Another challenge when it comes to the use of cookies comes with the new browser-level mechanisms and third-party ad-blocking apps proposed by software and hardware manufacturers in relation to changes in legislation (GDPR). Examples of such measures are, among others, the smart cookie-blocking technology led by Apple's Intelligent Tracking Prevention (ITP) and Firefox's Enhanced Tracking Protection (ETP) that now block third-party cookies by default. Google is also planning to equip Chrome with additional controls that will let consumers block cookies.

With rising concerns over the future of cookies, the advertising industry is looking into other tracking mechanisms and alternatives such as keyword or keyword contextual-based advertising, people-based advertising (which relies on a unique identifier that is related to the user, not the device) and first-party data.

## 4.2 Click redirects

For media running outside of the ad server (eg. as paid search), one approach is to apply click redirects within the URL. This mechanism briefly sends users to the ad server to be "cookie'd" and then redirects them back to the original page they were browsing. This operation happens in a fraction of a second and is barely noticeable by the user. Thanks to the intermediate "hop", the ad server can retrieve the data, i.e. read the cookie for the unique ID.

FIGURE 02: HOW DOES WEB TRACKING WORK?



Source: How does online tracking actually work?, November 2017, <https://robertheaton.com/2017/11/20/how-does-online-tracking-actually-work/>.

## 4.3 Tags

For marketing or media without a click event (navigating directly to a marketer's website), click redirects cannot be used. To solve this problem, two main types of mechanisms are used:

- **Pixel tags** (also known as tracking pixels or image tags) are small blocks of code sent by ad servers (and then running on a webpage) that can read and set cookies in a user's browser whenever he/she visits the website. They usually carry a link to single-pixel, transparent images (typically in .gif format). Even though tracking pixels are invisible to the user, they are served just like any other image on a given site. On the technical level, while the web page itself (and most of its content) is served from the website's domain server, the image included in the pixel tag is served from the ad server's domain. This mechanism makes it possible for the ad server to read the cookie, record the unique ID and extended information needed.
- **Site tags** (also called container tags) are pieces of JavaScript code that contain one or more pixel tags. They can control the information being passed into individual pixels. They can also decide whether or not to "fire" or show the pixel tag that would trigger the ad server to record an impression with the unique ID. Site tags are deployed for more complex tracking operations. An example of use of site tags is to track users that arrive on a website from earned and owned marketing channels such as organic search visits and direct traffic. The multi-touch attribution mechanisms often use JavaScript to record the referring URLs (or other data) to identify additional touchpoints in the consumer journey, which, otherwise, could not be tracked.

## 4.4 The challenge of web tracking on mobile devices and cross-device identity

As the internet of things (IoT), wearables and connected TVs became significant platforms for video consumption, the number of devices from which a user's data may be derived is steadily increasing. New technologies have therefore been developed to identify users as they move between desktop and mobile environments.

While cookies are the most common web tracking mechanism on desktops and laptops, they prove less effective on mobile, due to the limitations of cookie functionality that vary between devices and environments as well as the fragmentation of user's activity between native apps and mobile web. Other tracking methods have been developed to overcome these challenges, because cookie tracking alone on mobile is of limited utility.

The main challenge for user tracking in the mobile environment is that consumers can access content through both applications and mobile websites. On mobile devices, applications and websites are separate types of entities that use separate identifiers. This means that a single individual may appear as one or more users unless the ad network (ad space vendor), publisher and app developer take steps to try to match and tie these multiple "identities" into a single profile.

Most mobile web browsers accept first-party cookies. However, the policies regarding third-party cookies vary depending on the software (and device) manufacturer. Third-party cookies can be used on most Android devices without any issue. Many browsers have this option enabled by default (eg. Google Chrome). However, Apple's Safari follows a radically different approach as it comes with default settings forcing the browser to reject all third-party cookies unless explicitly allowed by the user.

When it comes to mobile apps, online content and ads are displayed using a technology called a *webview*.<sup>16</sup> Cookies can be stored within a webview similarly to the way they are stored in a browser setting. As all apps have their own environment on the device where they are running (commonly referred to as sandboxes), webviews (and therefore the cookies stored in them) are unique to each individual application. Therefore, apps cannot pass cookie information from one to another or to the device's mobile web browser. For instance, if a user clicks on an overlay ad in their VOD/OTT application and then he/she is redirected to an app store, it might be difficult for an ad network (and the publisher) to detect what exactly happens when the user leaves the original app and moves to another. These limitations have inspired many additional methods of tracking that aim at complementing cookies. The most popular ones include:<sup>17</sup>

- **Client/device generated identifier**, i.e. device identifier (ID) set and/or made available by the operating system, such as: Apple's Identifier for Advertisers (IDFA), Google's Android\_ID, Universal Device ID (UDID) and MAC Address.
- **Statistical-based IDs**, i.e. a server-side algorithm that makes it possible to identify a device or an individual user by combining data derived from standard attributes passed by the device (eg. device type, operating system, user-agent, user interface elements such as fonts, IP address). Those attributes may evolve over time due to software/OS updates.
- **HTML5 cookie tracking**, i.e. cookie-like files in HTML5 that are stored in the local storage on the device and can only be set or retrieved when the mobile browser is open and running. While

this method resembles cookie tracking in the desktop environment, it has several limitations (it may disrupt user experience and it is disallowed by some equipment manufacturers – e.g. Apple).

- **Universal login tracking** that allows users to log into different environments using pre-existing logins. This type of tracking is allowed by many software manufacturers (eg. Google, Facebook, Twitter) and it makes it possible for them to gather user data across applications and devices.
- **Device fingerprinting**: this method is based on an assumption that if a user with a specific device profile clicks on an interactive ad in app A, and then a couple of seconds/minutes later a user with a very similar device profile connects to app B (the link to which was included in the original ad placed in app A), it is highly probable that it is the same individual.

As building an app is often an expensive and laborious operation, many publishers (and software developers) choose to simplify this process by relying on SDK solutions. A software development kit (SDK) is made up of code (provided by a third-party) that can be added to digital applications to allow new functionalities. While SDKs are widely associated with mobile native apps, it is possible to use them in connection with websites, set-top boxes, and other digital platforms. These tools are not necessarily required for building an application, but they help make native apps more dynamic with less work for the companies that own/control them, because some functionalities do not have to be developed from scratch.

While SDKs might be used for different purposes, many of them offer advanced tracking capabilities.

<sup>16</sup> *The Difference in Tracking for Mobile Web and Apps*, <http://weevermedia.com/uncategorised/the-difference-in-tracking-for-mobile-web-and-apps/>.

<sup>17</sup> *Understanding the mobile cookies*, IAB, 2015, <https://www.iab.com/wp-content/uploads/2015/08/IABDigitalSimplifiedMobileCookies.pdf> and *Cookie alternatives for mobile advertising*, <https://blog.admixer.net/market/cookie-alternatives-for-mobile/>.

Such enhanced cross-app and cross-device analytics allow publishers and app manufacturers to fill in the gaps in their overall marketing offer by capturing interactions users have with their apps across iOS, Android, push, email, help desks, etc. User information (such as device identifiers, login data, etc.) is matched to build integrated user profiles and identify individuals using different apps and devices. This information can be later combined with other sources (eg. ad and revenue data from Google AdWords, Facebook Ads, Stripe, etc.) and uploaded into a publisher's data warehouse for further use.

To complement the above-mentioned methods, researchers and data scientists have also developed a number of other methods to track and match users' profiles across different digital environments. One such method is **deterministic matching** that allows the creation of a cross-device linkage when a user is logged onto the same service via a website on one device, for example, and an app on another. This use of personally identifiable information (PII) is largely the preserve of companies with large, logged-in user databases across desktop and mobile assets, such as Facebook, Twitter, Google and Apple. There are questions about the privacy issues related to this type of tracking, as well as the walled-garden nature of the Internet giants' data universes. Another method – **probabilistic matching** – relies on statistical modelling to create likely matches between devices, based on pseudonymous data points that arise from device usage. This observation data may include IP addresses, GPS data, browser cookies, mobile IDs, Wi-Fi networks accessed, operating system, time of day, and many other things beside. By avoiding PII, or in some cases using smaller, core PII data sets that can be modelled to create larger audiences, probabilistic

offers scale. It is also potentially less problematic from a privacy perspective, as the device matching occurs without the user ever being identified by his/her personal information.

## 4.5 Automatic content recognition (ACR)

Automatic content recognition (ACR) is an opt-in technology that captures and identifies content across Internet-connected devices (smart TVs, laptops, smartphones, and tablets), based on sampling a portion of audio, video, still images or watermark cues that are matched back to a source database for reference and verification.<sup>18</sup>

In practice, ACR provides Internet-connected devices with the ability to become “content-aware”, i.e. able to identify what content is being watched. The device can then deliver complementary and fully synchronised content associated with the viewed show or ad. This enables users to quickly get detailed information about the content they have just experienced without any text-based input or search efforts. They can then use their companion devices or smart TVs to access other applications and social networking tools (to share their experiences, make purchases, etc.), which can help increase viewing figures and drive customers into branded virtual spaces.

ACR presents many advantages for publishers, marketers and viewers as it can be applied for:<sup>19</sup>

- **Content identification:** ACR helps viewers easily retrieve information about the content they consume. For instance, the user can check the name of the song which is being played or watch bonus content linked to series they watch.



- **Broadcast monitoring:** for advertisers and content owners, it is vital to know when and where within the shows the commercials have been placed. At scale, it can only be checked through a statistical sampling method. ACR technology enables automatic monitoring of the content. Information like the time of play, duration, frequency can be achieved without any manual effort.
- **Content enhancement:** thanks to ACR, second screen devices can feed users complementary content beyond what is presented on the primary viewing screen. This technology allows for a variety of interactive features (polls, coupons, lottery or e-commerce opportunities) to be employed leading to higher viewer engagement and new commercial opportunities.
- **Audience measurement:** ACR makes it possible to apply real-time audience measurement metrics to smart TVs, set top boxes and mobile

devices. This measurement information can be used to complement national TAM data and set advertising pricing policies.

Whether embedded at the chipset level (video-based ACR) or accessed via microphone (audio-based ACR) automatic content recognition technology enables data collection across various devices and platforms. However, its accuracy and scale depend on two factors: the process being used for content identification and the comprehensive scope of a reference database for matching video/audio samples.

<sup>18</sup> ACR (Automatic Content Recognition), <https://docs.acrcloud.com/docs/acrcloud/introduction/automatic-content-recognition/> and *Understanding Video-based Automatic Content Recognition*, Samba TV, September 2017, <https://platform.samba.tv/wp-content/uploads/2017/10/Samba-TV-ACR-Whitepaper-Oct2017-opt-3.pdf>.

<sup>19</sup> ACR (Automatic Content Recognition), <https://docs.acrcloud.com/docs/acrcloud/introduction/automatic-content-recognition/>.

ACR uses two types of identification processes:<sup>20</sup>

- **Video-based ACR** is primarily used in smart TVs and set-top boxes to capture frame-level viewership on a persistent basis.
- **Audio-based ACR** is the technique used within mobile phones, listening meters, etc. It relies on mobile app activation, microphone-listening and proximity to the content audio output.

ACR solutions may rely on three primary methods for content recognition:

- **Acoustic fingerprinting** generates unique *fingerprints* from the content itself. This method can be applied regardless of content format, codec, bitrate and compression techniques. One of its benefits is that it is “independent” from the device and can be used across different content providers and hardware manufacturers. However, this method also presents several disadvantages. It requires the persistent usage of a mobile/tablet app within listening range of the original device on which the content is being played. Ambient noise and in-room conversations may alter the results. The accuracy of this technique is also dependent on mobile/tablet app activation and the quality of built-in device microphones. Examples of apps using this technique include: Shazam, YouTube, Facebook, and many more.
- **Video fingerprinting** is mostly used in smart TVs. It is a method in which a piece of software identifies, extracts, and then summarizes characteristic components of a video recording, enabling that video to be uniquely identified by its resultant *fingerprint*. These real-time video samples are compared to a source database for content identification. The firmware required for video fingerprinting needs to be built in at the chipset level of the device. It allows for

capturing both live and time-shifted viewing and can be used for broadcast, cable, VOD/OTT and video games. It is also characterised by the highest level of scale, accuracy and speed. It does not depend on external devices, apps or microphones and is content agnostic. Video fingerprinting has the highest potential for evolution and future development. However, it requires OEM (original equipment manufacturer) partnerships to incorporate this technology within the TV/video hardware.

- **Digital watermarking** requires inserting digital tags containing information about the content into the content itself prior to distribution. This technology has proven to be effective at identifying and comparing digital video data – especially in the context of tracking of copyright infringement. The advantage of watermark technology is a high level of flexibility. For example, different watermarks can be embedded into the same piece of content so that different actions can be carried out at specific points in time by the ACR-enabled devices. This technique is not considered as a viable, consistent and accurate solution within the context of ACR. Its main disadvantage is that it can only be applied to the content that has been watermarked. For this reason, it cannot be considered as a consistent and accurate ACR solution.

## CHAPTER 05: DATA AND TECH AT THE SERVICE OF ADVERTISING

Since the very beginning of online advertising over two decades ago, a number of technologies have been introduced to the ad tech ecosystem to solve the numerous problems marketers and publishers face, and improve the media buying and selling process. However, due to the growing number of actors, the video world – and in particular the world of automated and programmatic buys – became very complex. The following chapter explains how video ads are served and explores the different components of the video buying process.

### 5.1 How video ads are served

An **ad server** is a piece of advertising technology that is used by publishers, marketers and ad networks to manage and run online advertising campaigns (both display and video).<sup>21</sup> Ad servers are responsible for making instantaneous decisions about what commercials appear on a website or in an app and then serve them, i.e. make them visible for users. Additionally, ad servers are used for tracking operations as they collect and report data (such as impressions, clicks, etc.) for both publishers and marketers (depending on the configuration) allowing them to monitor the performance of their ads and track users' behaviour.

As the video ad serving process usually involves several parties, determining whether a party is first or third, is based on the technical concept of internet delivery and not necessarily what type of

company it is. “First party, third party (...) essentially refers to the sequential number of internet round trips required to execute all elements of an ad delivery transaction”.<sup>22</sup> **First-party ad servers** are used by a publisher's ad operations department to manage ad campaigns on the publisher's own website. **Third-party ad servers**, as defined by the IAB are “independent outsourced companies that specialise in managing, maintaining, serving, tracking, and analysing the results of online ad campaigns” and “deliver targeted advertising that can be tailored to a consumer's declared or predicted characteristics or preferences”.<sup>23</sup> These type of solutions are usually used by advertisers and agencies to “store and manage ad codes, to deliver, track and interpret the results of ad campaigns shown on publishers' websites.”<sup>24</sup>

Based on the categories of companies that use them, ad servers can be **publisher-side (or sell-side)** or **advertiser-side (or buy-side)**. While similar tech is involved, the use cases are different (see figure 03).

Publishers and advertisers usually use separate ad servers for a number of reasons.<sup>25</sup> The first of them is the consistency. Separate servers allow both parties to centralise certain operations within the media buying process, while fulfilling their specific needs. Publishers require advanced control over ad inventory, targeting, campaign delivery. They also need tools to optimise creative delivery across multiple connected devices. They also should be able to access detailed reporting information that will further serve them to create inventory forecasts (often on a highly granular level). With the growing automation of ad buying processes, publishers need to also be able to

20 Understanding Video-based Automatic Content Recognition, Samba TV, September 2017, [https://platform.samba.tv/wp-content/uploads/2017/10/Samba-TV\\_ACR-Whitepaper\\_Oct2017-opt-3.pdf](https://platform.samba.tv/wp-content/uploads/2017/10/Samba-TV_ACR-Whitepaper_Oct2017-opt-3.pdf).

21 What is an Ad Server and How Does It Work?, <https://clearcode.cc/blog/what-is-an-ad-server/>.

22 Video Ad Tech: Overview, IAB, <https://video-guide.iab.com/video-ad-tech-overview>.

23 Ibidem.

24 How to Choose the Right Ad Server, April 2018, <https://blog.ad-juster.com/how-to-choose-the-right-ad-server-plus-10-ad-servers-reviewed/>.

25 Why Do Publishers and Marketers Have Separate Ad Servers?, <http://www.adopsinsider.com/ad-ops-basics/why-do-publishers-and-marketers-have-separate-ad-servers/>.

FIGURE 03: PUBLISHER- AND ADVERTISER-SIDE AD SERVERS AND THEIR FUNCTIONS

| Publisher-side ad servers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Advertiser-side ad servers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>▪ They allow publishers to manage ad slots on their websites and show ads that have been sold directly to advertisers via direct campaigns. If no direct campaigns are available, first-party ad servers will act as a management platform and decide which ad codes (those from a third-party ad server, SSP, or ad network) should be served.</li><li>▪ They are responsible for targeting. They make decisions as to which ads to show based on various targeting parameters, serve them as well as collect the data on users' behaviour for further reporting.</li><li>▪ They are used for inventory forecasting and monetisation allowing publisher to evaluate how much and what type of inventory should be available for sale (based on the performance of past campaigns and the projections regarding user traffic).</li></ul> | <ul style="list-style-type: none"><li>▪ They are used by the advertisers to aggregate all the campaign information (reporting, audience) across various online outlets: multiple publishers' websites, ad networks and other platforms the campaign runs on.</li><li>▪ They can be used for some creative optimizations – e.g. the advertiser can decide to change the creative used in a particular campaign or run a series of tests of the specific creative.</li><li>▪ It serves as an auditing tool to measure and verify whether the impressions were actually delivered properly</li></ul> |

Source: Video What is an Ad Server and How Does It Work?, <https://clearcode.cc/blog/what-is-an-ad-server/> and What is an Ad Server? The Definitive Guide for 2019, <https://adzerk.com/blog/what-is-an-ad-server/>.

effectively categorise and package inventory based on cost, content and audience. On the other hand, challenges faced by advertisers predominantly concern creative and campaign performance measurements as they rely on ad servers for efficiency in the deployment and reporting of each ad unit, attribution and performance tracking.

Another reason for separate buy- and sell-side ad servers is convenience. For example, if an advertiser purchased ad space on five different websites and then decided to change the creative assets, without a dedicated ad server, such company would have to contact and arrange this modification with five different publishers, on whose website the ad is running. A similar challenge would also arise when it comes to reporting as the advertiser would

receive a separate report for each website. Thanks to a dedicated server, a marketer can update the creatives in one single place without contacting the publisher and retrieve campaign reports from a single place that uses the same tracking methodology.

Publishers use separate ad servers as they have several clients running various creatives and campaigns often require different targeting options. This configuration also allows them to have a single source for reporting. Dedicated ad servers also allow them to verify whether the campaigns are delivered on schedule so they can be fully billed to clients.

The existence of separate ad servers allows both publishers and advertisers to rely on technology

(rather than on manual labour or human verification) when it comes to reporting. While, in principle, this situation is supposed to improve the transparency, it might also lead to ad serving discrepancies (caused by small delays in the work of each server). It also makes the ad serving process more complicated as it multiplies the amount of tech in each party's ad tech stack.

 More on video standards

Selling and serving video advertisements has been considered complicated for publishers and advertisers for two key reasons – their lack of familiarity with video players' technical capabilities and the move towards the consumption of video on multiple screens. The IAB digital video suite, which is comprised of the VAST, VPAID and VMAP protocols, has streamlined the process of video ad serving. The three specifications ensure that ads, ad servers, and video players can communicate seamlessly and effectively. All actors involved in the ad tech sector must adhere to these criteria in order to ensure that their ads display properly across platforms and devices with no alterations.

For more information on video standards, please refer to: <https://www.iab.com/guidelines/digital-video-suite/>.

5.2 Buying and selling video inventory

While the DMP plays a critical role in ingesting, sorting and activating data in the digital environment, it requires connectivity to other marketing technologies to turn data into actions. Some DMPs remain as standalone platforms, and the companies that offer them promote the benefits of such an arrangement, while others have integrated DSP capabilities or vice-versa. Alongside DMPs, DSPs and SSPs perform the core

functions of automated advertising buying and selling, a central tenet of programmatic marketing.

a. Demand-side platforms (DSPs)

A demand-side platform (DSP) is a software solution that allows buyers of digital ad inventory to purchase digital inventory across multiple assets (search, display, video and audio either on desktop or mobile devices or both) and manage multiple ad exchanges via one interface in an automated way. This type of product is directed to **trading desks, agencies** or **advertisers**. It enables the buyers to get access to more publishers and then choose the inventory that best fits their needs.

A DSP may be a standalone product or it can be integrated within a provider's wider technology offer. It may offer access to the inventory of several publishers and ad networks (on an impartial basis) or to just one network (eg.Yahoo! or Google).

In the programmatic environment, the DSP makes decisions on what impressions to buy on an automated basis according to the advertiser's pre-set requirements, and this automation extends to pricing in the case of RTB.

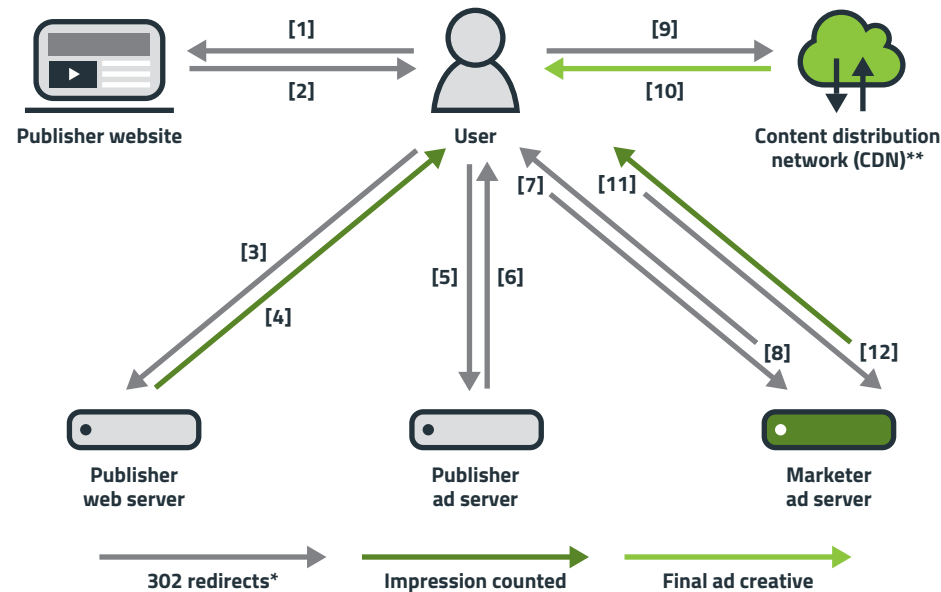
b. Supply-side platforms (SSPs)

A supply-side platform (SSP) is a piece of software designed to make a publisher's inventory accessible to buyers and to maximise the value that can be extracted from this inventory. An SSP connects the publisher's inventory to ad networks, ad exchanges and DSPs. It allows the publisher to set rules, such as price floors, and to determine which advertisers can buy their inventory.

As the technologies and commercial offers of providers have developed, it may be difficult to distinguish between an ad network, an SSP and a DSPs. Some of the leading providers in the video advertising space position themselves as serving both the buy and the sell sides.

Some examples of SSPs available on the market

**FIGURE 04: HOW VIDEO AD SERVING WORKS**



Source: Video Ad Tech: Overview, <https://video-guide.iab.com/video-ad-tech-overview>.

\* A 302 redirect is a server-side redirect that redirects users from URL A to URL B, while signalling to search engines that URL A's content has been temporarily moved to URL B. This allows ad servers to count the 302 call as an impression and serve the actual ad content on a different server.

\*\* Ad servers are not the only companies that use CDNs. Many websites and online services host their heavy files (eg. creative assets) in these cloud networks. A CDN is almost always another independent.

**FIGURE 04: HOW VIDEO AD SERVING WORKS (CONTINUED FROM PAGE 32)**

### STEP 01

#### Calling the publisher ad tag

When a browser navigates to a publisher website (1), the publisher's web server sends an HTML code that (2) tells the browser where to get the content (3) and how to format it. Part of the HTML code returned to the browser will include a coded link – an ad tag (4). The ad tag points the browser to the publisher's ad server (5).

### STEP 02

#### The ad selection process

The ad server makes a decision (6) whether:

- It directly serves an ad: this happens in case of direct campaigns, where the marketer has asked the publisher to "site-serve" the ads. It requires the publisher to load the actual creative files into their ad server, which can then serve them. In this case, the publisher becomes both the source and destination of the ad, and the browser can skip the loop through the marketer's ad server (steps 7, 8, 11, 12); or
- It redirects the browser by pointing it to the marketer's ad server.

Once the publisher's ad server sends the browser a redirect to the marketer's ad server, it counts a delivered impression in its own reports database\*.

The browser now calls the marketer's ad server that (in most cases) sends back a link to a content delivery network (CDN)\*\*, i.e. a global network of cloud servers that actually house the raw creative graphics included in ads. The browser reaches out to the CDN, which sends back the creatives (or and ad) that is displayed in the user's browser.

In addition to sending back the redirect to the CDN, the marketer's ad server also issues a second redirect (10) back to itself with a query string prompting the user's browser to load a 1x1 pixel for tracking (11) from the marketer's server, after the ad content has been called. This notifies the ad server that the ad was successfully loaded and it finally counts an impression in the marketer's database (12).

### STEP 03

#### Displaying the ad in the video player

Another important element of the video delivery and ad serving process is the video player.

It is important that the video player can properly recognise and choose the most suitable format of the creative that should be shown to the viewer (the ad response delivered by the ad server usually allows several options with different formatting). This decision depends on many factors such as the speed of Internet connection on the user's side, type of browser, etc. It is also worth noting that the video ad itself can interact with the video player, which should allow advance interactive options associated with the creative.

Once the ad has finished playing, the player should be able to seamlessly transition to playing the content. When the content ends, many video players can display personalised recommendations based on user's viewing activity and ad preferences.

Advanced players have also the ability to collect user data (by requesting the tracking pixels) and transfer them to the other components of the ad tech stack. They also are able to register engagement information and are able to coordinate with other pieces of content on the website to run companion ads. Additionally, video players can also add an additional layer of optimisation that can help publishers by improving yield and fill rate by preventing the risks of faulty commercials that would not show or would not include all the features.

**FIGURE 05: KEY DIFFERENCES BETWEEN SSPS AND AD NETWORKS**

| SSPs                                                                                                                                                                                                                                                                                                 | Ad network                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Scale</b>                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SSPs sell individual ad impressions (not bundles like ad networks) for inventory belonging to individual publishers.                                                                                                                                                                                 | <p>Ad networks bundle inventory from numerous publishers offering large-scale solutions both to:</p> <ul style="list-style-type: none"> <li>▪ Advertisers, who gain access to assets belonging to various publishers; and</li> <li>▪ Publishers as their inventory can be purchased by more buyers.</li> </ul> <p>While deciding to make their inventory available through an ad network, publishers should rather partner with more than one to fill their remnant inventories and even then, 100% fill rate cannot be guaranteed (despite ad networks' claims that they fill all the impressions, this situation is not very likely in practice).</p>                                                                                                                   |
| <b>Publisher control</b>                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| They provide publishers more control over their inventory. They can set rules (eg. price floors) to determine which advertisers can buy their inventory. Publishers are able to see who is paying what for their inventory on the impression level, which allows them to optimise their ad requests. | They offer less control over the selling process to the publishers (they cannot determine the price floors nor decide who can buy their inventory).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Audience targeting</b>                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| As SSPs have a direct connection to the inventory on a per-impression basis, they provide stronger targeting options compared to ad networks. This is possible thanks to the data (including first-party) passed to them directly by the publisher.                                                  | <p>The most granular options when it comes to targeting are provided by vertical ad networks, which offer specialized inventory for a specific audience (eg. travel, automotive, lifestyle, etc.). They offer fewer impressions than a horizontal ad network and therefore smaller reach/scale. However, this option is safer for advertisers as they know exactly what kind of audience they buy. Horizontal ad networks deliver advertising on a wide base of inventory. The targeting options are based on generalised audiences. This type of ad network offers bigger reach and scale compared to a vertical one but it carries more risks for advertisers as they buy non-specialised audiences and therefore do not know where the impressions will be served.</p> |

**FIGURE 05: KEY DIFFERENCES BETWEEN SSPS AND AD NETWORKS (CONTINUED FROM PAGE 34)**

| SSPs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Ad network                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cost transparency</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                             |
| In the open marketplace, SSPs conduct auctions on a real-time basis. This means that the price of impressions (eCPM) is determined by market competition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Ad networks set the prices for their packaged inventory via their proprietary algorithm, which is based on historic pricing and estimated value of the inventory. This system is less transparent compared to SSPs as it often does not allow both publishers and advertisers to fully understand the value of the available inventory.     |
| <b>Ad quality, brand safety and data protection</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                             |
| SSPs are more prone to provide a high-quality ad environment. This results from the fact that they are directly connected to publishers' inventory. In the context of the premium VOD/OTT environment, it is beneficial for broadcasters to maintain full control over their inventories both in terms of pricing and sales, and in terms of the ads that are shown on their online assets (eg. to prevent any potentially dubious commercials impacting their user experience). With a proper data strategy, a broadcaster can further increase the value of its digital portfolio by enhancing the targeting capabilities and building trust when it comes to data collection and usage. | As ad networks are not directly connected to publishers' inventories and, at the same time, they bundle inventories from many publishers, they offer less control when it comes to the quality of content, ads and web traffic (audience) as well as brand safety. The risk of fraud is higher in case of ad networks than in case of SSPs. |

Source: *What's the Difference Between an SSP and an Ad Network?*, March 2019, <https://www.smaato.com/blog/difference-between-ssp-and-ad-network/>; and *Vertical ad network and horizontal ad network*, May 2018, <http://www.knowonlineadvertising.com/difference-between/vertical-ad-network-and-horizontal-ad-network/>.

include: Google's Ad Manager and DoubleClick Ad Exchange (AdX), OpenX, Rubicon Project, AppNexus SSP and many more.

### c. Ad networks

An ad network is a piece of technology that bundles inventories from a pool of publishers (based on various criteria such as price, demographics, context, etc.) and sells them to the highest bidders at scale. An example of an ad network is Google AdSense that gathers inventory from over 2 million publishers.

On a practical level, ad networks package publishers' inventories based on various target criteria (eg. demographics, location) and sell them to advertisers. Buyers communicate their targeting requirements to the ad network and the ad network can match their request to the available bundles.

Ad networks were certainly the first step in enabling advertisers to transition from directly purchasing inventory from individual publishers to buying targeted inventory at scale. With the advances in technical capabilities of SSPs, publishers can sell

inventory on a per-impression basis with improved transparency and control, and advertisers can precisely target their ideal audiences at a scale never before available. The advanced targeting options in combination with quality inventory can certainly give publishers (in particular broadcasters) an upper hand in the context of VOD/OTT.

#### d. Ad exchanges

Ad exchanges are digital marketplaces that enable advertisers and publishers to buy and sell advertising space, often through real-time auctions. They are auction mechanisms for mediating that do not serve either the buyer or the seller side. They are autonomous platforms that facilitate programmatic ad buying and are most often used to sell video, display and mobile ad inventory.

On an ad exchange, publishers can make unsold ad space inventory available for advertisers to bid on automatically, as opposed to traditional one-on-one sales negotiations. Publishers typically make impressions available on an exchange through their SSPs.

On the buy-side, any company can purchase digital inventory available on an ad exchange provided the ad exchange allows it. Advertisers and agencies typically connect to these marketplaces using their DSPs. Ad networks also can buy ad space from ad exchanges, mark it up and sell it in bundles to their clients. Agency trading desks use this type of marketplaces to buy large ad inventories and sell them wholesale to individual advertisers.

**Open exchanges** allow all types of buyers to access the system and bid on the available inventory. Popular examples of companies offering open ad exchange solutions include Google (with its DoubleClick), OpenX, Rubicon Project, AppNexus and many more. Compared to ad networks, open exchanges typically offer a greater degree of transparency when it comes to costs as they allow buyers to see the exact market price of an impression. However, they are not completely ad-fraud-free.

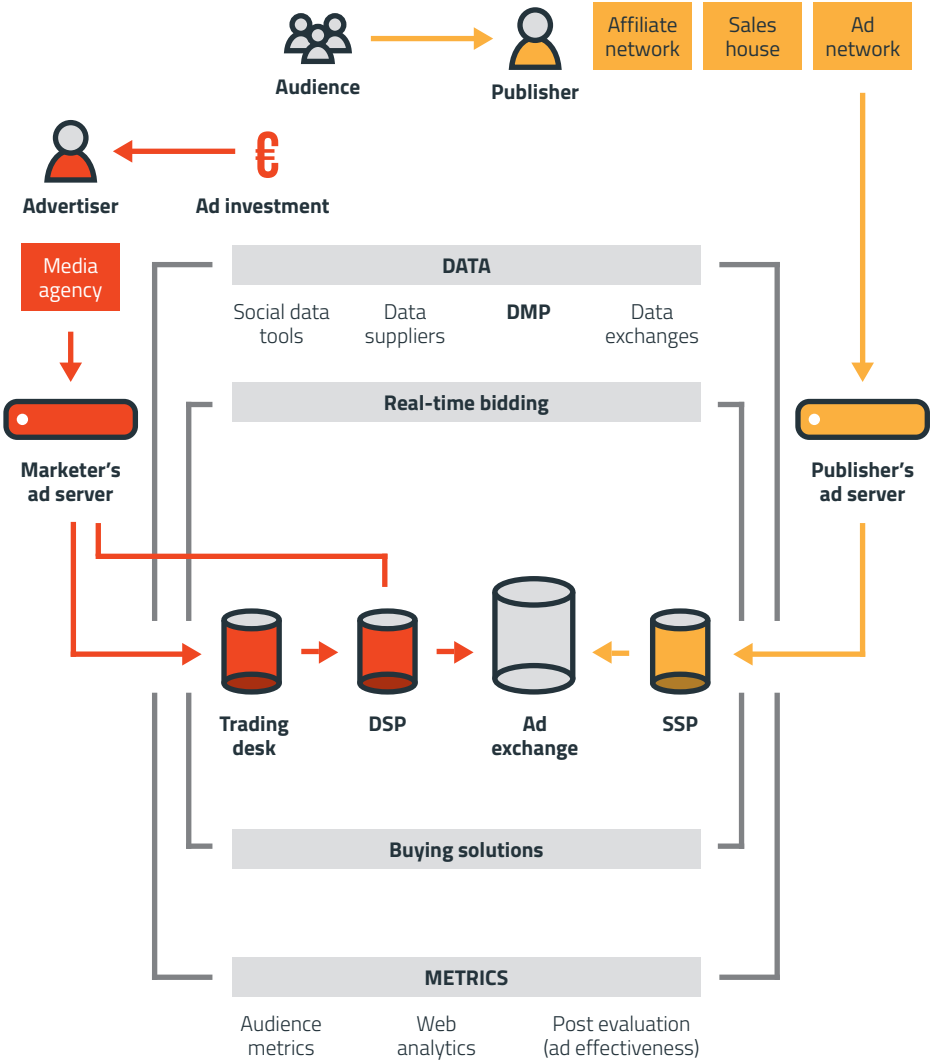
**Private exchanges (private marketplaces – PMPs)** are used by publishers to choose who can buy their inventory and at what price. They offer bidding transparency with control over who the

**FIGURE 06: CONTROL MECHANISMS OFFERED BY AD EXCHANGES TO PUBLISHERS AND ADVERTISERS**

| Publishers                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Advertisers                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Setting minimum CPMs for inventory units; filtering and blocking ads with sensitive content or ads from competitors;</li> <li>Definition of what types of ads will appear on the web page by choosing ad formats and ad style;</li> <li>Building customized combinations of fonts, colours and corner style and applying them to multiple display ads at a time;</li> <li>The choice of the location of ads on a web page.</li> </ul> | <ul style="list-style-type: none"> <li>Setting budget pacing options, bidding capabilities, the choice of targeting options, behavioural profiling, price settings;</li> <li>Blacklisting of certain websites and audiences;</li> <li>Setting limits on the number of times the same ads appear to the same user;</li> <li>Retargeting across multiple Ad Exchanges.</li> </ul> |

Source: What is an Ad Exchange?, <https://smartyads.com/blog/what-is-an-ad-exchange/>.

**FIGURE 07: AUTOMATED MEDIA BUYING PROCESS**



Source: Video guide, IAB, <https://video-guide.iab.com/video-automation-or-programmatic> and Programmatic beyond RTB, <http://www.livelyimpact.com/resources/programmatic-beyond-rtb-a-primer>.



buyers and sellers are. In practice, this means that private marketplaces are still automated bidding environments, but publishers can select and invite preferred buyers to a private pool of impressions and define pricing floors for their inventory. Typically, the inventory made available on PMPs is considered of a higher quality than that available on open exchanges. A good example of a PMP is Concert, launched by Vox Media in partnership with NBCU. Since launch, the platform has signed over 20 different publisher partners, including New York Media, Rolling Stone, BuzzFeed, Flipboard, Livestrong and Quartz. Concert provides advertisers with the opportunity to advertise to over 200 million monthly unique visitors within a highly brand safe environment. Another interesting example is Hulu's private market announced in 2018 in cooperation with video management platform Telaria, which owns ad server technology designed for programmatic and direct-sold video and connected TV and OTT. The invite-only

auction solution will allow advertisers to set bids for impressions through agency trading desks or DSPs. Advertisers will be able to bid for standard commercial breaks (30") in the programmatic marketplace while product placements and sponsorships will still be directly sold through the Hulu sales team.

#### e. Agency trading desks

An agency trading desk is either a piece of technology or a set of services/a team within an ad agency that executes online media buying as a managed service. It uses either proprietary technology or a DSP to buy and optimise media campaigns on ad exchanges, ad networks, and other available inventory sources they are connected with.

## CHAPTER 06: IF CONTENT IS KING, DISTRIBUTION IS QUEEN. USING DATA AND TECH TO INCREASE THE QUALITY OF USER EXPERIENCE

While content undeniably plays a decisive role in the success of any VOD/OTT service, according to a recent survey by PwC (*Streaming Ahead: Making UX and content strategy work together*) a good user experience (UX) delivers profits and audience retention ahead of the core content offering.<sup>26</sup> In fact, as the streaming space becomes more saturated with new operators entering the market, the quality of the viewing experience and personalisation are increasingly seen not only as key differentiators between services, but also a minimum standards for any publisher who wants to perform well in the crowded video space, which is based on contract-less consumer flexibility. According to the report, "convenience drives usage" and, in some cases, good user experience can even surpass the importance of content.<sup>27</sup>

While broadcasters, pure OTT platforms and content aggregators are on a quest to offer the most compelling, engaging and intuitive viewing experience, the greatest challenge for these operators is to provide their users with a seamless UI environment that aggregates multiple content applications. The main benefits of "getting the UX right" are "increased loyalty, higher spend and a lower churn of customers as well as an increased brand appreciation for the platform itself and the partners providing content".<sup>28</sup> According to the

respondents of the PwC survey, the usability and overall experience are among the key factors that drive value, and ultimately inform the consumers decision-making process around any new video service subscriptions.<sup>29</sup>

The importance of data and new technologies when it comes to improving user experience primarily concerns two areas:

- **Content discovery:** a quality experience means viewers are able to easily locate video content and discover the new one;
- **Advertising:** the ability to properly recognise and display commercials as well as the capacity to ensure seamless transitions between video content and ads across different platforms and devices become crucial components for any ad-supported VOD/OTT service. Enhanced interactivity (ensured by the use of advanced tech and data) is also necessary for publishers to improve high viewer engagement.

Many advanced interfaces allow a high degree of **personalisation**. In case of multi-user accounts, each user is usually presented with different content and, in some cases, even with different interfaces adapted to his/her viewing habits, the device (tablet, smartphone, desktop, connected TV set) and platform (app, browser) on which the content is watched. Personalisation is being built on increasingly sophisticated **recommendation engines** and **search functions**. The granularity of the viewing analysis may be enhanced by precise data (first-, second- or third-party). This information can be used for sophisticated content recommendation algorithms, content tagging and many more.

<sup>26</sup> *Transforming UX: Retain, engage and monetise audiences*, May 2019, <https://www.ibt.org/consumption/ux-takes-centre-stage/3844.article>.

<sup>27</sup> Ibidem.

<sup>28</sup> Ibidem.

<sup>29</sup> Ibidem.

PwC's report shows that viewers are also interested in advanced browsing options, which is why harnessing technology and using data to retain and attract viewers is critical.<sup>30</sup> Technologies such as machine learning, artificial intelligence (AI) and voice control can play a crucial role in improving content discoverability.

Moving beyond a back-end tool for publishers, **artificial intelligence** is taking on a more sophisticated role within video interfaces. Its implementation not only helps elevate inner functionalities of hardware and software, but also plays an increasingly crucial role in user engagement, especially when related to VOD/OTT services.

Potential uses of AI for improving user experiences include:<sup>31</sup>

- **Content edition and creation:** the use of machine learning and AI for **smart editors** could lead to automatic analysis of the text to support auto-tagging and content identification. Based on this data, VOD/OTT operators could create new pieces of high-quality content that are primed for virality and a broader engagement rate among large or very specific audiences. Such solutions could also make suggestions to screenwriters by picking additional content as a reference (images, videos, etc.) sourced from the internal content management system (CMS) or from the web. AI may also facilitate the creation of **tailor-made targeted marketing campaigns**, allowing publishers to optimise their strategy through "intelligent" editors and dashboards. Other examples include the ambitious projects

focused on **creating immersive 3D videos taken from 2D video source file** (in combination with virtual and augmented reality systems).<sup>32</sup>

- **Video indexing:** A video content indexer makes video content actionable through predictive analysis of needs that viewers might not even realise they have. Such solutions help publishers make content more discoverable, which might lead to greater engagement. While integrated into the streaming service CMS, video indexers allow streaming operators to start gathering insights and statistics about viewers interactions, without any additional coding work. Completed by advanced metadata, such solutions help make the content consumption even more interactive taking the existing search and recommendation functions to the next level. This can be made possible by application of audio transcription and speaker recognition, auto-captioning, as well as a deeper analysis of emotions through a variety of specific cognitive services.
- **Recommendations:** One of the key concepts when it comes to the role of machine learning and data applied to content discovery is collaborative filtering that refers to a custom machine learning model that helps match content to users, according to other users' similar behaviours (eg. if out of 100 viewers of series A, 99 also watched series B, it is highly probable that the 1 remaining viewer would also enjoy this series). This concept is already widely employed by services such as Prime Video, Netflix and YouTube.

Distribution patterns are constantly imposing not only more intuitive and integrated UI solutions, but also changes to the tech that aim at creating less disconnect from the world, providing authentic, meaningful interactive spaces. One an increasingly popular buzzword used by with marketers (and developers) is *Zero UI*.<sup>33</sup> The central point of this concept is a vision of the future without screens, where all barriers between user and devices will be removed allowing consumers to have more seamless interactions with technology. While in its extreme form, this idea might sound rather provocative, voice-controlled devices are becoming a commodity and areas for their possible application extend to video content – especially when it comes to TV sets. Given the limitations of the TV remote as an input device, such solutions hold the promise of a much richer experience coupled with a simpler and more intuitive visual design. As VOD/OTT operators become more confident in their recommendation engines and search options, voice control may allow them to further improve the UI on their streaming services by better allocation of space on the screen – both for content and advertising. Additional functions such as audio fingerprint technology might enable publishers and users alike to avoid the problems associated with logging into individual services. As audio processing algorithms are getting closer to recognising tone and inflexion in human voice, they may soon be employed to not only identify the individual but also determine the content that matches the user's emotional state.

## CHAPTER 07: AN OUTLOOK ON THE MAIN MARKET TRENDS AND CHALLENGES

For the vast majority of publishers and marketers, there is no longer any question of whether they should have a tech stack. However, solutions are constantly maturing and evolving to meet the needs of the changing market as vendors continue to innovate offerings, and marketing organisations better understand how technology can serve them. While it might be difficult to predict with certainty how the ad tech market will evolve in the context of VOD/OTT services, it is possible to identify a number of additional trends that are currently shaping the video world.

### 7.1 Consolidation on the ad tech market

Recent years have seen a rapidly accelerating consolidation in the ad-tech space.

This trend is amplified by increasing unification on the TV market. The recent Viacom/CBS merger was the latest link in a long chain of mega media buyouts after Disney/Fox, Comcast/Sky, AT&T/TimeWarner and Discovery/Scripps. Apart from the purely operational consolidation of the back-offices, legal and administrative functions, one of the consequences of these fusions is an increasing cooperation across different segments within each group, in particular in areas such as content distribution, new strategic markets (eg. D2C), ad sales, pricing as well as ad tech.

With the convergence of TV and digital and the growing importance of VOD/OTT services, more and more broadcasters are expanding their portfolios by acquiring ad tech assets. Comcast is

<sup>30</sup> *Transforming UX: Retain, engage and monetise audiences*, May 2019, <https://www.ibt.org/consumption/ux-takes-centre-stage/3844.article>.

<sup>31</sup> *4 ways AI can improve user engagement in OTT video services*, <https://www.deltatre.com/insights/4-ways-ai-can-improve-user-engagement-ott-video-services>.

<sup>32</sup> An example of such initiative is the Soccer On Your Tabletop (2018) project developed by The University of Washington in cooperation with Facebook and Google. This prototype technology transforms a monocular video of a football game into a moving 3D holographic reconstruction that can be projected onto a flat surface like a table. This can be viewed using a compatible headset. The solution is based on the use of augmented and virtual reality (AR and VR) paired with advanced algorithms allowing for realistic image rendering.

<sup>33</sup> *Zero UI — The Future of Interfaces*, <https://www.webfx.com/blog/web-design/zero-ui/>.

currently looking into further expanding its targeted advertising business by acquiring more ad tech assets including Cadent and Dataxu. The company has previously acquired workflow software Strata (2005), video management tool thePlatform (2006), FreeWheel (2014), Visible World (2015) and exchange platform StickyAds (2016).<sup>34</sup> In 2017, Disney acquired a streaming video technology BAMTech (now Disney Streaming Services) and with the acquisition of 21<sup>st</sup> Century Fox, it brought in another tech propriety to its portfolio – TrueX. AT&T has also made several big-budget moves over the past years including the of AppNexus (which now forms part of its Xandr offering; the deal came in addition to AT&T's fusion with Timer Warner). In 2019, WarnerMedia announced the launch of its InnovationLab – an incubator meant to combine emerging technologies with content from across its operating units to create new and innovative consumer experiences and businesses. The new unit's focus is to explore the development of augmented reality, virtual reality, mixed reality, AI and machine learning as well gaming experiences. On the European level, RTL Group has recently acquired server-side ad insertion company Yospace (2019). The deal follows a series of acquisitions that include the earlier purchase of Smartclip (2017) and SpotX (2017). *(For more information on RTL's ad tech strategy, please refer to the interview on page 58).*

The video space favours large companies with agile business models and clear specialisation. In an industry driven by cost-efficiency, those who harness smart technology and differentiated data to solve specific market challenges in a specialised and scalable manner are primed to drive efficiency and innovation across the sector. While the above-mentioned examples only illustrate a small part of the changes in the video space, one of the questions that remains open is whether broadcast

companies will internalise the tech, using it exclusively across their own properties (walled gardens), or will they make it available to other broadcasters.

## 7.2 Towards a simplification of media and audience buying across broadcasters' diversified portfolios

With the growing importance of streaming services, the inability to plan media buys seamlessly across platforms and publishers is one of the biggest challenges faced by marketers. Brands and agencies increasingly demand a holistic approach to media buys, where the buyers will not have to choose between separate systems and processes applied to classic linear TV, broadcaster VOD and the world of non-TV digital advertising (including social or search).

To answer their needs, broadcasters' effort focus both on the simplification of the media buying process through automation and on the development of integrated solutions allowing advertisers to purchase unified audience segments across different media assets. While TV companies have access to rich and quality data sets, it is unlikely that individually they can match the data and technology assets of Google, Facebook, Amazon or Netflix. One way to counter this obstacle is cross-industry cooperation. An example of such collaborative initiatives is the European Broadcaster Exchange (EBX). Launched in 2018, EBX is a common trading platform for pan-European digital ad sales. The members of the project include: Mediaset (Italy and Spain), TF1 Group (France), ProSiebenSat.1 Media (Germany), Channel4 (UK). The initiative allowed the five broadcasters to consolidate their respective tech, giving them the scale that they need to deliver



digital advertising in the pan-European context, with a single buying point. Crucially, it also gives advertisers access to TV's premium VOD content and comes with brand safety built in due to the high standards broadcasters must adhere to.

Another example of this trend is OpenAP – a joint platform for cross-publisher audience targeting, launched in 2017 by Turner (left the consortium in 2019), Fox Networks Group, and Viacom, later joined by NBCU and Univision. Initially, OpenAP allowed marketers to use standardised audience segments across the broadcasters' portfolios (TV and digital) while leaving out the media buying process at the discretion of each individual shareholder. The so-called OpenAP 2.0 (to be released in autumn 2019) will enable buyers to not only build consistent audience segments across the publishers' assets (for both linear and digital), but also to submit orders to activate these segments using a centralised marketplace.

Individual broadcasters have also doubled their efforts to simplify the media buying tools. A good example of such trend is Cynch – launched in 2018 by Corus (Canada), an automated audience-based buying platform which provides live access to the broadcaster's inventory across both linear and VOD paired with advanced targeting capacities and unified reporting. On the European scene, in 2015, TF1 (France) launched its advanced media buying platform One Data, while in 2016 a similar product – AtresData – was released in Spain by Atresmedia.



### More on audience buying

Selling To learn more about the latest trends in audience buying, please refer to egta's latest Insight: [http://bit.ly/egta\\_insight\\_audience\\_buying](http://bit.ly/egta_insight_audience_buying).

<sup>34</sup> With AT&T Breathing Down Its Neck, Comcast Looks To Acquire Ad Tech, March 2019, <https://adexchanger.com/digital-tv/with-att-breathing-down-its-neck-comcast-looks-to-acquire-ad-tech/>.

### 7.3 Ad tech in response to ad fraud

The massive growth of the online video market brought an increase in ad fraud, which quickly became one of the biggest challenges for both publishers and marketers. One of the possible solutions that can be facilitated by advances in ad tech is supply path optimisation (SPO), ie. “the practice of pruning bid requests through algorithms to make smarter buying decisions and reduce infrastructure load to simplify the buying layers.”<sup>35</sup> From a DSP perspective, SPO allows buyers to eliminate questionable or duplicate requests and, through the use of algorithms, to analyse the traffic patterns to assess which publishers provide the most direct and transparent paths to their inventories.

The increasing fraud problem has resulted in a series of technology standards released by international trade bodies such as the Interactive Advertising Bureau (IAB). For example, IAB’s ads.txt (and app-ads.txt – designed for applications) specifies a mechanism for publishers to list their authorised digital sellers. If a publisher has not implemented it, it is assumed that any operator is authorised to sell their inventory. In practice, such a situation increases the risks of domain spoofing and might lead buyers to buy fake inventory. Apart from revenue losses for publishers, it also may have a severe impact on their brand image. Another example of standards aiming at combating ad fraud is the OpenRTB protocol that allows buyers to make sure that their purchase is correctly represented in the bid request.

### 7.4 Greater transparency, accountability and advances in audience measurement

TAM organisations in Europe and North America have been developing solutions to measure online video viewing – of both programming and advertising – on a comparable basis to broadcast television. Typically, the approach has been to complement television’s panel-based measurement with the census-level measurement of online video viewing across the whole population. The technology and data manipulation challenges are considerable, and progress cannot be described as rapid even in the most advanced markets (such as France, Germany, the Netherlands, Sweden, UK, etc.).

As VOD/OTT services disrupt the way viewers consume content, both publishers and advertisers are eagerly looking to establish effective methods for measuring the impact of their campaigns. The key issue remains the question of viewability and the differences when it comes to the definition of a view used by different market players. Marketers have long been calling for a single viewability standard for online advertising that would include third-party measurement verification, transparent agency contracts and prevent ad fraud.

Another example of actions in this field is the proposal for *Cross-Media Audience Measurement Standards* released by the Media Rating Council (MRC) in September 2019. The document addresses the measurement of video ads and content delivered via TV, OTT and mobile and desktop digital. The standard, which would take effect in 2021, would require measurement companies to measure either TV or digital ads second-by-second, “or if they don’t they would have to model their less granular data,” such as average-minute reporting or periodic polling or metering, to

estimate second-level viewership.<sup>36</sup> The MRC’s audit would then verify and validate that such a model is an accurate representation of the second-level data. The document also calls for invalid traffic filtration to fight fraud and requires audio measurement for video ratings or impressions.<sup>37</sup> It also includes provisions for viewable impressions. The minimum required qualifying measurement for cross-media advertising is reach, frequency and GRP with a viewability threshold of 100% of pixels on screen for at least two continuous seconds. The proposal also includes flexibility when it comes to duration reporting with viewable completion audience metrics. Moreover, the draft outlines a new metric, Duration Weighted Viewable Impression that is weighted on an absolute basis using a 30-second denominator. It is planned to be an additional requirement in 2021.

As a trade body representing TV and radio sales houses egta believes that the industry needs to move from a media to an advertiser-centric approach to measurement. To this end, over the past year, egta has organised and participated in numerous conferences and consultations aiming at facilitating exchanges and promoting partnerships among broadcasters and other market players in order to improve the existing measurement system. One of such initiatives is the egta TV charter on broadcasters’ commitment towards the responsible and transparent measurement of advertising in the Total Video ecosystem (available here: [http://bit.ly/egta\\_av\\_charter](http://bit.ly/egta_av_charter)). Released in October 2019, the document includes a set of principles to raise the bar in the measurement and accountability industry and show that broadcasters are willing and able to take full responsibility for their side of the business.

### 7.5 Data protection regulation

While data is the foundation for addressability and will be an important part of the future currency for video, trust undeniably remains a crucial pillar of the provider/consumer relationship in the VOD/OTT space.

The **General Data Protection Regulation (GDPR)** entered into force on 25 May 2018. It is therefore no longer acceptable for companies to have failed to make the necessary changes to ensure compliance with the law.

Data protection authorities have so far taken a rather prudent approach in implementing the text, understandably so as some vague provisions needed to be clarified through guidelines. National authorities were also eager to avoid destabilising a European digital industry which is still struggling to compete globally.

But 2019 is already a turning point in terms of implementation and from now on, things will only accelerate.

Due to privacy concerns and relating changes in the advertising regulations, many advertisers have decided to work more closely with publishers. Such a trend has had a profound impact on the programmatic landscape as it has caused shifts of budgets from open to private marketplaces across all types of digital inventory (desktop, mobile, connected TVs). While private marketplaces currently operate mostly on the basis of single-publisher first-party data, new solutions might soon emerge to open such systems to other high-quality data sets, while keeping them anonymous and secure.

35 2019 Video Advertising Trends, SpotX, <https://www.spotx.tv/resource/2019-video-advertising-trends/>.

36 *Proposed cross-media standard would toughen rules for digital and TV*, March 2019, <https://adage.com/article/media/cross-media/317104>.

37 Measurement organisations should separately report viewable video duration that is also audible (non-mute or non-zero) where this can be measured. If a measurement service cannot measure audible impressions, that should be disclosed; *Proposed cross-media standard would toughen rules for digital and TV*, March 2019, <https://adage.com/article/media/cross-media/317104>.

## FIGURE 08: ADVICE FOR BROADCASTERS IN TERMS OF DATA STRATEGIES

Without prejudice to what obligations national laws impose on you, here are a few things to consider when setting up your VOD strategy:

### 01 CHECK YOUR LEGAL BASES

If you are collecting and processing users' personal data, you will need a legal basis to do so. Depending on the context, it will likely be 1) the provision of a contract, 2) legitimate interest or 3) consent.

### 02 DOUBLE-CHECK ON CONSENT

If you are using this personal data to serve targeted advertising, consent is likely to be your best friend here. Even more so if you are using real-time bidding. Yes, consent is a hassle and difficult to obtain, but on top of the European Data Protection Board guidance, Data Protection Authorities in the UK and in France have recently indicated that consent will likely be the only valid legal basis.

Legitimate interest, on the other hand, might still be useful for some benign data usages (audience measurement or analytics practices using limited information might come under this category).

### 03 TRIPLE-CHECK ON CONSENT

If you are willing to use consent as a legal basis, you need to make sure that the consent you are collecting from the user is valid.

This means that your user interface or consent management platform needs to provide certain mandatory information to users and provide them with a real choice, including the possibility to refuse the use of their personal data for individual purposes.

It also means that the user must take a positive action and therefore that continuing to browse a website will no longer be considered a valid consent.

Finally, it must be as easy to withdraw consent as it is to give it, and this will have important implications when designing your data infrastructure.

### 04 SECURE YOUR DATA

The biggest data protection fines imposed to this day by the UK Data Protection Authority (£183 million on British Airways and £99.2 million on Marriott) were related to data breaches. As a data controller, you need to make sure that you put in place the appropriate technical and organisational measures that will ensure the highest level of security for users' personal data.

### 05 PROTECT USERS' RIGHTS

Under the GDPR, users' have a right to access, rectification and erasure of their data under certain circumstances. You need to make sure that you have the sufficient processes and resources in place in order to answer users' requests in a timely manner.

### 06 CLARIFY LEGAL LIABILITY WITH YOUR PARTNERS

When a data infringement is identified with one of your providers, it is already too late to discuss individual liability. Recent case law has shown that even authorising a Facebook 'share' button on a webpage is sufficient to make the website provider a joint-controller of the website visitors' data processed by Facebook.

It is therefore necessary to clarify, whenever possible through binding legal agreements, what is each partner's responsibility and potential liability when it comes to processing personal data.

An example of this is when a third party (e.g. an advertiser or an agency) wants to include a tracking pixel within an advertisement placed on a broadcaster's website in order to evaluate the impact of a particular campaign. A potential misuse of the data collected through the pixel may call the broadcaster's liability into question, therefore it is strongly advised that the responsibilities and liabilities of each party are clearly defined before any such initiative is implemented.

### 07 ASSESS THE RISK/COST VS THE BENEFIT

The more personal data you collect, process and share, the greater the responsibility. Hence, some practices are riskier than others: real-time bidding, in particular, has been in the crosshair of regulators lately because of the number of stakeholders involved and the size of the data exchanged.

As an example, the UK Data Protection Authority published a report in June 2019 on ad tech and real-time bidding which criticised the current industry standards and gave industry a 6-month reprieve to improve the level of compliance with GDPR.

In this context, broadcasters need to assess for themselves whether and to what extent they want to engage with real-time bidding. If they do so, they will likely need to investigate industry compliance schemes such as the Transparency and Consent Framework. Alternatively, they might prefer to turn to other options such as private marketplaces.

## 7.6 Video advertising and targeting in a cookie-less world

In January 2020, Google announced that it would phase out the use of third-party cookies in its Chrome browser by 2022, joining earlier moves by Mozilla Firefox and Apple Safari. The end of third-party cookies, which over the years became the legacy foundation of the digital ecosystem, will have profound consequences for the entire ad tech ecosystem – in particular when it comes to audience targeting, audience measurement, attribution and conversion measurement in digital advertising.

### a. First-party as the new dominant currency of the digital ad market

#### The importance of first-party data

For both publishers and marketers, the end of third-party cookies is expected to result in the strategic re-shift in focus from third-party data to first-party data. The importance of this trend can be illustrated by market data. For instance, following the 2019 decision by Firefox to block third-party cookies by default, online publishers in Germany experienced severe declines in Firefox-specific traffic across the board, seeing a 38% decline in bid rate, a 45% decrease in revenue and a 23% drop in CPMs.<sup>38</sup> To sustain their revenue streams, many online publishers (including broadcasters) intensified their efforts to develop effective data strategies and activate their audiences. This general trend can be observed in all markets and it goes hand in hand with the need to maximise the quantity and quality of the consented data that publishers possess. Paired with the ability to provide premium content in brand-safe environments, it presents new opportunities for TV companies who seek to

strengthen their position on the video market.

#### Clear consent mechanisms

Market research clearly shows that most users are willing to share their data with publishers (including for marketing purposes) if they value content, the ads are relevant to them and the intended data collection/use is clearly referenced. According to Xandr's Relevance Report 2019, consumers, who value personalised experiences, do not reject targeted ads.<sup>39</sup> They generally have a positive or neutral view of an ad that is tailored to their search history, age, or location. 49% of respondents reported that they are comfortable with their digital footprint being used by the service providers as long as their identities (and data) are protected.<sup>40</sup> However, consumers want to be able to choose if and what data they agree to share. 43% of respondents identified the ability to opt-out as the leading factor that would make them more likely to trust targeted ads.<sup>41</sup> Coupled with the regulatory pressure stemming from the General Data Protection Regulation, the development of clear and effective consent mechanisms has therefore become a must for all online publishers. Moreover, in the cookie-less world, the TV companies (those with video extensions in their portfolios) will be one of the few actors who will have qualitative audience data (accurate, consent-based information). Discussions with media buyers on the modalities of data sharing should therefore concentrate on the quality and privacy-compliant benefits of such information.

#### The quality of data

To take full advantage of this strategic shift, it seems necessary for online publishers (including TV companies) to focus on educating media buyers

on the opportunities that a world without third-party cookies offers, and the huge benefits of premium first-party data that is at broadcasters' disposal. Publishers should encourage trust in interest and intent data by being open regarding the composition of such segments, assuring buyers of their quality and relevance.

#### Data sharing and cooperation initiatives

In a cookie-less world, web publishers must start prioritising long-term sustainability and harnessing shared assets. So far, concerns about potential data leakage and lack of trust among different stakeholders have prevented many media owners from consolidating their knowledge, with several fearing that joining forces could also mean losing their competitive advantage. However, the strategic shift induced by the discontinuation of third-party cookies may encourage publishers to explore new ways of securely combining their collective data and targeting capabilities through common ad tech solutions (starting from single sign-on systems to media buying platforms). Such common systems enable publishers to expand their first-party data pools, offer more robust targeting opportunities to buyers while keeping their data secure from leaks and the risk of non-compliance.

### b. Data and technology as the centrepiece of modern media companies

With the increasing importance of first-party data, having data infrastructure and a data strategy plan becomes a must for both publishers and marketers. Companies that have so far questioned the need for investment in their ad tech stack and data plans will find it critical to develop this crucial segment of their operations as technology resources become an integral component of marketing.

### c. The power of walled gardens, big ad tech players and large data owners

Prior to its decision regarding third-party cookies, Google outlined its proposal for the development of its Privacy Sandbox – a set of browser APIs intended to secure users' privacy while enabling advertising tracking and measurement. While at the current stage the details of these open standards have not been specified, the Privacy Sandbox is meant to enable buyers and sellers (and their intermediaries) to load data in and then pull out aggregate anonymised results for further marketing purposes.

A common concern across the industry is that initiatives like Privacy Sandbox may well result in making the existing walled gardens even more powerful. Global ad tech players (GAFA) might further consolidate their dominance in the advertising market as they will have full control over ID-based information. Such large players may require that their advertising partners (publishers and buyers) load all of their data related to their campaigns into the sandbox while giving them very limited access to campaign results (which might also not be independently verified). Using rich consumer profiles at a people-based level, mega-platforms will offer unrivalled addressability, and in doing so, make it even harder for smaller publishers to stand out. In such an environment, besides global ad tech platforms, any big data owner (in particular, if they have a direct relationship with a telecom player, an app-based service or a device manufacturer), might seize control over large data pools. This may have negative effects on transparency of ad buy transactions and reporting.

Such concerns may put in question the future of platform-specific IDs. That said, universal ID solutions (such as the IAB Digitrust ID) could emerge as the new norm for programmatic advertising.

38 *The Impact of Mozilla Firefox: The Change is Now*, 30 October 2019, <https://www.indexexchange.com/the-impact-of-mozilla-firefox-the-change-is-now/>.

39 *The Relevance Report*, Xandr, September 2019, <https://www.xandr.com/casestudies/relevance/>.

40 Ibidem.

41 Ibidem.

#### d. Universal IDs

##### Shared identifiers as an alternative to third-party cookies

Universal ID solutions are technologies built on an anonymous user token, designed to be used by publishers, advertisers and ad tech vendors to identify the user across the supply chain without synching cookies. Most of these solutions either tie a third-party cookie to a centralised user identification criterion (such as user name/email address) or use fingerprinting to create a probabilistic or deterministic ID. Technically this process is not restricted to using third-party cookies. First-party CRM data and offline data can also be used to create universal IDs.

Universal ID solutions can be provided either by an individual publisher, an ad tech company or an industry consortium. We can distinguish: first-party data-based ID solutions (such as LiveRamp's Identity Link), proprietary ID solutions (eg. The Trade Desk's Universal ID, shared identifier by ID5) and industry ID solutions (DigiTrust ID).

##### Work by IAB

When it comes to cross-industry initiatives, DigiTrust was among the first to create a universal ID. DigiTrust is a neutral, industry-wide organisation that operates under IAB's Tech Lab auspices. Decryption and standardised ID are only available to members of the consortium who are part of regulatory programmes and uphold consumer-privacy standards. DigiTrust's policies prevent its members from passing on the decrypted persistent ID to non-members. Buy-side platforms pay a fee to use the service, which goes towards helping support the technical infrastructure that powers the DigiTrust ID. Recently, DigiTrust has joined forces with the Advertising ID Consortium. The collaboration aims to standardise the encryption

across three domains: AppNexus (Advertising ID Consortium), The Trade Desk (Unified ID), and DigiTrust. By being a neutral, vendor-agnostic organisation, DigiTrust differentiates itself from other ID initiatives. This is a significant selling point for the programmatic partner platforms, many of which avoid using standardised IDs from vendor-owned domains.

In February 2020, IAB launched its Project Rearc aiming at creating a new basis for digital advertising based without the presence of third-party cookies. The initiative focuses on three main elements: privacy, personalisation, and community. The project will be directly handled by the IAB Tech Lab who will develop technical standards and guidelines for a universal non-cookie-based shared identifier. While still in the sketch phase, such a universal ID aims to meet the following criteria:<sup>42</sup>

- Consumers should always be in full control of the data.
- The identifier should have sufficient encryption to prevent any reverse-engineered to identify the user.
- Brands and publishers should have regular auditing activities to ensure that third-party vendors are not tracking consumer details without consent.
- Third-party vendors can also collect data on behalf of first-parties, provided the above conditions are met.

##### Advantages and disadvantages of the existing solutions

One of the main advantages of unified ID solutions is that many of them are backed up by a number of large ad tech players – an aspect that can guarantee better compatibility and match rates between platforms. Certain initiatives (eg.

DigiTrust) are independent and vendor-agnostic, which offers a promise of a future industry-wide standard.

However, the existing shared identifiers also face a certain number of challenges. One of the important limitations is that most of them still heavily rely on cookies (with the exception of the Advertising ID Consortium that uses LiveRamp's people-based ID, Ftrack by Flashtalking and the new universal identifier announced by the IAB in 2020). Despite the fact that they reduce the number of cookie syncs on a page, they are still impacted by ITP and other browser features such as privacy settings (eg. DigiTrust ID is not supported by Mozilla) and ad blockers. Another challenge is the lack of support from the browser/software manufacturers who have called out these workarounds as covert ways of circumnavigating the loss of a third-party cookie. Moreover, companies such as Apple, Mozilla and Google tend to promote their platform-specific proprietary solutions (eg. Google Sandbox).

##### e. The rise in the importance of private marketplaces

Over the past few years, the shift from open to private marketplaces has become common practice among marketers. This tendency will be amplified in the cookie-less world. This presents many opportunities for premium video publishers as PMPs offer them greater control over the pricing of their inventory. It will also enable them to validate their direct relationships with their clients and offer the opportunity to present the benefits of their proprietary data to advertisers.

##### f. Impact on re-targeting

One of the most explicit consequences of the end of third-party cookies is the profound change it will cause when it comes to re-targeting. Being currently based almost exclusively on cookie pools, it will likely have to transform to rely on ID-like solutions. This will give an advantage to big data owners who will be able to track users across large

web portfolios (see point b for more details). Non-ID based user identification will most probably rely on machine-learning techniques (see point j). The disappearance of the third-party cookies will also result in an increase in location-based targeting efforts as the user location will emerge as one of the most important targeting variables.

##### g. Measurement, optimisation and transparency

The end of cookies will heavily impact the way the ad industry measures ad performance of campaigns across different publishers' websites. Measurement tools that rely on third-party cookies will be disrupted. Optimisation, frequency capping and setting across multiple walled gardens and publisher outlets will have to be based on different tools. With engagement planning, CPM-based buying will most likely transition into models that focus more on users' actions/engagement (eg. cost-per-view). In the context of video advertising – the notion of view and the viewability criteria will become central pillars of the new system. The need for transparency driven by an independent data verification and auditing will also play a pivotal role in this new reality. *(For more information on TV companies' commitment to the improvement of the existing measurement system, please refer to egta and the Global TV Group's [TV Charter](#)).*

##### h. Attribution

In the absence of third-party cookies, walled gardens will offer attribution within their publishing domain, which will favour the big data owners, who can provide the most consistent audience profiling. With the advances in automation on individual publisher networks, there will be a greater need for machine-learning-based attribution techniques that quantify the brand-building efforts. These will emerge as BAMMs (brand attribution mix models).

<sup>42</sup> Project Rearc: An Industry Collaboration to Rearchitect Digital Marketing, 12 February 2020, <https://www.iab.com/blog/project-rearc-an-industry-collaboration-to-rearchitect-digital-marketing/>.

In the post-cookie world, brands can envisage a number of strategies to fill in the gap in the attribution matrix. Each of them requires a specific response from publishers, who want to increase the value of their inventories:

- **Buying digital inventory directly from publishers, who are rolling out first-party data offerings:** This presents a significant opportunities for TV companies, who individually (and even more prominently within a framework of multi-broadcaster alliances) own large high-quality data pools.
- **Transitioning from audience-led buying towards contextual buying:** This means placing ads in environments where relevant audiences congregate. Many TV companies are already active in this domain, both when it comes to linear TV as well as VOD (for more information please refer to point j).
- **Reviewing measurement approaches and replacing attribution and conversion tracking with various analytical solutions** (eg. econometrics, marketing mix modelling, brand studies, controlled and uncontrolled audience/creative testing on individual platforms, dedicated panel-based testing etc.): In this context the importance of in-platform testing and research branches within publishers companies is likely to significantly increase.

#### **i. Creativity bounces back as *datavity***

As the importance of engagement planning increases significantly, so does the role of content and creativity. The efficacy of creativity will be measured on its ability to generate first-party data rather than vanity metrics. As the “death” of third-party cookies will end re-targeting in its current form, the renaissance of creativity will mark the beginning of an era where data and creativity will have to work together.

#### **j. The re-emergence of contextual advertising and other technologies**

While the online advertising industry has been primarily focusing on cookie-based targeting, advances in machine-learning and AI have opened up a whole new world of possibilities for intelligent targeting that is privacy-friendly and that does not require user-profiling.

One of the trends often mentioned as an alternative to audience-based targeting is contextual targeting, which now gives advertisers the opportunity to see and react in real-time to insights from audiences’ live content consumption.

In its most basic definition, contextual advertising stands for a form of targeted advertising in which promotional messages are matched to the relevant content available on a given platform (web, linear, other). In an online environment, contextual targeting includes much more than the content itself. It can be complemented by additional sources of information such as metadata, titles, and descriptions, related keywords, audio transcripts, and even comments within and surrounding content. All of these adjacent content signals boost contextual advertising with some of the benefits of behavioural targeting by drilling deeper into the sorts of things consumers are actively looking for when they search for content. By mining these signals brands and publishers alike can start to deliver more personalised messages.

The advantage of contextual insights is that they can remain completely independent of third-party cookies. While viewers might opt out of cookie-based targeting, a publisher can still provide marketers with information regarding the type of customers visiting their site, visits frequently, and why different consumers might watch certain types of content. Moreover, brands can coordinate with publishers to get similar data in a contextual or URL-based format with or without dropping a cookie or buying a cookie-based data segment. For

instance, publishers can create segments based on content with specific audience categories (eg. new parents). These profiles can be created based – for instance – URLs rather than cookies as advances in natural language processing (NLP) and semantic algorithms now allow for both nuance and scale, which helps filling the niches where contextual targeting used to be much more manual.

Another advantage of contextual advertising is that this approach is more consumer-centric and privacy-friendly. Publishers can focus on content creation and ensuring the right environment for both awareness or engagement to thrive.



# CASE STUDIES

## THE VIDEO MARKETPLACE BY RTL ADCONNECT: THE INTERNATIONAL ONE-STOP SHOP FOR PREMIUM VIDEO CONTENT

The Video Marketplace (VMP), offering the best of online video content from RTL AdConnect's video inventory, is the international one-stop shop for simple, centralised and direct access to European audiences via premium video content on broadcaster VoD platforms and YouTube.

It offers premium content and brand-safe environments - addressing concerns about trust and transparency, viewability and simplicity in the digital environment.

RTL AdConnect's VMP currently combines VoD inventory from leading European broadcasters across over 12 markets including RTL Group's portfolio and RTL AdConnect's other partners - DPG Media in Belgium, ITV in the UK, Goldbach media in Switzerland and Rai in Italy; two of the largest curated video marketplaces (SpotX & Smartclip); and premium YouTube channels.

Closely aligned with RTL AdConnect's viewer-centric Total Video proposition, it revolves around the same three main pillars:

- **Premium content** available on all screens, all platforms - reassuring advertisers that their brand will always be placed in the safest environments.

- **Open distribution strategy** allowing RTL AdConnect to form partnerships with various market players - global digital players included - and to push quality video content to where users are.

- **Investments in technology and data** providing an enhanced viewer experience and offering simplified advertising products and global solutions to international advertisers.

The VMP comprises three packages - each corresponding with one of three different sources of video inventory, which cumulatively total 53 billion monthly video views:

- **AdPremium (the 'best of BVOD')** offers access to the VoD services from RTL Group and partners' channels (ITV, Rai, DPG Media, Goldbach Media). It includes long and short-form content available on broadcasters' on-demand platforms, including premium TV brands available on each publisher's catch-up players and YouTube channels. This offer guarantees access to on-demand services with 100 million+ unique users per month in 12 countries. It also includes the YouTube inventory of YouTube's largest premium content provider, Fremantle, to provide the best TV content on the world's largest video platform and reaching 2 billion+ video views.
- **AdAffinity (the 'engagement' package)** includes the content produced by influencers on RTL's MCNs partners (Divimove, Broadband TV, Golden Network - owned by Groupe M6 in France, or RTL MCN - operated by RTL Nederland). This offer allows advertisers to hand-pick premium YouTube channels with a high level of transparency and combines a total of 41 billion monthly video views on 35,000 content creators' channels.
- **AdExtension (the 'extended premium reach' package)** includes the inventory sold via the advanced video ad serving platform SpotX and

Smartclip - giving access to premium content publishers representing 9 billion+ available impressions per month, 1 billion unique users across 34 countries and enabling data insights to enhance quality and performances on customised target groups.

For all three packages, RTL guarantees 100% brand safety across every platform.

To ensure greater simplicity and deliver a complementary alternative to FAANG (Facebook, Apple, Amazon, Netflix, Google), RTL AdConnect **offers international advertisers direct access to a global video inventory.** The VMP works with three buying models: managed (IO), programmatic (via PMP) and programmatic guarantee (YouTube-only).

Going through the VMP means advertisers can easily get the best of local video content at an international level, thus reducing the complexity of global buying. With about 20 offices across the world, **international advertisers have a direct point of contact based in their country.**

**Data' is a key value for us.** We collect both first and third-party data and, thanks long-term data collected by all our local partner DMPs, we have a large choice of defined target audiences.

On our AdPremium product, via IO buying and thanks to our partner DMPs we create advanced audience segments to match advertisers' needs in the most efficient way. Video consumption, socio-demographics and behavioural data are available.

BVOD platforms allow us to collect consumption data - not only to serve targeted advertising, but also to be able to provide the best content possible to each viewer aligned to their tastes and habits. Our approach is really user-centric approach. It also serves as a laboratory for media to test how content works before going on live television.

Across all our YouTube channels, we propose age, gender, geolocation and audience affinity segments - all on curated brand-safe content.

We are committed to constant and on-going improvement and enhancement of our simplicity of use, programmatic buying processes partnerships (preferred DSP partners, for example) and technical developments.

*\* All information stored and used in the VMP is collected locally in compliance with the GDPR framework.*

## MEDIENGRUPPE RTL DEUTSCHLAND: HOW BROADCASTERS CAN STRENGTHEN THEIR POSITION ON THE TV/ VIDEO MARKET BY BUILDING A STRONG AD TECH STACK



egta spoke to **Matthias Dang, Managing Director of Ad Alliance and Managing Director of Sales, Technology, and Data at Mediengruppe RTL Deutschland**, about RTL's ad tech and data strategy.

**egta:** Your mother company RTL Group has been very active in the field of acquiring other companies specialised in various aspects of video monetisation (SpotX, Smartclip, VideoAmp, Clypd and recently – Yospace) to adopt advanced ad tech capabilities and compete with the digital giants. Can you tell us more about the relevance for the German market and Mediengruppe RTL?

**Matthias Dang (MD):** Some general remarks before I get to the actual answer: all TV companies in Germany are content-focused whereas our international competitors are tech- and data-focused. We are both trying to gain ground in the other's domain, that is why we as broadcasters invest in ad technology on the one hand and data competence on the other – we need to be ambidextrous, strengthen our core and diversify at the same time. As tech and data "travel well" so to speak, it makes a great deal of sense for an international player like RTL Group to invest in companies that have scalable technology and try it out in one of the key markets. For Mediengruppe RTL it is a great privilege to have such top-notch technology at our hands – it opens doors with advertisers that have an eye on first mover-projects which effectively provide us with exclusive insights. Not least it projects us as an innovator and helps us foster our independence from the tech giants. The only way to success is through proprietary systems that enable us to monetise our inventory without intermediaries in the tech and data domain.

We still have a lot of ground to cover when it comes to tech and data but we are getting there. Some of our ad tech companies already play an increasingly important role in the monetisation of our linear and digital portfolio – naturally the main objective of these investments. For data-enriched campaigns we rely on first as well as third party data, making sure we are in control as much as possible. Early in 2019 we decided that a common DMP for the whole of the Ad Alliance portfolio was needed and we have now found the right partner, 1plusX in Switzerland. In an extremely complex world making things easier for all stakeholders is one of the things that will give us an advantage over our competitors. And, of course, it is a lot more efficient for our organisation.

One of the challenges we face is that tech and data nerds are much keener on working for Google than us but we need them just as badly – and we are working hard on increasing our visibility in that sector.

**egta:** What about Addressable TV? What place does it get in your vision for a future-proof TV ad tech stack and data strategy?

**MD:** Thanks to the smartclip technology Addressable TV is responsible for a growing share of our revenues, and naturally it plays an increasingly important role. In today's competitive environment every single activity potentially has a great impact. Mass communication is still the core, from our point of view and that of advertisers, but by offering one-to-one communication to complement it, we have increased our relevance enormously. Currently, our best-sellers are overlays, the next step will be digital ad insertion – that's going to push Addressable TV even further. Through our Joint Venture with SevenOne Media, D-Force, we can now offer advertisers what they have been demanding for a long time: an unrivalled Addressable TV-reach. D-Force will make sure that the Active Agent DSP through which you can programmatically book our ATV-inventory is developed and supported at a level that will make it almost irreplaceable. D-Force will at the same time develop new products, establish the highest possible service level and make sure that booking, frequency capping and reporting can be done across portfolios.

**egta:** Around the world, broadcasters are coming together in partnerships, seeking scale to fight common challenges and compete with global digital players. What is your take on such cooperation? Is ad tech and data the area where RTL is willing to cooperate on with other media owners both on a national and an international level?

**MD:** D-Force is a good example of media companies joining forces and Ad Alliance, founded in 2016 is

another. Ad Alliance is a partnership of Bertelsmann affiliates and today Germany's largest cross media sales house. It has recently added the Media Impact digital portfolio to span an even wider variety of topics. We can now meet advertisers' growing demand for cross media solutions in a high quality and brand safe environment. Naturally, looking at the partners' portfolios, we don't stop at Total Video – Ad Alliance's portfolio includes print, online, mobile and audio as well as native, influencer and performance marketing. Additionally, Ad Alliance offers programmatic and data-based advertising. The portfolio reaches 99 percent of the German population every month which makes us attractive partners for the likes of Nestlé and L'Oréal.

We also set out to provide consumers with a single sign on alternative called netID. We partnered with ProSiebenSat.1 and United Internet for the European netID Foundation that offers an open standard for a single sign on that can be used on websites that require a log-in.

**egta:** We often hear that the ongoing rise of the direct-to-consumer brands (DTC), which eschew marketing and retail intermediaries to sell as ecommerce operators, continues to provide impetus to marketing tech-oriented companies.

**MD:** The good news is that among the top spenders on TV you will find all the big e-commerce companies. As soon as an e-commerce company reaches the limits of what mouth-to-mouth and online-only advertising can do they will invest in TV advertising to get to the next level. A good example is mattress producer "Casper" who is now on TV. We have a dedicated team, called Unit 3, that provides these companies with a media plan and research to show how their success can be scaled up.



## DATA IN ONLINE VIDEO ADVERTISING



egta conducted an interview with **Emmanuel Josserand, Brand, Agency and Industry Relations at FreeWheel International**, to explore how broadcasters can use ad tech to improve their digital capacities.

**egta:** *Freewheel offers a number of technology solutions. Can you tell us more about them?*

**Emmanuel Josserand (EJ):** FreeWheel, a Comcast company, offers a comprehensive suite of services for the management and monetisation of premium video inventory for publishers, advertisers, and media buyers. FreeWheel combines the targeting and measurement of digital with the scale and quality of linear TV. We use technology, data, and premium inventory to enable buyers and sellers to transact across all screens, data types, and sales channels to achieve one thing: results for marketers.

### Buy-side/agency technology platform

FreeWheel Advertisers (through FW's Strata platform) provides a global media buying platform allowing agencies to build their own buying ecosystem. Using the technology platform agencies can plan, activate, optimise and manage billing and financials for all their campaigns across all media types.

### Sell-side/Broadcaster and Operators platform

The FreeWheel Publishers platform is a sophisticated ad management and decisioning engine enabling publishers to manage their sales. Freewheel helps the largest broadcasters and operators to plan, decision and report on their inventory, across all screens and sales channels.

### Media solution

FreeWheel Media provides a premium tv marketplace to transact through automation/programmatic channels.

Using FreeWheel's Drive, marketers and agencies have access to an integrated cross-screen buying solution. It enables them to target and measure audiences at scale across premium linear and digital TV inventory, on any screen.

Through its technology and industry initiatives, FreeWheel is helping to improve the efficiency and effectiveness of data-driven TV advertising, resulting in better planning, targeting, execution/trading and measurement across screens as well as protect and raise the premium economy.

This year one of the big focuses for the company has been addressable advertising. It is high time for all industry stakeholders to create initiatives to support data-enabled TV at scale. In June, Comcast announced its [On Addressability](#) initiative with a view to help and support programmers to embark and scale addressability. Audience-targeting and data-driven advertising is high on the agendas, enabling buyers to reach audiences at granular

level and push them through the purchase funnel.

Another recent initiative is the [Blockgraph](#) platform. A blockchain-enabled technology, designed to enable TV and media companies to control, connect, and safely activate their data at-scale. Blockgraph is a peer-to-peer platform that creates audience insights and data scale across the TV and premium video ecosystem. Marketers, publishers, and distributors will have the ability to anonymously and securely match audience segments directly, without any middlemen needed.

**egta:** *Can you explain the different models for serving ads through the FreeWheel platform?*

**EJ:** There are essentially two trading mechanisms: Direct Sold and Programmatic.

Direct Sold is inventory sold by a programmer sales team ahead of time and inserted into the system using an IO (Insertion Order). The ad parameters are inserted into the ad server 'engine' to be delivered according to a selection of variances (priorities, context...). This is still by large the trading of choice in premium environments where over 80% of the inventory is direct sold.

The other mechanism is programmatic. This is an automated system where ads are trafficked using automation and data. There are multiple variances of programmatic divided between real-time bidding and programmatic direct, you can find more details on this in a recent paper we published in February this year: [Cracking the programmatic conundrum](#).

The complexity is bringing these two trading mechanisms under one system. Which FreeWheel is now able to provide through an integrated ad management platform. Bringing both direct sold and programmatic trades under one decision engine, leveraging the best of both worlds, optimising the inventory and raising value. A single decisioning engine is extremely important for the TV ecosystem as they need a central decision

engine across the entirety of their business to account for safety, compliance, and control, and act as a single source of truth for their business.

**egta:** *In the direct sold scenario, what type of data is typically going into the platform?*

**EJ:** FreeWheel ad-serves against three parameters: what is being watched (the content); where it is being watched (the device) and who is watching (the user). The ad decisioning is made based on these parameters, and that is supplemented by the data layer available. That all feeds into the decision engine, which will deliver an ideal ad choreography, i.e. selecting the number of ads that should be served within a particular break, how many times an ad should be repeated over the course of the entire piece of content that is being watched, the appropriate ads vs context, etc.

FreeWheel is an open platform and as such enables the ingest of different data source as required by the broadcaster to improve campaign effectiveness.

Additionally, FreeWheel made some important partnerships with audience viewability data, working with, amongst others, Comscore, Nielsen, BlueKai, Krux, IAS and Moat. These partnerships enable publishers and advertisers to transact on the most effective metrics available through one efficient workflow and provides a holistic solution to address audience targeting and measurement needs so they can accurately measure – and deliver on – audiences across platforms at scale.

FreeWheel made some important developments in the Advanced TV space, i.e. to help deliver content beyond the traditional linear TV, enabling digital-like capabilities and impression-based delivery to premium video ad opportunities, in OTT, STB VOD and the various flavours of targeted linear TV. The later, is a major focus for FreeWheel today, as we're laying advanced capabilities to allow addressable TV to flourish.

**egta:** For those broadcasters that do not have a registration or social login, what type of data can they bring to the platform? Can they integrate cookie data? And how does this work in the mobile environment, where you can't rely on persistent cookies?

**EJ:** Yes, absolutely. They can use a DMP to add a layer of data for instance; but we are indeed using some cookie data to understand usage and define the three key parameters (what, where and who) to make decisions on which ad to deliver. In the mobile environment, the same principles apply.

**egta:** Do you have an idea of what percentage of the broadcasters you work with have implemented a registration system?

**EJ:** This is now becoming more commonplace, today in Europe a majority of broadcasters have implemented some viewers' data collection systems. The premium programmers and operators we work with are rather advanced and most have implemented registration or authentication systems, so they can acquire and manage their own first-party data.

**egta:** What type of data does the FreeWheel platform send back to the broadcaster?

**EJ:** No data is 'sent back' to broadcasters, essentially the data is the broadcaster's data. The platform uses data layers in a secure and compliant way to make ad decisioning and optimise campaigns. FreeWheel provides the tool and systems to turn this into actionable business insights.

As such, FreeWheel is able to provide insights and produces a series of quarterly reports looking at the trends and changing dynamics of how content owners and distributors are monetising premium digital video content.

**egta:** Are there differences between the various ad servers on the market today?

**EJ:** Yes absolutely, though there are few on the market! Since its inception FreeWheel solely

focused on the supply side of premium video (i.e. broadcast grade) – we are built for premium – and we champion the growth and unification of television. We are laser focussed, and well underway, to achieving true unification across IP, VOD and linear. FreeWheel is also unique in offering an integrated ad management platform. This enables programmers to manage demand across direct and programmatic sales channels.

The platform solutions are supplemented by our highly skilled and experienced advisory services team (product and market). FreeWheel also made a strong commitment in leading advocacy efforts on behalf of the premium video industry through the FreeWheel Council for Premium Video.

**egta:** When it comes to programmatic video, is the model that you simply integrate with technology to expose a broadcaster's inventory to the wider market?

**EJ:** To some extent – yes, it's that simple!

First, we should probably define programmatic as a trading mechanism bringing together data, automation and transaction models. When applied correctly, these 3 elements can be used in a variety of ways to target audiences, drive efficiency and deliver greater monetisation.

Now, publishers need to first consider strategy and business needs, as certain transactional types will not fit the premium model.

Too often industry players are trying to adapt tools designed for programmatic display to work for premium video. But programmatic buying practices cannot be simply applied to live TV on digital channels. For example, in the context of live TV, buy-side adtech players should build a robust infrastructure able to manage high levels of concurrent viewings, delivering the right ad, to the right people, at the right pace.

Compliance is also a crucial aspect which will require different approaches. Long-form video with multiple ads per pod require certain controls



and quality assurances (e.g. creative quality, competitive separation, stream integrity). It is also difficult to execute within an open exchange, biddable marketplace, where there are multiple demand sources, none of whom are aware of what ad ran before them... These are some of the risks that differentiate premium video from the rest of the video ecosystem, and why transactional models must be considered as separate to the inventory and campaign in question.

There is a wide spectrum of execution options available, each with its own pros and cons for premium video, so it is very important for buyers and sellers to align on objectives and develop a mutually agreeable framework. One that considers overall business goals when developing a premium strategy and includes the value of employing data, as well as automation via the right transaction model.

**egta:** So, do you think that open marketplaces offer a potentially viable model for broadcasters when some of these issues have been resolved?

**EJ:** Programmatic enables buying/selling of inventory through several distinct transaction models, which should be considered extensions of the technology itself. For instance, open exchanges enable opportunistic demand but come with significant risks, while private marketplaces offer more control, and automated guarantees create predictability for both sides.

The transaction model is too often put ahead of business strategies on both sides, at the expense of business rules and overall campaign goals. What is clear is that the focus should be to map the advantages that programmatic offers to business realities, and then match it to the workflows and technology needed to realise its potential.

Publishers and advertisers should embrace the value (eg. safety and compliance) associated with

premium video and collaborate on execution, which will result in increased ROI.

**egta:** *When you go into private or open marketplaces, you can apply some dynamic pricing models – are you starting to see that happen?*

**EJ:** We've been working very hard over the past couple of years to enhance what we call a holistic ad management platform – any inventory delivered via any distribution platform to any screen – with full broadcast compliance.

Through our full SSP integration we've now made it possible to sell ads within a break either directly or programmatically, with holistic management of the inventory regardless of the demand source. Through the combination of holistic ad decisioning and holistic yield management we're enabling ad decisioning to be executed against programmatic or direct sold ads in the same break.

Today we are seeing more demand toward programmatic guaranteed.

Programmatic guaranteed is a new model in TV advertising that enables the buyers and sellers to execute fixed-price, guaranteed transactions via the same OpenRTB protocol used to enable open auction and PMP transactions, but with parameters that support broadcasters' and pay TV operators' inventory sales models.

Programmatic guaranteed transactions help a buyer ensure they will receive the required impression volume for a campaign, while giving the seller an assurance that all of the inventory allocated to the programmatic guaranteed deal will be purchased at a fixed-price.

**egta:** *What do you expect to see in the coming couple of years?*

**EJ:** More programmatic trading for premium video; while today's premium video ad inventory in Europe is mainly traded via direct sold deals (80%+), with new developments and more confidences in programmatic trading, we expect programmatic

to represent 35 to 40%+ in the next couple of years. We will also see improved automation of traditional linear and improved holistic planning/reporting across all forms of TV on any screen.

High on the agenda is addressable TV. The importance of bringing increased addressability to television advertising was shown in a recent Advertiser Perceptions survey, commissioned by Comcast Advertising, showing that over 90% of advertisers agree that enabling greater addressability is very important to the future of TV advertising.

To that effect, in June this year Comcast Advertising, the advertising arm of Comcast Cable, announced the launch of a new initiative: On Addressable. The broad goal of this initiative is to help the industry deliver a sound, scalable and sustainable addressable solution to marketers that maximises the impact and value of television as a marketing platform.

Enabling full addressability will involve the entire advertising ecosystem, from marketers and content owners, to measurement companies and tech providers.

**egta:** *With this in mind, what advice would you offer to any broadcaster or TV sales house looking to improve its position in the video space? What can broadcasters do in order to better perform on the video advertising market (with regards to ad tech stack and their data capacities)?*

**EJ:** Embrace change. TV is becoming increasingly data-enabled and buy-side and sell-side industry participants are gaining access to more and more viewer data. All players should now have a data strategy.

The fragmentation of audiences has created strong competition for audiences, advertising budgets and customers – and new challenges in how to measure audiences and effectiveness across the viewing landscape.

Broadcasters, TV platforms, agencies and advertisers have more access to proprietary data sets as well as rich consumer data from various sources. These new datasets include STB return path data, viewing information from OTT apps and Smart TV/CTV sets.

They have in turn 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 advertisers and their agencies the ability to better target their advertising campaigns and move consumers down the purchase funnel.

The TV industry needs to respond to developments in the online advertising market, where advertisers are often able to see the impact of digital campaigns on online conversions and sales, often in real-time. There is a rising demand for more advanced means to measure return on advertising spend (ROAS) across different channels. This is a new frontier for the TV ecosystem: attribution. We see a trend arising in the tv ecosystem to move into attribution to help better measure the impact of TV advertising on sales, traffic and other types of audience behaviour.

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 sections above, so collaboration will also be essential on that front.

**egta:** *"Collaboration" is a big buzz word when it comes to private video market places. Do you think it's always the best solution to fight the digital giants?*

**EJ:** I do not believe we should 'fight' the digital giants. The TV industry is in a very good place and has made major investments to continue to provide consumers with what they are looking for: quality content. Premium is the TV ecosystem's most valuable asset and this is not going to change. We need to continue to collaborate to make it easy to access and trade on premium inventory.

Collaboration should focus on enabling simplicity. Simplicity to buy, to transact and to measure.

## EXPLORING DATA-DRIVEN SOLUTIONS WITH PUBLITALIA



egta spoke to **Paola Colombo, General Manager Adtech and Business Development at Publitalia**, about the company's approach to harnessing the power of data and ad tech for their linear and non-linear advertising products.

**egta:** In July 2018 Mediaset launched a new version of its online platform – Mediaset Play. Formerly your video on demand service, it has been transformed into a new multiscreen streaming service combining live channels with catch-up and on-demand content. Could you please give us an overview of the video products you offer on Mediaset Play?

**Paola Colombo (PC):** We offer video pre-roll and midroll on all screens, which are sold separately due to Italian regulatory limitations (as our market share on TV is more than 50%, we are obliged to sell digital via a separate sales house). Our Connected TV inventory is sold by Publitalia while the Mobile, Tablet and desktop inventory is sold by Mediamond.

In all cases we have pre-roll when content is restated or on VOD, short and long form, and we have midrolls on long form. In September 2019 we launched server-side ad insertion (SSAI) on live events (champions league matches).

**egta:** Mediaset has several digital extensions in its portfolio (including VOD and online audio). Do you offer the same level of addressability and targeting for all of them?

**PC:** The level of targeting depends more on the device than the product: we work on the same data lake so we match and classify data in the same way, however, we can be more granular on mobile, given their inherent personal nature, than on TV which is a family device.

**egta:** Do you sell them as combined package?

**PC:** As per above, we cannot sell them together but there have been some examples where we have suggested the combination to clients.

**egta:** We know that connected and smart TVs are an invaluable source of information on the preferences and habits of audiences. In 2017 and 2018 together with Neodata you developed a number of data-driven solutions for your DTT channels watched on the connected MHP / HBBTV compatible TV devices. Do you offer similar products for your on-demand inventory watched both on big and small screens?

**PC:** We do and we have also created device graphs to cross reference targets from one device to the other. In fact, we have created algorithms that help us understand which devices belong to the same person or to the same household. This allows us to transfer online user behaviour, by categories of interest (eg. finance or art), to TV sets and to target campaigns to users that demonstrate this level of activity.

**egta:** Could you please tell us more about your data offering? What data sets do you use for targeting on your digital video assets?

**PC:** We use the following data sets: age, gender, interest, intent, purchase, geolocation, tech features, connectivity, content or advertising watched by the viewer.

**egta:** How do you determine household's composition and define individual user profiles?

**PC:** We reference both programme viewing and Auditel audience ratings and we derive from content consumption and the household composition.

**egta:** Do you do device profiling based on commercial targets for your video inventory?

**PC:** We do age and gender targets.

**egta:** Do you measure (and report) viewers behaviour in real time?

**PC:** We track viewers behaviour in near real time (few minutes delay) but we are not producing any official reporting.

**egta:** What are your main challenges when it comes to data management?

**PC:** The main challenges for us are device fragmentation and the absence of a clear standard in the market. It is also hard to prove data quality. The third-party data market is not very developed in Italy, therefore most of the data applied to campaigns comes from advertisers' sites or databases or from publishers. Most of the demand is for age and gender and geo data which are more aligned with what advertisers have traditionally been using to purchase media. I believe there is a lot of value in behavioural, intent and interest targeting. However, it is much harder to measure quality and effectiveness of these data sets as the rules on how they are built vary depending on the player. Therefore, they are generally less in demand.

**egta:** How did the market react to your offer? Is ADD+ used more by big advertisers (who have budgets to experiment with targeted ads and audience-based buying) or do you see also an interest amongst smaller advertisers? Do you expect more advertisers to try your data solutions in 2020?

**PC:** We definitely have a combination of both. We have activated more than 100 advertisers, some of which are new to TV and represent local or small medium businesses. We see the adoption curve growing every month and we expect to see this trend continuing throughout 2020.

**egta:** How do you deal with the GDPR compliance and user consent for data collection? Are users keen to share their personal data and therefore receive personalised advertising?

**PC:** From the very beginning, we have implemented a strict privacy policy and we have always asked for an opt-in to gather consent: thanks to the trust of the users in our media and in our brand, to date, we are reporting a 90% opt-in rate to the tracking mechanisms on our digital outlets.

**egta:** What are the next steps for your online video extensions? Are there any specific developments you are currently working on?

**PC:** We are doing the first test of dynamic ad insertion on broadcast and we are now looking at dynamic ADD+ creatives to enable niche targeting even for national advertisers (eg. car manufacturers and dealers, or retail).

Throughout August we run the first test on an in-house campaign and we are looking at launching some campaigns with advertisers in Q4 this year where we will replace a linear broadcast spot on connected tv with a spot delivered via broadband.

## PROGRAMMATIC AND TRANSPARENCY: FRENCH INITIATIVES TO SAFEGUARD THE VIDEO ADVERTISING SPACE

As programmatic buying across digital video is growing, the French broadcasters have been concerned with data leakage and security. One of the main challenges related to the programmatic space is that many publishers and advertisers alike rely on 3rd party platforms and data to drive their video advertising. This setup means that both media owners and brands often choose to hand over control of customer login data to external parties and, in consequence, give away the differentiating value of such information. Moreover, in many countries there has been a lack of common standards around how this data can be purchased, sold and exchanged. The recent initiatives on the French market – SYGMA and TrustID – are broadcasters' direct response to the increasing need for transparency in the video advertising space.



### SYGMA: the unique combination of broadcasters first-party data, premium video content and programmatic access through common standards

In September 2018, three of France's leading broadcasters – France Télévisions, M6, and TF1 – joined forces to create **SYGMA Data Video Access** – the first technology standard on the French market that combines premium video inventory with registered customer data.

SYGMA is a set of common principles related to security and data privacy. It includes a number of requirements that demand-side platforms have to meet to in order to access the valuable login-based VOD inventory from France Télévisions, M6, and TF1 (i.e. respectively France.tv, 6play and MyTF1).

The main objective of this initiative is to make it easier for buyers to access inventory from all three broadcasters, plus reduce wastage and any types of fraud (eg. related to buyers making false bids in order to access individual user's data). The initiative aims to address two major market trends: programmatic video and 1st party data targeting. Until the creation of SYGMA, the progress of programmatic buying/advertising in France had been slow due to the lack of sufficiently robust and secure technical standards. The three broadcasters currently have access to the data of over 20 million registered users each. Prior to the launch of SYGMA, these high-value 1st party data sets were not commercialised programmatically (despite

an increasing demand from clients) in view of the high risk of ad fraud and data leakage. Thanks to the new standard, trading desks now have the opportunity to access broadcasters' premium video inventory combined with reliable proprietary data in a fully secure and standardised way.

Adobe Marketing Cloud/TubeMogul was the first platform/vendor to have the SYGMA DSP certification at launch, but other tech vendors are expected to join so long as they match SYGMA's data protection criteria and tech specifications. The DSPs that join the initiative have to make changes to their buyer interface so that clients can directly connect to SYGMA and book the inventory from the three broadcasters (eg. through a dedicated tab/menu item).

The solution aims to lower the risk of data leakage through an improved verification process when a trading desk uploads a spot using its DSP. By following the new standard, the DSP rejects creatives that might carry any scripts which could potentially allow media buyers to intercept broadcasters' 1st party information and feed it into their own DMP. For instance, while many spots include tracking pixels enabling brands to track the effectiveness of their campaigns, thanks to SYGMA, advertisers cannot use the login data associated to broadcasters' video assets for further audience retargeting with any type of campaigns (eg. RTB display).

From an organisational point of view, SYGMA is rather a collaboration than a full alliance as broadcasters do not share their data nor pricing and the sales houses remain independent when it comes to direct sales and negotiation processes. The initiative is open to all parties provided they meet the standard.

CPMs through Sygma are expected to be higher than those in direct sales due to the quality of data combined with scale.

One year since its launch, CPMs on SYGMA for TF1 are approximately 50% higher than in case of the broadcasters' other video programmatic offers with very strong demand surpassing the maximum volume to offer.



### Trust.id: a new campaign identifier for programmatic campaigns

In 2018, the French advertising trade body Edipub launched **Trust.id** – a campaign identifier, which tracks a programmatic campaign throughout its entire lifecycle. The initiative was a direct response to changes in data protection legislation and the urgent need to address advertisers' demand for cost-effective solutions and transparency in terms of pricing and delivery.

In 2020, thanks to Trust.id, advertisers will be able to verify whether the campaign they paid for has been delivered to the right target audience and, in the near future, where exactly it was shown. As the system assigns a unique code to each individual campaign, all market actors share responsibility along the programmatic supply chain. In addition, the solution will make reporting operations easier and more reliable.

Currently, Trust.id is mostly used to answer the traceability and interoperability needs between ad tech actors, establishing it as a standard along the programmatic chain. Further enhancements will include additional KPIs for programmatic campaigns, planned for the second half of 2020.

EdiPub, the initiator of Trust.Id project, was also in charge of approaching all the ad tech vendors on the French market, most of which are international companies with a multi-market presence. These providers were invited to collaborate on the set of technical specifications leading to the adoption of Trust.Id in IAB Tech Lab's updated *Open RTB Guidelines*. Overall, the market responded positively to these standards and some of the ad tech vendors (eg. SmartAdServer or AppNexus) have already proactively integrated the Trust.Id specification into their products.

#### **a. How does it work?**

The idea behind Trust.Id is that, in order to guarantee traceability, the source code should be present in each step of the entire programmatic workflow. This implies that the necessary identifier needs to be inserted in the earliest stage of the ad serving process. It is therefore the advertiser's (or its agency's) responsibility to mention this requirement in the campaign brief.

When the trading desk creates a campaign in their DSP (and plan its digital roll-out), it must include the Trust.Id identifier. This ensures that when the campaign is delivered through the DSP, the bidding responses run with the Trust.Id markers. When the SSP later receives the order, it can further "track" the campaign in question thanks to the identifier included in it.

All actors involved in the ad serving process can generate campaign reports by reproducing the Trust.Id code at each stage of the workflow, using the data reconciliation process and by using the "comparison key".

According to EdiPub, Trust.Id is an efficient and cost-effective solution as it is easy to implement, requires few financial investments and development efforts, and can be quite adequately used for invoicing as well.

As part of Trust.Id's implementation, early

adopters had to run a Proof of Concept (POC) and validate the project, in the hope that it would lead not only to a French roll-out, but also a European one and possibly serve as a worldwide reference. Among the first companies expected to adopt the standard are: EDF, La Poste, Orange, Unilever, Nestlé, Bouygues and leading media agencies such as WPP, Havas Média, Publicis Média and others. Beyond France, the project is also expected to roll out in Denmark, and the platform hopes to convince more European countries to join in. The ultimate goal is the adoption of the Trust.Id initiative throughout the global digital advertising market (eg. in the context of its implementation within the new version of IAB's Open RTB standard).

#### **b. Who can join the Trust.Id initiative?**

Trust.Id is an open standard that can be adopted by all types of companies involved in the digital ad buying/serving process. There are no prior conditions required for the adoption of Trust.Id, other than the integration of the specifications in the company's IT tools/products.

The initiative has been supported by both the IAB tech Lab, IAB France as well as number of ad tech vendors (AppNexus, SmartAdServer, Trade Desk etc.). In order to ensure that the Trust.Id mechanism is integrated in the future versions of IAB's Open RTB Standards, it needs to be supported and widely used by the French TV sales houses.

At the time of writing (October 2019), Edipub was not able to share any concrete figure showcasing the impact of Trust.Id on the French programmatic market, given the fact that the proof of concept was only completed in September. However, the initial data suggests that the new traceability identifier has strong potential when it comes to regulating ad practices and facilitating a more efficient operational data management when it comes to digital inventory.





## CHANNEL4: HOW DATA AND AD TECH CAN HELP BROADCASTERS INCREASE THE VALUE OF THEIR VIDEO INVENTORY

Channel 4 is an advertising-funded, public service broadcaster in the UK that has a long-standing reputation as an innovator, both in terms of the content it provides to its audience and the platforms through which it is delivered. Channel 4 was among the first European broadcasters to bring a VOD offer to the market, launching its 4oD service in November 2006.

The platform was substantially rebuilt and relaunched as "All 4" in March 2015. Currently, the service operates under a hybrid business model (offering a free advertising-funded tier and, as of March 2019, is trialling an ad-free subscription option – All 4+). In addition to its dedicated web-based platform, All 4 is available on Android and iOS devices, game consoles (Xbox and PlayStation) and connected TVs, and it is available on TV platforms such as Sky, Virgin Media, Freesat and YouView.

In terms of viewing figures, VOD generates about 12% of Channel 4's total viewing hours, which is above average for UK broadcasters. Overall, digital represents 14% of Channel 4's commercial revenues. All4 experienced a significant growth in viewing +26% in 2018.

## More transparency and control over the usage of viewers' personal data as key elements of Channel 4's integrated data strategy

Channel 4 announced its integrated data strategy for its digital extensions in 2012 with its *Viewer Promise* and pledged to give users greater control and transparency over their personal data when they sign up through any of its digital products and services. The campaign was supported with a short video aimed at helping users understand what information about viewers was being collected and how it was used. Specifically, Channel 4 committed: never to sell personal data to any third parties, not to push any direct marketing communications that people do not wish to receive, and to ensure that those who want their personal details back, can have them wiped from Channel 4 systems and would not be contacted again. This pre-GDPR pledge is still the backbone of C4's data strategy today, impacting the company's choices while developing new offers.

## Mandatory registration and the role of first-party data

Access to All 4 requires registration. Users are prompted to submit their name, email address, date of birth, gender and postcode, after which they can either access the platform using their user name and password or through a social login. Users have access to a dashboard where they can see all their personal information held by C4 and control of their preferences over how this data is used. Channel 4 has access to first party data on 22 million registered users and hundreds of millions of data points, including profile information and viewing history.

Over 80% of Channel 4's All 4 revenue is currently generated through advertisers buying against first-party registered viewer data.

## Data at the service of ad sales, relevancy and user engagement

The data collected through Channel 4's digital extensions is used for two main purposes:

- Driving Viewing – related to the improvement of user experience.
- Commercial – referring to trading models and ad products for All 4 that enable the serving of targeted advertising to audiences; and

### a. Improving ad effectiveness through greater targetability

Channel 4 brought the buying of online video inventory closer in line with the way linear TV is traded. In addition to the opportunity to buy genre segments on Channel 4's digital platform, advertisers can buy against a specific audience (eg. example a young male/female audience or social grade ABC1) as well as behavioural segments (eg. Technology, Fashion or High Income). These solutions demonstrated significant uplifts in metrics such as brand awareness and intent to purchase. This capability is built on Channel 4's first-party registration data, which covers all platforms (including website, apps) and devices (computers, mobile, connected TVs, set-top-boxes and game consoles).

Adding to its commercial offering of interactive ad formats, in January 2019, Channel 4 launched a new ad product called Dynamic TV. The solution was developed in partnership with video technology firm Innovid and enables brands to deliver customised ads based on viewer location, weather, time of day, date and demographics. According to Channel 4, this solution is one of Europe's most sophisticated VOD ad targeting products as it enables potentially thousands of simultaneous variations of data-informed commercials that are highly relevant for viewers.

In June 2019, Channel 4 announced yet another innovation in advertising around VOD content. The new offering will enable advertisers to match their own custom audience segments across Channel 4 platforms. The system is GDPR compliant and does not require the use of cookies.

### b. Personalisation and user experience (UX)

With regards to improvements in UX on All 4, Channel 4 segments its audience not by age and socioeconomic group but by tastes and viewing habits. The broadcaster employs audience segments for content curation, promotion and tailored content communications that reflects user behaviour history to maximise the relevancy and browsing experience.

## Pioneering entry into programmatic video

Channel 4 has also developed a programmatic exchange for its VOD inventory. Launched in 2015, the Premium Video Ad Xchange (PVX) allows advertisers to buy audiences programmatically on All 4 across devices and platforms, based on Channel 4's first-party data.



egta spoke to **David Amodio, Digital and Creative Leader at Channel 4** about to explore how data and ad tech can help broadcasters improve their digital capabilities.

**egta:** *Earlier this year Channel 4 has launched an ad-free paid version of All 4. Why did you decide to include such an option in your offer? Have viewers responded positively?*

**DA:** Currently we are beta trialling our All4+ service, which allows viewers to watch shows from All 4 without commercials as far as this is currently possible. This is in response to customer demand, that shows some of our viewers would like to be able to watch shows on All4 but without advertising.

**egta:** *Channel 4 has one of the strongest VOD offers on the UK market. Why did you feel the need to enrich your ad products with behavioural targeting (was it a response to direct demand from your clients or an example of C4 embracing a general market trend)?*

**DA:** Channel 4 have 19 Interest Based segments available to advertisers to target on All 4. These are segments that consist entirely of viewers that we have identified as having a specific interest in areas such as DIY, fashion, food, travel etc. By overlaying All 4 registered users with a panel. We are then able to analyse their viewing behaviour and accurately build out the interest segments using lookalike modelling, across our 22M registered users.

Further to this, the interest segments were built with clear advertiser categories in mind, meaning that regular investors within specific product

commodities could now reach an audience closer to their core customer. The segments also provided a targeting solution to emerging and growing businesses that may not have previously considered All 4 on their plans (via segments such as App Gamers and Early Tech Adopters).

Lastly IBT is a natural progression to our targeting suite in addition to our wider use of demographic targeting. The launch of IBT provided the market with targeting options that are more characteristic of the digital market and act as the perfect complement to demographic targeting which is aimed squarely at traditional linear revenues. IBT therefore armed Channel 4 with a form of audience targeting that enabled us to compete for budgets more commonly invested in pure play digital publishers.

**egta:** *How do innovations around behavioural and contextual targeting allow Channel 4 to strengthen its position on the video advertising market? Could you please tell us more on the initiatives such as "The New Project" and other new data-driven video ad products you have recently launched?*

**DA:** C4 have been developing a unique product that enables advertisers to upload their own 1st party data as well as pre-defined 2nd party segments to be matched and targeted against All 4's 22m registered users.

Channel 4 are also developing their programmatic transactional capabilities with announcements planned soon.

**egta:** *Do you plan any new developments in your programmatic offer as a way of improving selling rates for your VOD inventory?*

**DA:** Channel 4 have carefully explored how we can evolve our programmatic offering and have since embarked on a project to deliver this that is c18 months in the making. There will be two significant shifts to our programmatic business.

The first will be the audience targeting that we offer to agencies and clients (see above answer)

Secondly we are exploring a solution which will enable our inventory to be bought within a private market place on a biddable basis. The idea being that this will provide flexibility and control that typifies programmatic buying whilst combining this with access to the most premium, brand safe and viewable inventory the video market has to offer.

**egta:** *Could you please tell us more about your data science team? How is it positioned within the company?*

**DA:** We built an internal capability as we felt it would become a strategic asset and therefore any IP developed should be retained by the organisation. The breadth of skills within the department include Data Science, Commercial Research, Content Research and this blend of skills has enabled the function can operate across the value chain (Package and promote content, Distribute and Monetise)

**egta:** *How many employees is it composed of? How is it set up internally?*

**DA:** The Data Science team includes a mix of experienced hires and an extensive graduate program where we fully fund PhD and MRes students that uniquely allows us to tap into ground breaking research in university and match it to commercial applications to create value in our business. Outside of the data scientists, we have a team of data strategists that are responsible for:

1. B2C – Creative Innovation – Using AI/ ML to create value for viewers and therefore ultimately ensuring we can increase reach and dwell time
2. B2B – Commercial Innovation – Using AI/ ML to create value for brands and agencies to ensure our trading currencies are robust, auditable and built using transparent and explainable AI techniques

3. Internal – Using AI/ ML to create internal value and efficiencies, adopting a test, learn cycle to deliver internal efficiencies

**egta:** *Are there any specific profiles/functions that allow you to "bridge" data science and the rest of your business?*

**DA:** The role of the data strategists is to evangelise the use of AI / ML in the business to create value – they act as an internal sales function selling the art of the possible and also responsible for delivering the operational change in the organisation.

**egta:** *Channel 4 has nearly 20 million registered users and the majority of All 4's revenue is generated through advertisers buying against first-party registered viewer data. Do you "enrich" your first-party party data with third-party data sets?*

**DA:** We currently have one partner - Acxiom

**egta:** *How does data verification work for All 4?*

**DA:** We have a real time service that verifies address at point of registrations, we also have techniques implemented to detect bot registrations and potential fraudulent registrations. With regards to all the models we use commercially we operate an independent triple verification – a Gold Standard – that is carried out by PwC, they check three things:

1. The data has not been interfered with along the chain
2. The accuracy of the models is verifiable and above 90% accuracy for any prediction made
3. The models are checked and monitored for any divergence or quality issues on an ongoing basis

This independent audit is completed with a certificate and made available to agencies to inspect.



## INSIDE ITV'S DEEP DIVE INTO AD TECH AND THE PROGRAMMATIC SPACE

In April 2019, the UK's leading commercial broadcaster ITV unveiled an exclusive UK and Ireland licensing agreement with global digital ad tech company Amobee, for programmatic buying and selling of premium video inventory on ITV's VOD service ITV Hub.

The ITV Hub currently has over 30 million subscribers, with more than 79% of all 16-34-year-olds in the UK registered on the service. The platform has seen a 32% increase in viewing in 2018 with over 446 million hours of online viewing.\* The partnership is a part of ITV's wider strategy to accelerate growth across its digital assets and provides a technology platform that will enable the broadcaster to create an industry standard for VOD to match the established system for linear advertising. Furthermore, the agreement is a direct response to advertisers' needs for frictionless targeted advertising in a brand safe environment complementing what they can currently do on the broadcaster's linear channels.

Amobee is a wholly owned subsidiary of Singtel and operates across North America, Europe, the Middle East, Asia and Australia. The agreement with ITV constitutes its most significant move into the television space following its acquisition of Videology assets in 2018.

The ITV and Amobee partnership will span

advertising for all digital video content types, available exclusively through Amobee's platform, including long-form video on demand (VOD), live-streaming video and short-form video across all consumer devices, giving advertisers complete control over the planning and purchasing of their campaigns across ITV's premium VOD service. Clients will be able to plan and buy their VOD campaigns using a dashboard that is part of Amobee's end-to-end campaign planning and management platform.

This new functionality means ITV will now give clients the best of both worlds – the ability to deliver mass simultaneous reach across linear channels, alongside targeted, data-driven addressable advertising on its VOD service (thanks to the agreement with Amobee) – appealing to a wider range of advertisers and meeting advertisers' expanding requirements while maximizing the commercial return for ITV.

The deal allows ITV to build its own, full ad-tech stack, including data management platform, ad server, and demand- and supply-side platform capabilities that can be matched with other data sets and solutions (including Barb audience data and the CARIA ad campaign management platform).

The broadcaster has already been trialing a self-serve platform for smaller businesses to buy ads and has started to talk to ad buyers about total viewing, which covers offline and online, when pitching its scale. The proliferation of connected TVs combined with ITV showing more ads around its VOD streams, is giving way to more impressions. In 2017, around 15% of ITV's VOD inventory was addressable; in 2019 – it is 75%.\*\*

egta spoke to Kelly Williams, Managing Director of ITV Commercial about recent developments in ITV's digital strategy and its deep dive into the programmatic space.



egta spoke to **Kelly Williams, Managing Director of ITV Commercial** about recent developments in ITV's digital strategy and its deep dive into the programmatic space.

**egta:** *What impact does the deal with Amobee have on your VOD strategy and positioning on the market?*

**Kelly Williams (KW):** We're really excited about this partnership. We've spent a long time with Amobee (and their owners SingTel) negotiating a pretty unique deal. The deal was signed at the end of March and we've spent the period since then integrating their technology with the ITV Hub, so we can bring their programmatic capabilities to our Premium Video Inventory. However, we think it's really important that our inventory doesn't mingle with some of the 'less premium' video inventory that's out there.

**egta:** *Many broadcasters are currently acquiring/investing in ad tech assets. What are the main reasons behind your recent initiatives in this space?*

**KW:** The market for premium video inventory that's able to be bought addressably, via programmatic channels, is really growing. With our partnership with Amobee, we're confident we'll be able to operate in this arena whilst continuing to deliver mass simultaneous reach via our linear broadcast proposition – it's the best of both worlds. We think this will appeal to lots of different advertisers: from traditional ITV advertisers through to digitally native brands (a huge growth area for ITV), and even through to SME's who might not have had access to advertising on ITV in the past. We're trying to make it easier for any brand to advertise

on ITV; it just takes more automation at our end to facilitate all of these different kinds of campaigns.

**egta:** *Why was it critical for ITV to build its own ad tech stack by acquiring Amobee's technology? What are the main advantages of this approach and how will it affect your video inventory?*

**KW:** I think it's primarily about ensuring there is synergy between the business model of the media owner (ie. ITV) and the tech provider (ie. Amobee). In true partnership you need to ensure the interests of all of the parties are aligned. We're both moving into new areas for our businesses and we need to make sure we're all pulling in the same direction. I also think it's important for the media owner to be able to have input and control of the technical roadmap of the technology provision.

**egta:** *What kind of data sources will be included in this new platform?*

**KW:** We plan to offer a wide range of data capabilities on the new platform. Our premium audience targeting products will feature first-party registration data from viewers on our ITV Hub, as well as targeting based on viewing and consumption behaviour across all our digital platforms. Our large registered viewer base also enables us to work with trusted data partners to further enrich our data with relevant interest, intent, and transaction signals. We will also be offering the ability for clients to bring their own audience segments, matching these with ITV first party data to create both targetable segments and insights that can be used for planning and optimisation. And finally, our in-house data science team is working on models which will add more sophisticated data opportunities on the platform.

It goes without saying, that we continue to comply with GDPR and other regulatory data obligations across all our data products.

We launched our own campaign reporting portal to the market in early 2019. This was a large step

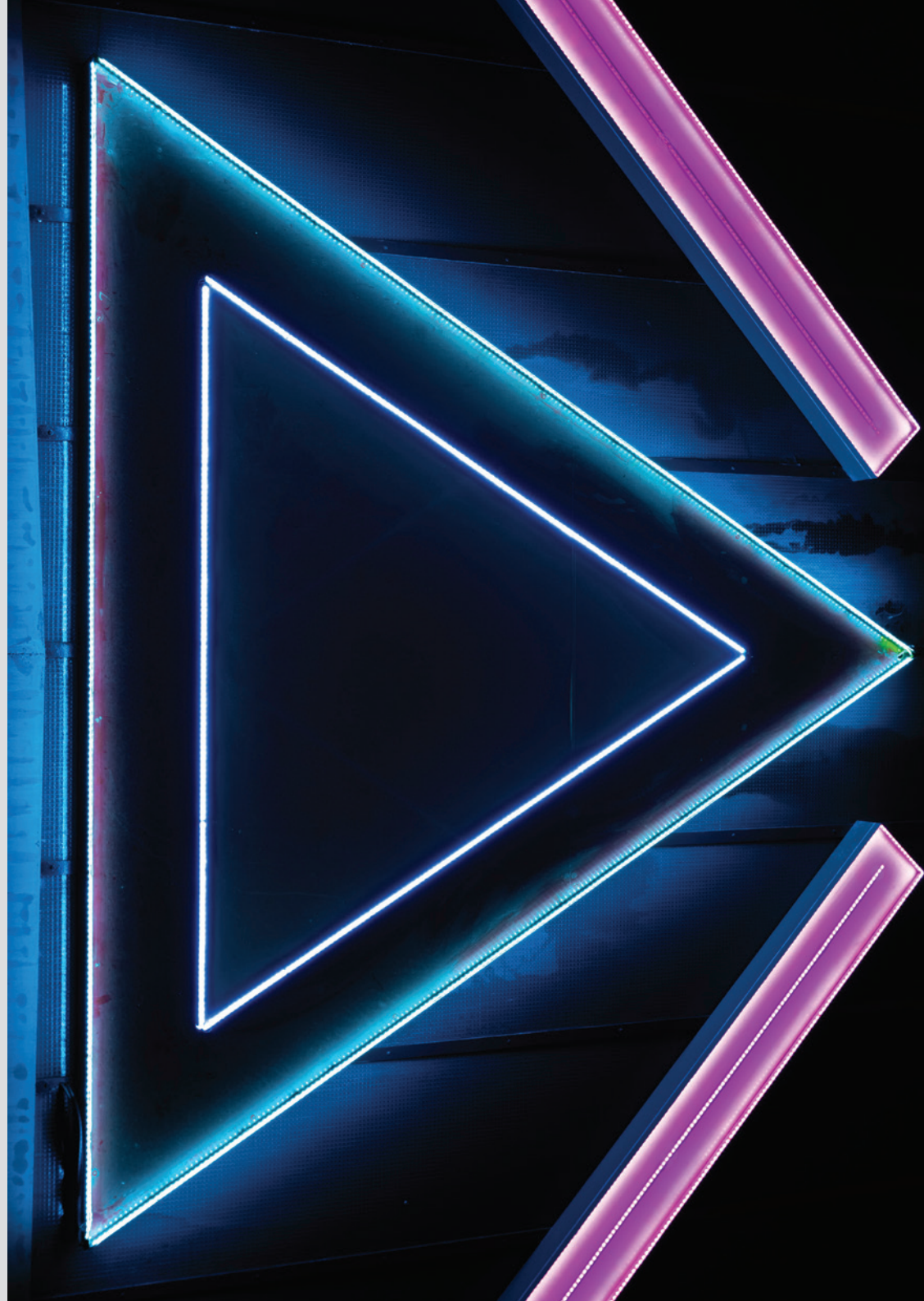
forward for ITV in support of the growing call for transparency in the media industry. Our portal already includes a range of campaign metrics, and viewability reporting by Meetrics. We will continue to refine and develop our reporting portal to provide more relevant insights for our clients.

**egta:** *What are the next steps for this platform?*

**KW:** Not all of the functionality and targeting capabilities I've mentioned earlier will be available from launch. I can't (yet!) tell you when we are going to launch the platform but it's going to be pretty soon. We're keen to get it out in the market as soon as we can and then continue to develop it and bring out more functionality. We've put together a roadmap with Amobee that takes us well into 2020. Once we've moved through we'll then listen to the market about what additional functionality they'd like to see and plan on how we can deliver it.

**egta:** *Is there a need and appetite for standardisation and collaboration in terms of ad tech among UK and European broadcasters? Will the new platform be open for other broadcasters to join?*

**KW:** We think standardisation or interoperability is really important for clients and Agencies across Europe. As I mentioned earlier, we are trying to make it easier for our customers to buy our premium video inventory. ITV already has a great relationship with many of the biggest broadcasters across Europe and in conjunction with Amobee we'd love to see them using this platform.



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## MORE ON EGTA

### egta - association of television and radio sales houses

egta is the Brussels-based trade association of more than 150 television and radio advertising sales houses. egta's members are spread across 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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