

# **SOLVING EUROPE- AN BROAD- CASTERS' PAIN POINTS**

**...VIA INNOVATIVE TECHNOLOGY  
PARTNERSHIPS**

**mtm**

**softserve**

# THE EUROPEAN TV MARKET IS GROWING, BUT BROADCASTERS MUST INNOVATE TO COMPETE

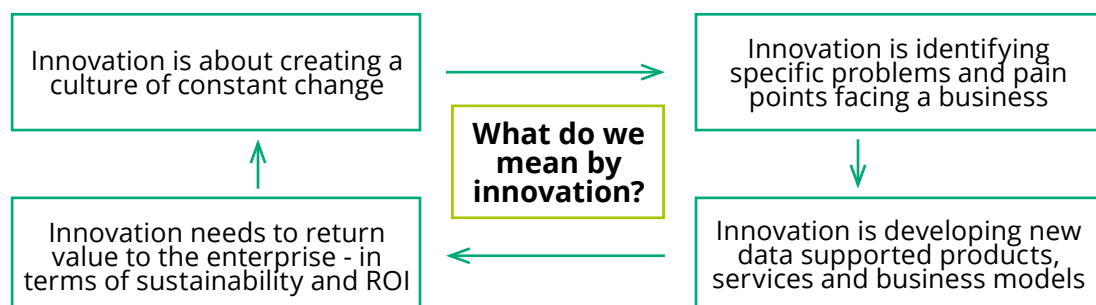
Western European TV revenues are growing, rising from \$39 billion in 2017 to an estimated \$50 billion by 2023<sup>1</sup>. Executives think we are in the 'Golden Age of Content' with larger budgets, more talent, and more opportunities to reach audiences. Consumption now occurs across multiple devices in many locations. Broadcasters have rolled out their own over-the-top (OTT) streaming services and, in some cases, are now looking to launch their own premium direct-to-consumer (D2C) services. They are experimenting with virtual reality, customisable interactive content, 8K HDR viewing, hyper-personalisation, and automatic filming. In terms of content, European broadcasters have had a global impact, too, with successes including Killing Eve, Broadchurch, Deutschland '83, The Bridge, and Spiral.

However, the landscape is changing. International subscription video-on-demand (SVOD) services, dominated by American giants such as Netflix and Amazon, continue to capture viewing share, with SVOD use rising 22% year-on-year in the UK<sup>2</sup>. Audience behaviour is shifting towards on-demand content, with many 16-24-year olds turning to these services first, rather than linear channels<sup>3</sup>. Disney, Time Warner, NBCU, and Apple have all announced streaming services. Facebook and YouTube are producing and distributing content through proprietary platforms, and Amazon and Twitter are purchasing sports rights. These companies, often born in Silicon Valley, are data-first and digitally native. They do not have cumbersome legacy platforms to maintain; and innovating through technology is in their DNA.

How can European broadcasters respond to these challenges? What are some of the key pain point facing European broadcasters today as they seek to transform their businesses? What areas of innovation should European broadcasters focus on? How can the video value chain benefit from new technologies on the horizon, including artificial intelligence (AI) and machine learning (ML)? What other innovation imperatives exist for European broadcasters? Who is best placed to deliver the solutions required?

MTM has partnered with SoftServe, digital advisors and providers who operate at the cutting edge of technology, to explore the issues facing European broadcasters, and the types of innovation required for them to compete.

## Exhibit 1: Innovation roadmap

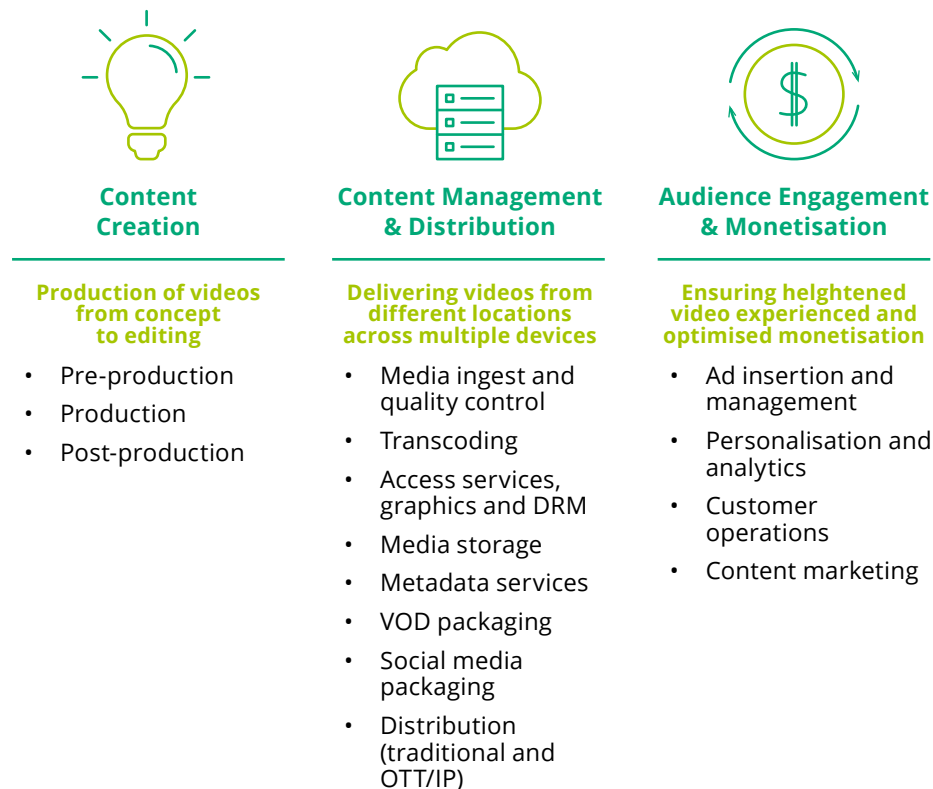


Source: MTM analysis

# EUROPEAN BROADCASTERS FACE CHALLENGES IN THREE KEY STAGES OF THE VIDEO VALUE CHAIN

From speaking to industry participants, we identified three critical stages of the video value chain where European broadcasters must look to innovative technologies in order to respond to new challenges:

**Exhibit 2: Potential pain points in the video value chain**



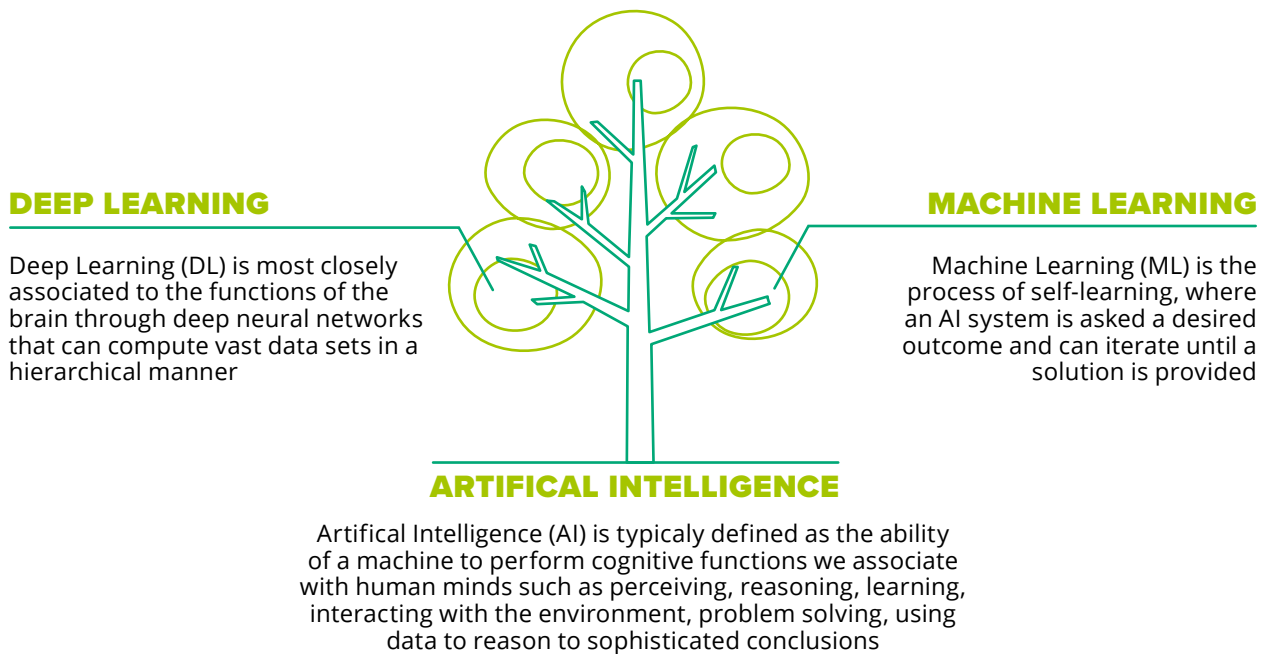
Source: MTM analysis

This video workflow value chain surfaces multiple pain points for broadcasters. Many of these areas present complex challenges: from migrating workflows to the cloud to optimising existing workstreams; from establishing a hygienic data set to replacing legacy systems; from deciding where to invest, partner or develop in-house, to building direct relationships with viewers. None of this is easy, and most are outside broadcasters' traditional skillsets.

We spoke to a number of senior executives in the European TV industry to explore these high-level issues, and the impact of innovative technologies such as artificial intelligence (AI). We define AI as machines performing cognitive functions through computing large volumes of data to reason to sophisticated conclusions (see Exhibit 3). With 80% of media executives believing AI is the next industrial revolution, understanding its impact on the future of broadcasting will be critical to its long-term success<sup>4</sup>.

**“We are at the tipping point where we are seeing [AI / ML solutions] move from hype to actually driving real value”**  
**- Trade body**

**Exhibit 3: Understanding Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning (DL)**



*Source: MTM analysis*

**Exhibit 4: Defining metadata**

**METADATA**

At its simplest, metadata is data about data. It is a broad term used to describe individual pieces of information about specific digital files; including image, video, design, and text files. Once aggregated, this metadata becomes invaluable for tagging, storage, distribution, and analysis.

AI can be employed through automatic tagging, e.g. identifying objects or certain scenes, as well as through processing and analysis – using algorithms trained on metadata to surface results and find patterns and sequences.

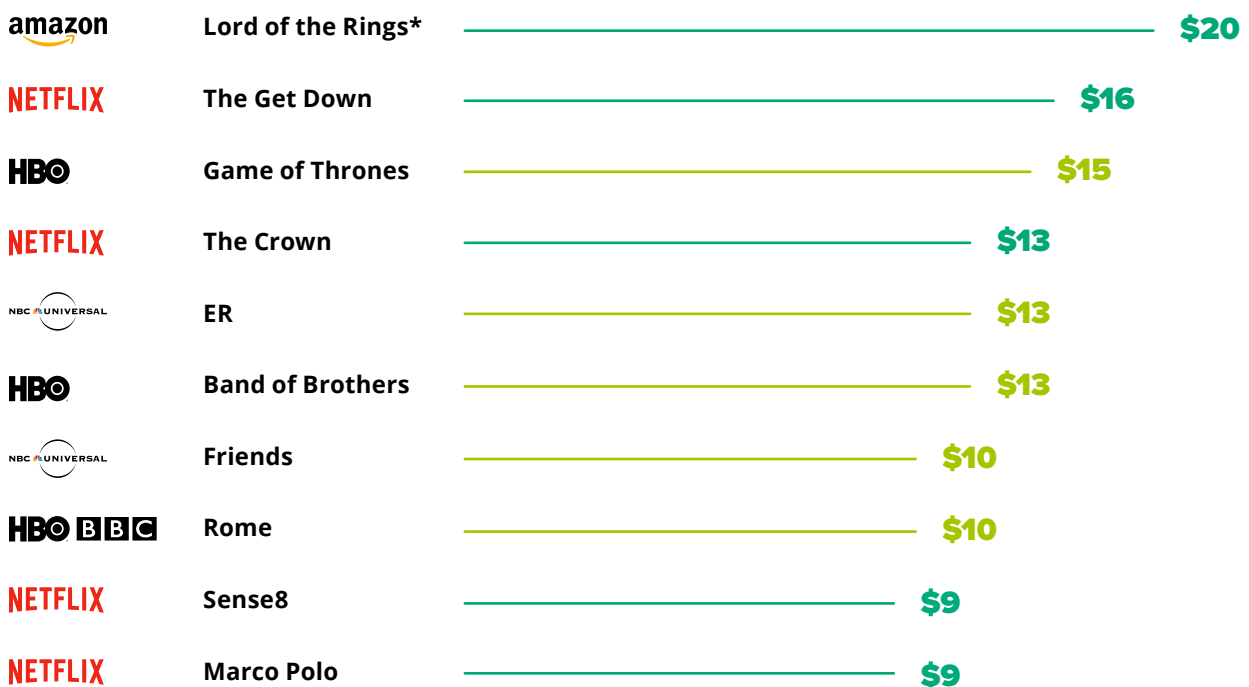
# CONTENT CREATION IS TOUGH IN A MULTI-PLATFORM, ULTRA-HIGH DEFINITION WORLD

Creating great content is central to broadcasting. It is what drives user acquisition and retention. However, more hours of TV content are being produced on a greater scale than ever before. And the battle between Netflix, Amazon, pay-TV companies and US entertainment giants is intensifying. Amazon's investment in The Lord the Rings television series, for example, has an estimated cost of almost \$1bn, including rights and production costs, with a cost-per-hour of almost \$20m (see Exhibit 5)<sup>5</sup>. For European broadcasters, who are typically active only in their home market, competing with such budgets is not feasible. Yet viewers' expectations around quality continue to rise.

**“The expectations for high value content continue to go up, in terms of technical delivery, in terms of quality, in terms of production values... Very few broadcasters in very few countries can create top quality content on their own”**

**- Trade body**

**Exhibit 5: Most expensive TV shows per hour of content (\$m, adjusted for inflation)<sup>6</sup>**



\* = Estimated    — = OTT service    — = Broadcaster

Source: The Guardian

This price inflation places pressure on broadcasters. Funding increases apply to production as well as talent. There are new demands and complexities around producing compelling content, from filming on high-resolution equipment - including ultra HD and 8K - in remote locations, updating legacy systems to process high quality imaging, and transferring video content via cloud technology. This becomes especially challenging when content is produced and delivered live, as is the case with premium sports.

**“If we produce Top Model or a sports event, there are so many perspectives. If it is live it is even more of an effort: everything must work. And with Ultra HD we have even more cameras: we did The Voice in Ultra HD with not 4 but 8 cameras”**

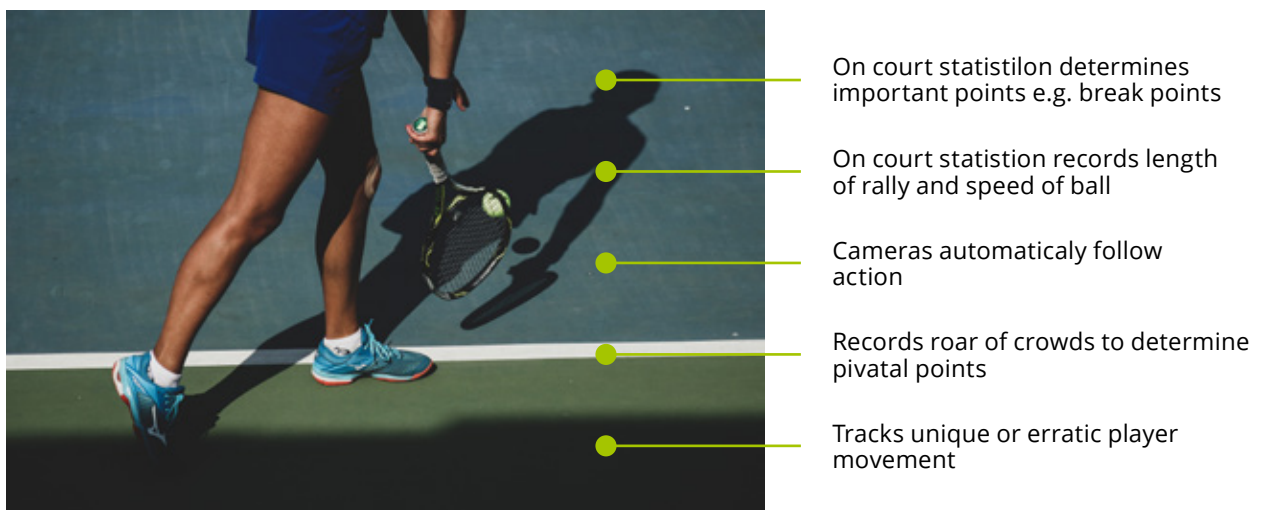
**- Broadcaster**

Participants cited post-production as particularly challenging. Once content has been filmed, ensuring the right content is transferred to the correct place for editing is difficult, relying on sophisticated cloud technology, particularly for global content producers filming in multiple locations. In addition, editing together live highlights of sports competitions particularly labour-intensive, taking hundreds of hours of time.

Recent developments in AI have tackled these problems by applying advanced solutions to unstructured data sets or creating advanced robotics to solve production challenges. Through employing technologies in this way, broadcasters and content producers can create new efficiencies in the production process.

One example below (Exhibit 6) looks at how applying innovative technologies to tennis can create highlights packages without the need for editors to spend hours sifting through in-game footage. Each step, from filming through automatic tracking cameras to an on-court statistician that records important points, can be processed using advanced technologies and AI.

**Exhibit 6: Employing AI to create smart tennis highlights<sup>7</sup>**



*Source: IBM, Soloshot, MTM analysis*

# CONTENT MANAGEMENT IS KEY TO SUCCESSFULLY DELIVERING ACROSS MULTIPLE DEVICES

Content management - the process of transferring, re-versioning, localising, transcoding, and sharing content – is becoming ever-more complex for broadcasters. With multiple organisations responsible for different segments in the value chain, ensuring consistency in content management and versioning is increasingly a challenge.

**“The first challenge is a well-defined content management system. We have huge projects running that many parts of the company must access. They need different pieces of information and different content sources. It is so complex on the technological side it is a real challenge to have a content management system that is future proof for streaming”**

**- Broadcaster**

Developing a deep understanding of content through automated metadata tagging (see Exhibit 4) is front of mind for media executives. Rich metadata about the content they create, or distribute, provides executives with the opportunity to extract maximum value from prized content assets.

**“If you can understand more about the content itself, both breadth and depth of content, early on in the process, then map that to a greater understanding of the consumer, you can create really effective opportunities to engage through, for example, off-platform acquisition, content recommendation and targeted advertising”**

**- Broadcaster**

However, collecting and recording accurate metadata remains a core pain point for broadcasters.

**“Metadata is always a challenge and therefore understanding content is a challenge... but you need it to provide a consistent and comprehensive view”**

**- Pay-TV provider**

An area where rich metadata can drive real engagement and value is in deepening knowledge of archives, unlocking the potential value of content libraries. Broadcasters – and viewers - can quickly search for previous programmes with a specific actor or scenes filmed in a similar location, for example. Yet executives believe that the potential of this is a long way from being realised.

**“Integrating metadata with our library seems like a very long way away”**

**- Trade body**

# AUDIENCE ENGAGEMENT: TECHNOLOGY CAN HELP TO RETAIN VIEWERS AND SUBSCRIBERS

## Exhibit 7: How Netflix recommendations work<sup>8</sup>

### NETFLIX RECOMMENDATIONS

Netflix identified over 2,000 taste groups of viewers, driving recommendations that results in over 80% of all viewing. Netflix's VP Product Innovation explains the theory:

**“The three legs of this stool would be Netflix members; taggers who understand everything about the content; and machine learning algorithms that take all the data and put things together”**

**– Todd Yellin, VP Product Innovation, Netflix**

In an increasingly fragmented media landscape, ensuring content drives engagement and retains viewers is a priority for broadcasters in Europe as elsewhere. Developing a deeper understanding of both content and viewers' preferences requires sophisticated metadata, as outlined above. When combined with algorithmic decisioning – recommendations based on behavioural data, how a viewer acted, and preferential data, what a viewer likes – this results in more accurate personalisation:

**“There are a number of things we think about in the long term: a core area is personalisation and recommendation. Understanding what is in content at a granular level to do detailed recommendations and customisation experiences is crucial for us”**

**- Pay-TV provider**

These benefits are passed onto the consumer. Combining detailed metadata on the content with well-trained ML algorithms has the potential to create a customised user experience that can drive real value. Personalised recommendations based on deep knowledge of both the content and the viewer's preferences are a holy grail for TV executives – providing the opportunity to search by actor, director, piece of music or even a specific scene. But accessing these layers of granularity with metadata is a real challenge for broadcasters.

**“There are too many false positives, too much volume of tags; more work needs to be done in the training and accuracy of models. Making sure we understand the granularity is crucial in terms of taxonomy. There are several tools on the way to getting there, but we don't think there is anyone who is going to be there in the immediate short term”**

**- Pay-TV provider**

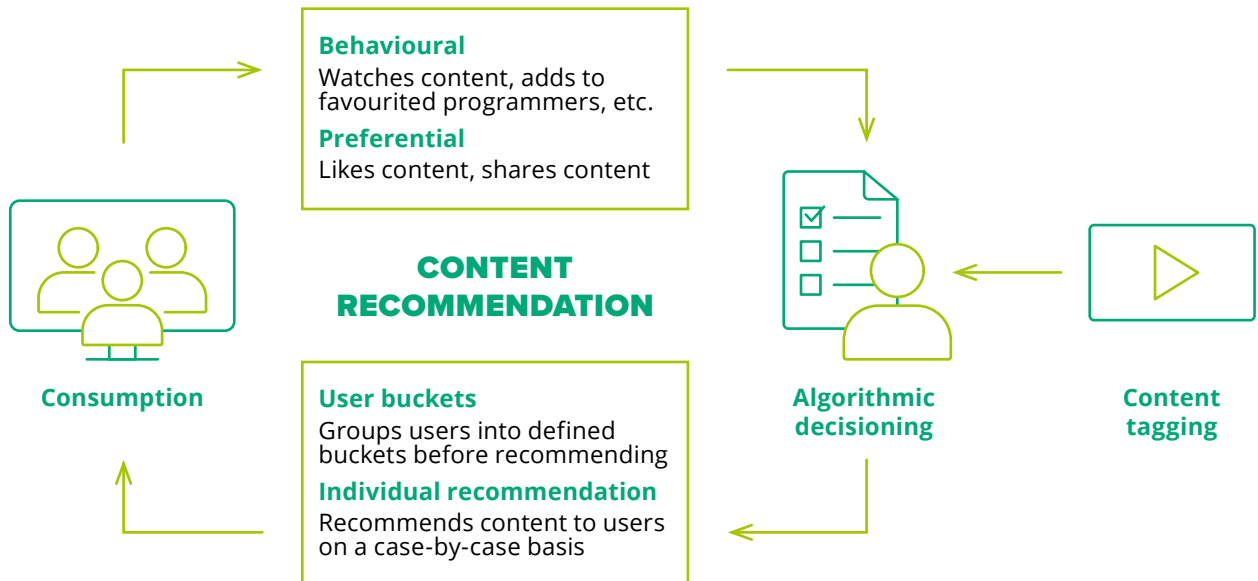
To match the highly sophisticated targeting employed by the tech giants (see Exhibit 7), broadcasters must deploy AI and ML for recommendation purposes, particularly to large content libraries. The key to delivering this is to collect richer and more complex data sets, and to develop the tools and capabilities to provide a granular understanding of the data.



**“Artificial intelligence is very relevant... particularly for recommendation engines suggesting similar content”**

**- Broadcaster**

**Exhibit 8: Content recommendation flow**



Source: MTM analysis

## **CONTENT MONETISATION REQUIRES ACCURATE DATA ABOUT THE CONTENT AND ITS CONSUMPTION**

As referenced, metadata can also be employed effectively for the monetisation of content. Media executives are increasingly interested in advanced advertising; combining ad inventory, demographic data, addressability, and automated buying. With advertisers increasingly buying advertising digitally, there are opportunities for AI supported systems to process vast volumes of data, track impressions, and provide real value for advertisers and agencies through sophisticated demographic targeting. One executive noted how the OTT services currently being rolled out by broadcasters can advance this model:

**“The ability to form new direct-to-consumer relationships is incredibly exciting. Starting up a VOD service is much less expensive than starting a broadcast channel, and advanced advertising is going to be a huge part of that. Both linear and in OTT delivery”**

**- Trade body**

The context in which an ad is delivered is another critical area for broadcasters. Understanding who the customer is, where they are and what they are watching, in order to serve them the correct ad at the right time, is imperative for broadcasters. It is an area where advanced advertising and AI supported technology solutions can make a real impact.

**“Brand communication messages resonate better in the right content environment. Content and context are both crucial for buying spots. The right communication message at the right time to the right people”**  
- Agency

Another area highlighted by executives was brand safety: ensuring ads appear in an environment complementary to a brand’s identity and not harmful or offensive in any way. Programmatic advertising, the automated process of buying ad inventory, has grown significantly but concerns remain around hygiene. Advertisers want assurances that ads will appear in the right context, in order to trust the buying process. Advanced technologies can provide solutions.

**“Having AI or deep learning looking intelligently at content enables us to move into brand safety and fraud detection, creating safe market places to appear”**  
- Agency

Viewability - how much of an ad is viewed – also presents challenges for advertiser and publishers. Providing evidence that an ad has been fully viewed remains a critical but contentious area for advertisers. Developments in facial recognition might hold some answers through determining a viewer’s engagement with an ad, and how they reacted.

**“Facial recognition tells us if consumers are showing positive or negative emotions to branded material. That enables us to do segmentation. We begin to get into areas of predictive recognition, understanding signals through neurology, which starts to give us an idea of how advertising actually works”**  
- Agency

There are multiple opportunities now for publishers and brands to refine and optimise the advertising process. AI, if harnessed correctly, can help deliver tangible benefits for viewers, broadcasters and advertisers alike.

**“Anything you can do that makes it easier for the brand to connect with a consumer is valuable... you have to optimise the processes”**  
- Pay-TV provider

# NEXT STEPS: TO COMPETE WITH DIGITAL GIANTS, BROADCASTERS NEED TECHNOLOGY PARTNERS

The growing complexity of the video value chain places new demands on broadcasters, who are typically managing both legacy distribution technology and new IP-based platforms. To respond to both the challenges and opportunities, executives are increasingly relying on partnering with technology vendors. Building flexible and agile solutions in-house is considered expensive and challenging.

**“If anyone says I want to build this myself, we should shoot them! Using smart vendors is key”**

**- Pay-TV provider**

For broadcasters, finding talented data scientists, developers, and engineers to develop in-house solutions is also difficult, particularly when competing with deep-pocketed tech giants.

**“It is hard to get the engineers. The Microsofts and the Googles of this world have the big layers of expertise on this. There are some great start-ups working on niche problems that do really well, but this whole thing is a big change for broadcasters”**

**- Trade body**

Some executives were candid about the challenge faced by broadcasters whose heritage is in traditional TV distribution rather than software development or data.

**“Broadcasters are Neolithic in their understanding of this stuff. They don’t have the expertise even to seek out the right companies”**

**- Pay-TV provider**

Aggregation - where suppliers can draw together solutions from across the ecosystem - is a developing area highlighted by media executives. As AI and ML solutions are continuously iterating, staying abreast of developments is increasingly difficult. Developing relationships with trustworthy partners can help broadcasters navigate the complex and evolving landscape and identify opportunities for innovation.

**“Who is the best at machine learning algorithms at any one time? Being able to compare and contrast would be useful...”**

**- Pay-TV provider**

Finding the right technology partners is crucial for broadcasters. In conclusion, our executives identified three key qualities a vendor must possess in order to build a successful partnership (see Exhibit 9).

## Exhibit 9: Partner requirements



### Credibility

Vendors must demonstrate credibility in the field they are looking to enter, either through demonstrable results, quality data, or actionable and evidenced solutions



### Specificity

Vendors must specify the exact problem they are trying to solve, rather than try and optimise across a wide range of areas



### Inclusivity

Vendors must communicate the processes, delivering real value to specific problems, and be able to communicate solutions to clients for them to understand the mechanics without any obfuscation

Source: MTM analysis

## ABOUT MTM

MTM is an international research and strategy consulting firm, specialising in media, technology and advertising. MTM helps clients around the world understand and respond to digitally-driven change, providing award-winning consumer research, industry analysis, strategic advice, and support for new ventures, business development, and organisational change and transformation. For more information, please visit [www.mtmlondon.com](http://www.mtmlondon.com)

## METHODOLOGY

To better understand the challenges facing the European TV industry, MTM spoke to senior executives from a range of broadcasters, agencies and trade bodies. We thank our participants for their contribution:



<sup>1</sup> Broadband TV News; Western Europe TV revenues to reach \$50 billion, October 2018

<sup>2</sup> BARB; SVOD Report, Charting the growth in SVOD services across the UK, January 2019

<sup>3</sup> MTM, Screenthink Wave 3, January 2019

<sup>4</sup> IAB Europe, Xaxis; Artificial Intelligence: Myth versus reality in the digital advertising world, July 2018

<sup>5</sup> The Guardian; Will the new TV golden age produce the first \$20m per show series?, February 2018

<sup>6</sup> Ibid.

<sup>7</sup> IBM Watson, AI Powered Highlights, 2018; Soloshot, Automatic tracking, March 2019

<sup>8</sup> Wired, This is how Netflix's top-secret recommendation system works, August 2017

# ABOUT US

SoftServe is a digital authority that advises and provides at the cutting-edge of technology. We reveal, transform, accelerate, and optimize the way enterprises and software companies do business. With expertise across healthcare, retail, media, financial services, software, and more, we implement end-to-end solutions to deliver the innovation, quality, and speed that our clients' users expect.

SoftServe delivers open innovation—from generating compelling new ideas, to developing and implementing transformational products and services.

Our work and client experience are built on a foundation of empathetic, human-focused design that ensures continuity from concept to release.

We empower enterprises and software companies to (re)identify differentiation, accelerate solution development, and vigorously compete in today's digital economy—No matter where you are in your journey.

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