REGIONAL FOCUS: **Europe** 2019

IABM BUSINESS INTELLIGENCE

QUARTERLY DIGEST

SEPTEMBER 2019

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THE QUARTERLY DIGEST

CONTENTS

The IABM Business Intelligence (BI) Quarterly Digest provides IABM members with a varied range of business information about the broadcast and media industry and the wider global economy in a 'digestible' way. The purpose of this report is to enable member companies to keep up with the latest developments in our industry by presenting otherwise scattered information in an orderly and relevant manner.

Report Contents and Structure

The analysis is undertaken by our Head of Insight and Analysis, Lorenzo Zanni, Principal Analyst, Riikka Koponen and Research Analyst, Chiara Raucci. We publish the latest news and research findings across a variety of topics, including:

- Current Global Business Environment
- The Media Business
- Regional Focus on a Regional Market

This edition of the BI Digest will include a Regional Focus on Europe.

The global economy is expected to grow 3.2% in 2019 and slightly pick up to 3.4% in 2020

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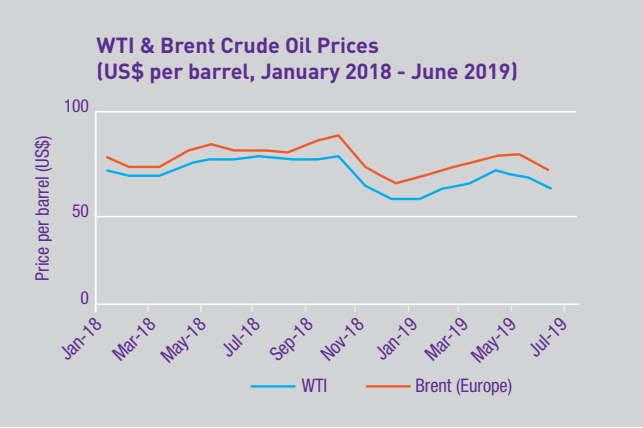
EXECUTIVE SUMMARY

Q2 2019: Trade Tensions Continue to Dampen Global Outlook

- According to the latest forecast of the OECD, the global economy is expected to grow 3.2% in 2019 and slightly pick up to 3.4% in 2020
- Oil prices dropped from a four-year peak of US$81 per barrel in October 2018 to US$60 in July 2019
- In May 2019, the US raised tariffs on US$200bn of Chinese products from 10% to 25% and started the process for hitting an additional US$300bn of Chinese goods with tariffs. However, at the G20 Summit in Japan in June 2019, president Trump called that process off and said he would continue to negotiate with Beijing 'for the time being'
- A hard Brexit remains one of the biggest and most incalculable external risks for the Euro area, even though its immediate threat has temporarily decreased thanks to the EU agreeing to postpone the Brexit deadline to late October 2019
- According to the IMF, growth in the Euro area is set to moderate from 1.8% in 2018 to 1.3% in 2019 and 1.5% in 2020. In the first quarter of 2019, GDP growth picked up slightly in the EU and the Euro area. However, the European Commission is slightly less optimistic in its forecast; it expects the Euro area's GDP to grow 1.2% this year and 1.4% in 2020
- In June 2019, the US re-imposed sanctions on Iran after several incidents around the Persian Gulf, including a series of attacks against oil tankers sailing through the Gulf



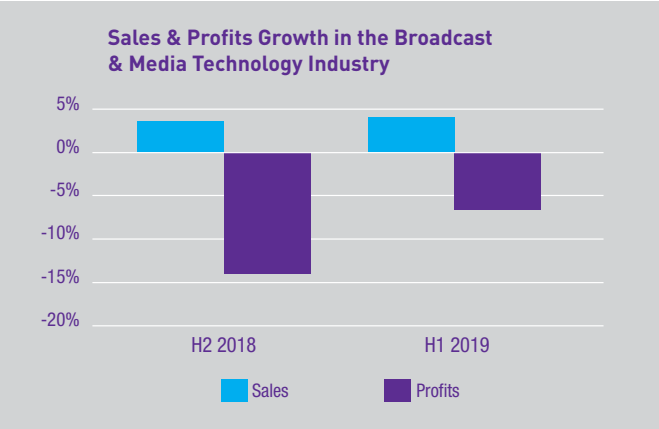
Source: Federal Reserve Economic Data

Highlights: Canal+ partnerships, Dynamic Ad Insertion & Big Data

- In May 2019, the French Pay-TV giant, Canal+ announced that it had acquired the Luxembourg-based Pay-TV operator, M7 Group, from a private equity firm Astorg Partners for €1bn
- At the start of 2019, Germany's major broadcaster RTL Group announced that it would acquire Yospace, a UK-based digital video technology company, in a deal worth €29 million
- Netflix is the precursor of personalization in the media industry and it is the biggest example of how media companies are using data, AI and ML to personalize content for the viewer

Supply Trends

- H1 2019 registered a sales growth of 2.9%, which is up from 2.5% in H2 2018
- Starting from H2 2018, profits registered growth, even if still negative, reaching -15.1%. In H1 2019, profits grew at -7.74%
- The IABM Confidence Ratio decreased from 9 to 8.6, as companies which reported being 'quite positive' about the market outlook in the previous survey now felt more 'neutral' in terms of confidence



Source: IABM

Immersive Experiences

- According to IABM data, UHD adoption has slowly grown in recent years, from the 14% reported at NAB Show 2018 to the 20% reported at NAB 2019. Deployments have risen although there is still a high percentage of companies unlikely to launch any UHD offerings
- Despite the slow roll out, UHD channels continued to grow in 2018 as major sporting events such as the Winter Games and the FIFA World Cup prompted broadcasters to launch offerings – sports remain the major application area for UHD
- In the production sector, UHD has also become an established format as major OTT players such as Netflix and Amazon now demand content only in UHD
- In 2019, we expect UHD adoption to continue to grow although this is not a priority for most broadcasters
- According to IABM data, VR adoption has not significantly increased in recent years
- Low consumer adoption coupled with high complexity and cost have all contributed to stifling VR adoption by broadcasters and other end-users
- The main VR deployments have been in sports

Source: Shutterstock

GLOBAL BUSINESS ENVIRONMENT

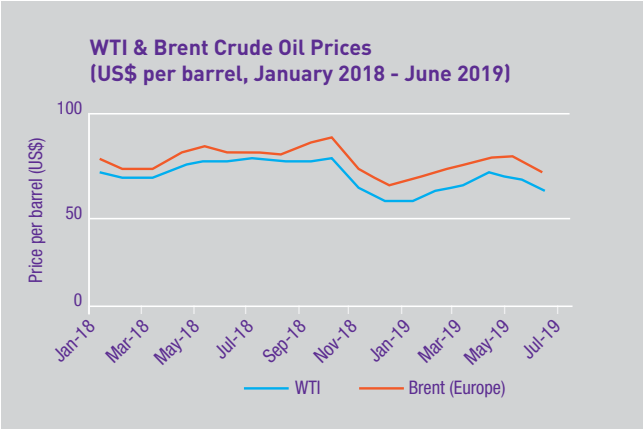
IABM – September 2019

GLOBAL BUSINESS ENVIRONMENT

Overview

Global economic growth is forecast to slow to weaker-than-expected 2.6% in 2019 before slightly improving to 2.7% on 2020, according to the World Bank's latest estimate published in June 2019.

These figures are significantly lower than those revised by the OECD in May 2019, which expects the global economy to grow 3.2% in 2019 and slightly pick up to 3.4% in 2020. The slow economic growth stems from high uncertainty caused by trade tensions between the US and China. After strong growth peaking at close to 4% in 2017 and at 3.8% in early 2018, global economic growth slowed notably to 3.2% in the second half of 2018, reflecting a confluence of factors affecting major economies. China's economic growth declined as a result of regulatory tightening to rein in shadow banking as well as a new round of tariffs imposed by the US administration in the course of 2018 and early 2019. In the Euro area, consumer and business confidence weakened and external demand – particularly from emerging Asia – decreased. The largest economies in the Euro area witnessed weakened growth; in Germany, car production was disrupted by the introduction of new emission standards, while investment dropped in Italy as sovereign spreads widened. Moreover, the continuing uncertainty around Brexit negatively affected financial sentiment in the EU.



Source: Federal Reserve Economic Data

Global energy prices declined, as oil prices dropped from a four-year peak of US$81 per barrel in October 2018 to US$60 in July 2019. Oil prices were affected by weakening global growth as well as the US' new sanctions on Iranian oil exports. However, since the beginning of this year, oil prices have recovered somewhat thanks to production cuts by oil-exporting countries. Over the past year, West Texas Intermediate (WTI) crude oil has been between US$45-74, while Brent crude oil has been $50-86 per barrel. After a drop in late 2018, oil prices have risen relatively steadily since the start of 2019, as OPEC countries have cut production, and output has declined in Venezuela and Iran. In the US, shale production is expected to remain robust after surging in 2018. According to the World Bank, crude oil prices are expected to average US$66 per barrel in 2019 and US$65 in 2020 affected by greater-than-anticipated US production and a weak economic outlook for the global economy. Overall, energy prices – including also natural gas and coal – are expected to average 5.4% lower in 2019 than in 2018, according to the World Bank's estimates.

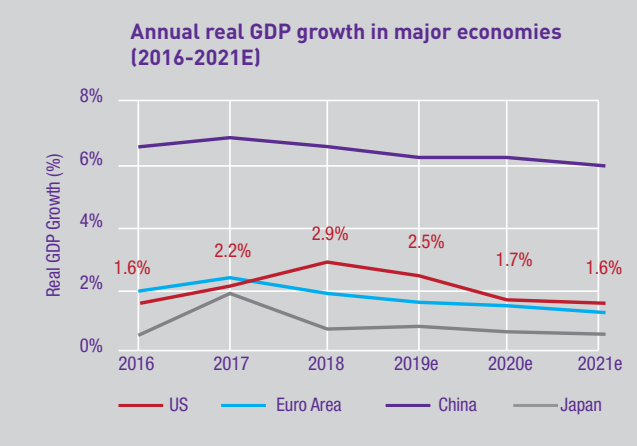
Economic growth in the US was 2.9% in 2018, up from 2.2% in 2017, mostly reflecting stronger-than-expected domestic demand, according to the World Bank. Economic activity in the US was boosted by procyclical fiscal stimulus as well as accommodative monetary policy in 2018. In the first quarter of 2019, GDP growth in the US was 3.1%, according to Bloomberg. The unemployment rate fell to a near 50-year low in 2018 equating on average to 3.9%, while labor productivity has shown signs of picking up. Hence, the labor market is expected to remain robust, also bolstering consumption in 2019.

In 2018, the US administration raised tariffs on about US$300bn of goods, mostly affecting imports from China.In total, new tariffs have been raised on about 12% of US goods imports. China responded with retaliatory tariffs of 5-25% on US$110 billion worth of US goods – nearly 70% of total imports from the US.

Source: CNN

After months of hostilities, both countries agreed to suspend new trade tariffs in December 2018 to allow for talks, which created temporary optimism about a prospective deal. However, in the first half of 2019 the tariff conflict re-escalated, and in May 2019 the US raised tariffs on US$200bn of Chinese products from 10% to 25% and started the process for hitting an additional US$300bn of Chinese goods with tariffs. Fortunately, at the G20 Summit in Japan in June 2019, president Trump called that process off and said he would continue to negotiate with Beijing 'for the time being'. China has responded with tariffs on US$110bn of US products. It is estimated that a significant number of US companies are now shifting purchases of tariff-targeted products like furniture, refrigerators and car tires to countries such as Vietnam, South Korea and Taiwan. The World Bank estimates that the conflict around tariffs may expand

further, translating into higher prices and increased political uncertainty globally in 2019.



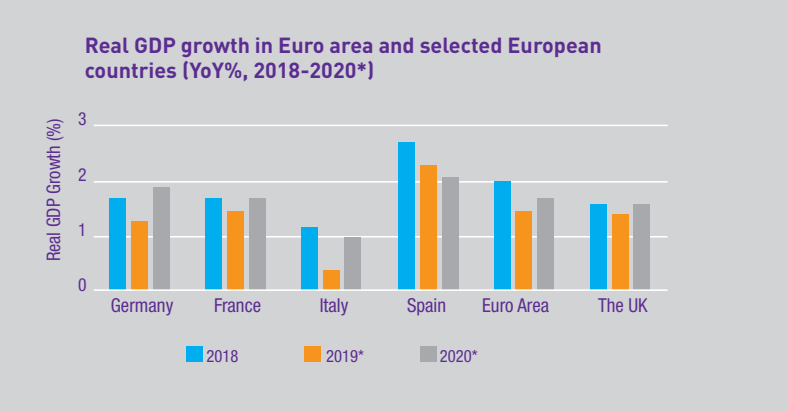
Source: World Bank

China alone accounted for one-third of global growth in 2018. However, the fact that China's economy – which is the second largest in the world after the US – is expected to slow moderately during 2019 and 2020 will have a direct impact on the APAC region and thus the global economy. According to the National Bureau of Statistics of China, China's economy grew at its slowest pace in 28 years in 2018 with GDP expanding 6.6.%, down 0.2 percentage points from the previous year. According to Chinese authorities, the country's GDP grew 6.2% year-on-year between April and June in 2019.

Japan is the world's third largest economy and also a significant contributor to growth in the APAC region. According to World Bank data, real GDP growth for Japan in 2017 was 1.7%, growing for eight consecutive quarters through end-2017, but the growth slowed to 0.8% in 2018 and is expected to remain stable at 0.8% in 2019. However, in the first quarter of 2019, Japan's economy grew unexpectedly at an annualized rate of 2.1%, largely thanks to the positive net export balance. According to Barclays, the main question about Japan's economy in 2019 will be the impact of raising consumption tax from the current 8% to 10% in October 2019, because a similar rise from 5% to 8% in 2014 pushed the economy into a recession.

According to World Bank data, India experienced real GDP growth of 6.7% in 2017, and grew at a rate of 7.5% in 2018, but will slightly decrease to 7.3% in 2019 and again pick up to 7.5% in 2020, supported by the continued recovery of investment and robust consumption. In the first quarter of 2019, India's economic growth fell to 6.8% due to poor performance in the agriculture and manufacturing sectors, according to Central Statistics Office of India. The reforms and initiatives implemented by the previous Indian government significantly contributed to growth over the past few years. Hence, the new government headed by the re-elected prime minister Narendra Modi, which was formed in May 2019, will have to continue implementation of structural and financial sector reforms with efforts to reduce public debit in order to secure the Indian economy's growth prospects.

The Euro area has been in an economic downturn since mid-2018 and the growth continued to slow substantially in the first quarter of 2019 due to weakness of the industrial sector as well as increased uncertainty in the global economy. Industrial production has been on a downward trend since 2018, especially in the chemical and automotive sectors. According to the IMF, growth in the Euro area is set to moderate from 1.8% in 2018 to 1.3% in 2019 and 1.5% in 2020. In the first quarter of 2019, GDP growth picked up slightly in the EU and the Euro area. In general, growth rates have been marked down for many economies in the region, of which Germany – the largest economy in the Euro area – is expected to suffer from weak industrial production and subdued foreign demand as well as soft private consumption. Italy, in turn, is struggling with weak domestic demand as well as political instability having a negative impact on the investment climate. France has recently suffered from political unrest and street protests, which were expected to have partially paralyzed economic activity in the country. However, the fact that the French economy actually expanded by 0.3% in the last quarter of 2018 suggests the protests of so called 'Gilet Jaunes' have not stalled the economy.



Source: Eurostat

When it comes to the British economy, the IMF has announced that its baseline projection of 1.2% and 1.4% growth for the UK in 2019-2020 is surrounded by uncertainty, reflecting the negative effect of prolonged uncertainty about the Brexit outcome, despite the postponement of the deadline of the UK's exit to October 2019. The IMF's baseline projection assumes that a Brexit deal is reached in 2019 and that the UK transitions gradually to the new regime, even though as of mid-August the form Brexit will ultimately take remained highly uncertain. A hard Brexit remains one of the biggest and most incalculable external risks for the Euro area, even though its immediate

threat has temporarily decreased thanks to EU agreeing to postpone the Brexit deadline to late October 2019.

In Latin America, growth is projected to recover over the next two years from 1.2% in 2018 to 1.4% in 2019 and 2.4% in 2020, according to the IMF. Growth in the Middle East and North Africa is negative and the outlook for the region is weighed down by multiple factors, including slower oil GDP growth in Saudi Arabia, US sanctions on Iran as well as instability in war-torn economies such as Iraq, Syria and Yemen. At the start of 2019, the two largest countries of the GCC (Gulf Cooperation Council), Saudi Arabia and the UAE, suddenly fell into deflation. In June 2019, the US re-imposed sanctions on Iran after several incidents around the Persian Gulf, including a series of attacks against oil tankers sailing through the Gulf.

In Sub-Saharan Africa, growth in turn is expected to pick up to 3.5% in 2019 and 3.7% in 2020.

Last quarter of 2018 suggests the protests of so called 'Gilet Jaunes' have not stalled the French economy.

Source: Shutterstock

Exchange Rate Movements

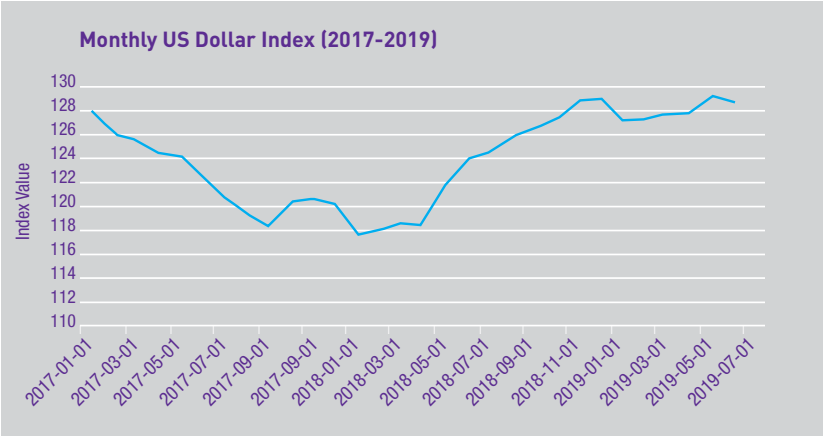
We report the latest swings in major economies' exchange rates and provide an outlook for their possible movements over the coming months. Exchange rates are highly unpredictable, but it still is useful to plan and attempt a forecast based on current macroeconomic trends.

The four major drivers of turbulence in foreign exchange markets have been:

- US fiscal/ trade policy
- Trade tensions between the US and China
- The Brexit 'effect'
- The European Parliamentary elections

In the US, part of 2018's robust economic expansion was driven by fiscal expansion following the Tax reform and Bilateral Budget Act in 2018. This year, however, fiscal stimulus will be fading, and additional tax cuts or spending increases look unlikely in the new political constellation following the result of midterm elections in late 2018.

The US Federal Reserve (Fed) is gradually removing stimulus in response to low unemployment and near-target inflation (2%). For the first time since the financial crisis, the main US policy rate is approaching its neutral level. Marking the new era of tighter monetary policy following a decade of stimulus after the financial crisis in 2008, the Fed stopped its Quantitative Easing (QE) program – a mixture of low interest rates and expansionary stimulus – and raised interest rates four times in 2018, with forecasts of two to three more hikes coming up during 2019. The hike in interest rates highlights the confidence in increased growth for the US economy on the back of the tax cuts and government spending. The Fed last raised its benchmark interest rate in December 2019 from 2.25% to 2.5%, and its projection now is for 2.3% real GDP growth in 2019 and an unemployment rate of 3.5% in the fourth quarter of 2019, even with two hikes of interest rates.



Source: Board of Governors of the US Federal Reserve System

Higher bond yields, which partly resulted from the Fed's rate hikes, and improved economic growth in the US in 2018, spurred foreign investors to shift funds into the US, which led to an increased demand for the US dollar and thus strengthening of the currency. Throughout the first quarter of 2019, the US dollar has advanced steeply and notched its highest close since May 2017. Interestingly, the US dollar has shown little reaction to the trade tensions between China and the US. However, for currencies the impact is not so straightforward, because the trade war will subtract from GDP.

As of early June 2019, the US dollar registered its worst performance of the year so far, weakened by the shift of the Fed, which now aims at sustaining the expansion rather than normalizing monetary policy. In general, increased trade tensions between China and the US have been supportive of the US dollar as investors view the US to be in better shape than its rivals to endure the trade war. This can change quickly depending on the increase of political risks related to the trade talks with China and sanctions against Iran and North Korea. Against the Japanese Yen, which tends to benefit during geopolitical or financial stress as Japan is the world's biggest creditor nation, the US dollar fell 0.15% to 11.92 yen in May 2019. The fact that the Japanese yen has lost some ground against the US Dollar recently helps the profitability of Japanese exporters. The yen has been a safe haven currency due to volatility in the US economy and trade uncertainty, but as that eases investor confidence increases and their appetite for riskier assets increases.

The Euro has weakened by about 2% in nominal effective terms since the beginning of 2019, reflecting lower-than expected growth as well as the ensuing downward adjustment of market expectations about the European Central Bank's monetary policy. The combination of a lengthy Brexit extension and the political fractures in play after the EU elections have increased political uncertainty in the whole EU region. In the first quarter of 2019, the Euro/USD fell 2.2% as global growth deteriorated sharply and the European Central Bank (ECB) turned more dovish. The Euro area experienced a significant shift of Euro-denominated assets by foreign investors, reflecting weak global growth backdrop and European political risks such as Brexit.

In the first quarter of 2019, the British Pound/USD rallied 2.2%, as uncertainty around the Brexit deal continued. Since the start of May 2019, the British Pound has traded steadily lower, and as of May 22nd, the British Pound had become the worst performing major currency of the month, having lost 3.3% of its value against the US dollar. In August 2019, the pound has registered a slight increase with 1% rise in the second week of the month. The Pound's weakness has also affected importers and investors, who have cut their positions in the currency over the past month. Traders are blaming a growing chance of a no-deal Brexit for the drop.

Source: Shutterstock

THE MEDIA BUSINESS

IABM – September 2019

Media Business Highlights

Going global – partnerships and growing pains of Canal+

In May 2019, the French Pay-TV giant, Canal+ announced that it had acquired the Luxembourg-based Pay-TV operator, M7 Group, from a private equity firm Astorg Partners for € 1bn. The transaction is expected to close in September 2019. As noted by the CEO of M7 Group, Hans Troelstra, the acquisition is mutually beneficial; it will provide M7 with access to the content creation and channel publishing capabilities of Canal+. M7 Group will continue to manage all of its operations from its Luxembourg headquarters.

Source: Shutterstock

Initially, M7 Group was a satellite TV operator, and later developed into a platform provider for IPTV, DTT and OTT services, distributing content from HBO, Disney Channel and Eurosport. M7 Group also offers an OTT app. Today, M7 Group is one of the largest Pay-TV operators in Europe, where it has about three million subscribers across the Netherlands, Belgium, Austria, Hungary, Czech Republic, Slovakia and Romania. Accordingly, the acquisition should increase Canal+'s subscriber base to 12 million across Europe.

Over the past few years, Canal+ has been increasingly threatened by the rapid rise of Netflix, which has gradually eroded Canal+' subscriber base – and its profit margin. As of the end of December 2018, Canal+'s profit margin had declined by -3.7% in the course of previous 12 months, according to IABM research. According to the CEO of Canal+, Maxime Saada, right after its market entry to France, Netflix reached 5 million subscribers without even opening an office in the country. He said, "it's impressive they could reach those numbers without a single entity or person working for them in the French territory. I don't see any reason why we [Canal+] wouldn't be able to do something similar and go into countries with an OTT platform". Currently, Netflix's European operations are coordinated from its bases in London and Amsterdam as well as its recently opened production hub in Spain. Now Netflix has announced a plan to open a new production hub in Paris later in 2019.

Addressing the new markets and seeking scale, Canal+ has had to significantly restructure its operations by cutting €450mn from the Canal+ budget and shutting down its own premium streaming service, which has mainly focused on sports, TV series and shows not available on its traditional Pay-TV platform. For example, a subscription-based Canal+Series service – targeted to younger audiences in France – combines local French series with programs from Showtime and FX. According to Canal+, its SVOD Series service competes with new media players with content quality instead of quantity.

Simultaneously, Canal+ has streamlined its traditional Pay-TV packages into slimmer bundles, which has helped in maintaining and slightly increasing its Pay-TV subscriber numbers. According to the company, over half of its subscribers now come outside of France, especially from Asia, Sub-Saharan Africa as well as East Europe (e.g. Poland). In the coming two years, Canal+ aims to reach 30 million subscribers globally. In order to do so, the Pay-TV giant plans to roll out a new Canal+ MyCanal app, which will be available across Africa and Asia by the end of this year and globally after 2020.

When it comes the value of spend on content, Canal+ has already overtaken Netflix in Europe with its annual US$3.6bn spend compared to the reported US$1bn that Netflix is expected to spend on European content in 2019. In the future, Canal+ plans to be increasingly involved in in-house production meaning that the company wants to own what it also finances. Currently, in most cases the content rights still remain the intellectual property of the producer, even if Canal+ co-produced and co-financed the content. This is likely going to change as broadcasters increase their spending on in-house production, even though there is certain resistance from the producers to share the production space with broadcasters. According to Saada, this is not only a topic causing frustration in Canal+, but actually "every broadcaster that wants to turn into a platform is asking for this change". Following its new international strategy, Canal+ will aim at getting over 50% of its movies financed by international sales meaning that it wants international markets to finance the company's in-house productions and their distribution globally.

Even though Netflix's entry to the European market has acted as a necessary wake-up call for broadcasters to move to the digital space and online streaming services, broadcasters are reacting to Netflix's strategy of vertical integration increasingly strongly by forming partnerships and alliances with other media companies to come up with new pan-European co-productions. At the same time, Pay-TV operators see that while they compete with Netflix, they also benefit from the fact that

more and more viewers are adopting a mindset making them willing to pay for content – thanks to Netflix acting as the trend setter.

Some European broadcasters – including Canal+ – are also collaborating with new media players like Netflix and Amazon. For example, Canal+ produced a British drama series of eight episodes called Safe in 2018, which was aired by C8 in France and then streamed internationally outside France by Netflix. In fact, Canal+ had the rights for France for a few weeks and then the series went on Netflix's global distribution. In March 2019, TF1 Group – the French owner of Europe's largest private (free-to-air) TV channel TF1 – and Netflix announced an unexpected partnership to pre-finance a French eight-episode drama series "Le Bazar de la Charité", a co-production by Quad Télévision and TF1. The series will be broadcast on TF1 in the second half of 2019. In practice, the rights will be available for Netflix in France from the 8th day after first broadcast of the last episode of the series on TF1 and the day after first broadcast of the last episode on TF1 for the rest of the world. According to the Executive Vice President of TF1 Group, Ara Aprikian, the partnership "reflects our willingness to invest more heavily in French drama of international quality. The deal lays down a framework for a fairer sharing of risks, rights and value between all the co-financing partners." The idea of sharing business risks by teaming up with Netflix and benefiting from its huge, global distribution platform is a new approach in the broadcasting community. For Netflix, such partnerships provide an easy way to localize its content offering and thus expand its position in the European market.

Canal+ has also collaborated with Amazon as well as Apple, with whom Canal+ co-produced a 10-episode series called Calls in 2018. The series was Apple's first international co-production and Canal+ the first non-American partner to work with Apple on content production. In 2015, Canal+ worked together with Disney France to launch Maker On Demand, a content offering of 2,000 videos ranging from sports to fashion by Maker Studios, on its subscription platform CanalPlay.

An important aspect behind these co-productions and collaboration between broadcasters and large new media players is that as the market transforms toward direct-to-consumer offerings and live OTT streaming, the pace at which viewers demand and request new content increases. Accordingly, both broadcasters and OTT players must create new content much faster than before. In France, the recently announced change in windowing rules has also benefited broadcasters. This means that broadcasters can make movies available in a shorter time frame after theatrical release, decreasing the time window from 10 months to six months. Moreover, competing platforms can broadcast movies sooner than in the past. Whereas the time window used to be 34 months in the past, companies can now make movies available as soon as 15 months after theatrical release. In practice, this means that if Canal+ has produced a movie, another competitor (e.g. Netflix) must wait 15 months after theatrical release before being able to distribute the movie on its platform, while Canal+ can keep its advantage for nine months as an exclusive broadcaster of the movie. This creates an interesting market of 'second-run movies' for OTT platforms, while the first run is reserved for the producer-broadcaster.

Canal+ is also facing competition from the local French broadcasters. Recently, France Televisions, TF1 and M6 announced the launch of a joint-SVOD service called Salto. However, this joint investment in the platform is reported to be only US$17 million, while Canal+ is planning to invest over US$113 million in its own, competing service MyCanal. The core of Canal+' strategy with MyCanal is that it will not be dependent on any third-party solution in the future and instead it has signed 500 new content partnerships globally, including CNN, the NBA and Vice. Also, Canal+ already has a number of movies and TV projects with Universal, which are not public yet. Canal+ CEO, Maxime Saada, said, "we changed the strategy three years ago to focus on the 25-49 [year-olds], which skews slightly older than platforms including Snap and Instagram and to focus on trusted sources of content." At the same time, he admitted that while they have made some bold moves, those moves have now started to pay off because Canal+ sees more and more advertisers that want a brand-safe environment.

In July 2019, Canal+ announced that it will cut about 500 jobs due to growing commercial pressure from Netflix. According to Bryan, Garnier & Co, Canal+ needs to lower its cost base to make room for content spend and to restore margins. In these circumstances, the acquisition of M7 Group in May 2019 has yet to prove its benefits.

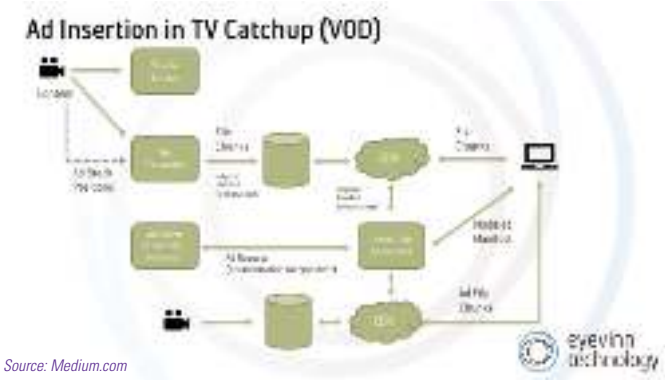
Dynamic Ad Insertion (DAI) gaining popularity among broadcasters

As broadcasters and Pay-TV operators move toward direct-to-consumer (DTC) offerings and adopt new IP- and cloud-based infrastructures enabling multi-platform delivery, dynamic ad insertion (DAI) has become an increasingly interesting technology to reach viewers – especially younger audiences – across different screens. Accordingly, over the past few years, DAI has developed into a flexible and efficient technology for audience-based targeting for online video and OTT, video-on-demand as well as linear broadcast; it enables targeting by platform, device, audience and geography. Also, one of the major drivers behind the increased activity among broadcasters and media companies to adopt new advertising technologies such as DAI is scale, which is necessary when launching globally available DTC offerings.

Dynamic ad insertion refers to the ability to swap out and hence target ads in linear, live or VOD content; it allows advertisers to serve different ads to each viewer based on audience insights and ad campaign performance. For comparison, in linear broadcast all viewers are serviced with the same ad. By tracking impressions, DAI technology can provide information about viewers' sentiments to the ad server, which can adjust ad insertion in real-time to optimize ad campaign performance. DAI can be used to replace the TV broadcast commercial in a simulcast Internet video stream. Alternatively, it can be used to dynamically insert ads in on-demand content. In a simulcast of a TV broadcast, the ad break duration and length are the same and fixed for all viewers. However, this can cause problems, because not all ads are the same length nor fit the duration of the TV ad break. Hence, the ad server must take this into account. In an on-demand environment, where the ad break duration can vary, more breaks but with fewer ads in each break can be added.

Source: Medium.com

Technically, DAI technology can be divided into two categories:
1) Server-Side Dynamic Ad Insertion (SSDAI) and
2) Client-Side Dynamic Ad Insertion (CSDAI).
SSDAI refers to ads are inserted in the video stream making the transition between content and ads seamless. In CSDAI, a separate video player playing the ad is positioned on top of the paused content video player. In practice, DAI is able to dynamically replace or insert ads, because in video streaming the video player is downloading and pulling the video streaming, whereas in TV broadcast the video servicer is pushing video data to the viewer unit. This means that each viewer can be provided with an individual stream. So, SSDAI technology modifies the original streaming manifest for each viewer. The SSDAI module knows which video file chunks it has to replace based on the information placed in the video signal to the live media encoder. The system map below illustrates how TV commercials can be replaced by DAI technology.



Source: Medium.com

A similar principle is used for DAI in on-demand content, with the main difference that the ad request does not have to take the duration of ad breaks into account. The graphic above shows how SSDAI functions in the context of TV catchup in a video-on-demand platform.

Recently, broadcasters have woken up to the benefits of DAI technology. At the start of 2019, Germany's major broadcaster RTL Group announced that it would acquire Yospace, a UK-based digital video technology company, in a deal worth $29 million. Founded in 1999, Yospace has become known for its SSDAI technology over the past few years, serving a wide range of broadcasters and media companies such as the BBC, BT Sport and Canadian Broadcasting Corporation. RTL highlighted in a company statement reporting the acquisition that "SSDAI is expected to become the de facto standard to seamlessly serve advertising spots in premium streaming environments". Even though the dynamic ad insertion market is still at an early stage of development, RTL is firmly progressing in its ad-tech strategy toward audience-based targeting. The acquisition of Yospace follows RTL's two other ad-tech related buyouts; in 2016, it bought smartclip, an online video advertising company, and in 2017 SpotX, which is a video ad serving platform offering media companies monetization tools for multi-device. SpotX's customers include broadcasters like Thomson Reuters, SVT, Meredith Local Media Group, TVPlayer, Gutefrage and Vevo as well as OTT providers such as Sling TV, Pluto TV and Vudu.

Source: Yospace

According to RTL, Yospace will continue to operate independently as a standalone entity under its current brand, while it is working very closely with SpotX. Moreover, as noted by research analyst Ryan Doherty at IHS Markit, the acquisition illustrates how RTL has decided to pursue the acquisition path rather than develop solutions in house in order to get a timely advantage over other broadcasters in Europe. Also, it

exemplifies how broadcasters are responding aggressively to the competition led by the new media players. DAI technology is also said to provide a more appealing platform and value proposition for advertisers compared to Google, Amazon and Facebook, where many advertisers are concerned about advert skipping. In general, advertisers prefer to be increasingly targeted and hence the more scale the broadcaster has the more meaningful it becomes to a brand or an advertiser to advertise.

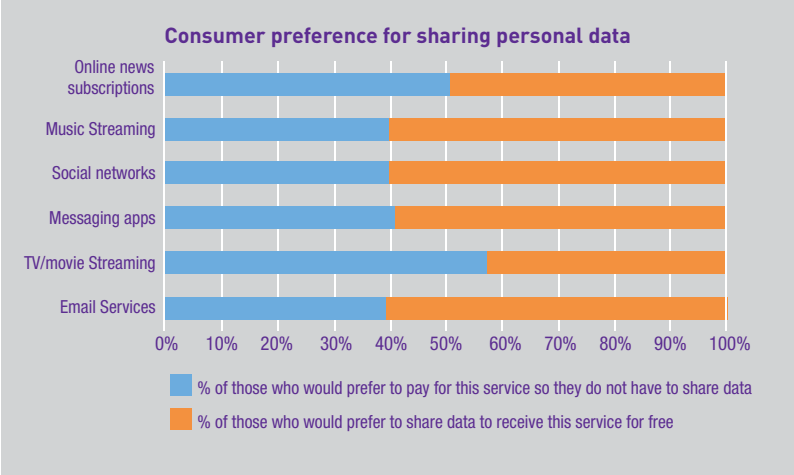
It is likely that the consolidation among broadcasters and ad tech companies will continue in the course of 2019 and 2020. However, there are several challenges related to their smooth collaboration. For example, Sky AdSmart has not been able to reach the scale of RTL. Accordingly, in March 2019, Sky and NBC Universal announced that they will launch a joint advertising platform, which will bring together Sky AdSmart capabilities with those of NBC's Audience Studio. The collaboration agreement is the first major initiative between Sky and NBC after Comcast's acquisition of Sky in 2018; Comcast also owns NBC Universal. The collaboration should enable brands and businesses to reach customers more accurately in international markets. In practice, NBC Universal and Sky are consolidating their advertising capabilities to take advantage of their respective strengths.

The OTT space is another key market for DAI technology. According to RTL's Senior Vice President, Rhys Nölke, SSDAI is critical to the growth of OTT. He says, "moving the ad decisioning server side reduces many complexities that come with a fragmented client-side environment today." Sky also sees DAI as an important factor for the popularity of its Now TV OTT service, which has become a main growth driver in all its territories. Another important aspect promoting the popularity of DAI technology among broadcasters is that so far big new media players such as Facebook have failed to normalize the ad experience, because these platforms have not been able to guarantee consumer engagement, even if the ads are targeted with relevancy. Hence, broadcasters using DAI technology can target relevant ads in their live and AVOD streaming services to viewers, who are likely to be more responsive and engaged with these ads.

The importance of Big Data in Content Recommendation, Personalization and UX

There was a time when media and entertainment companies had to read reviews, interview customers and read chart rankings to gain data on customers' preferences. Clearly that is no longer the case. Every day, millions of people all over the world leave their fingerprints in the social network – their views, likes, posts, reposts, comments or shares. Ignoring such valuable information would be a significant loss, especially when it concerns the media content and its direct impact on the audience.

According to an IABM member, the massive disruption in the media and broadcast industry has changed the focus from being content centric to consumer centric. Understanding consumers is fundamental to provide them a personalized experience, because media companies never know what features consumers want, on which device and at what time, if they do not dive into the data collected about the viewers.

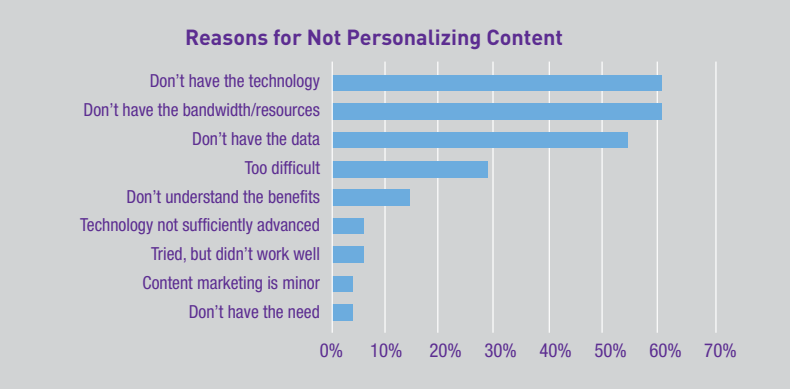


Source: contently.com

The use of data in the field of media and entertainment has become an art. Data mining is becoming more common as people have become used to sharing information. The EU's General Data Protection Regulation (GDPR) gives consumers more control over the data they share, and it forces companies to inform consumers of breaches within 72 hours. Companies get data from different sources such as emails, movie streaming, messaging apps, social networks, music streaming and online news subscriptions. The ability of data science to collect, process, analyze, store and provide recommendations is a huge benefit for media and entertainment providers. Through the collection of users' data, media companies can have direct interaction with customers, their emotions and make a desirable impact.

Sentiment analysis is widely applied in media and broadcast; it is one of the ways media companies use data in the industry. Broadcast and media organizations seek to understand how viewers feel about their content to properly adjust it to viewers' taste. After analyzing the sentiment expressed by consumers, media companies can create products that are predictably relevant to each individual viewer. This is done through recommendation engines, which use algorithms, process the data and attach tags to the words expressing emotional attitude.

Apart from interpreting viewers' sentiment, data can also help media and entertainment companies in understanding when viewers are most likely to watch content and which device they will be using to consume it. Often many viewers access the platform from different devices and at the same time. Understanding this behavior through the analysis of data helps media companies to provide personalized advertising in the right context, at the right time, in the right place and to the right person.



Source: Consumer Value Creation

According to Statista, in 2018, big data ranked second behind content marketing on the list of the most effective digital marketing techniques worldwide, followed by AI and machine learning (ML). Marketers' role in creating value for viewers is fundamental and as highlighted by an IABM member, "the media and entertainment industry still needs to improve and learn from other industries how to successfully target the audience". There are many reasons why media companies are not yet personalizing their content. The top three reasons are the lack of technology, the lack of bandwidth/resources and the lack of data.

Netflix is the precursor of personalization in the media industry and it is the biggest example of how media companies are using data, AI and ML to personalize content for the viewers. Netflix is famous for placing personalization at the center of its services. Before investing in the production of a series or movie, Netflix analyzes audience preferences through the data the platform collects. In the past, the company spent $100 million for a series of 26 episodes of 'House of Cards'. Furthermore, according to Netflix, 75% of what people watch is some sort of recommendation. The OTT giant uses two variables in the algorithms that drive personalization on its platform: 'popularity' in which viewers are most likely to watch what others watch and, 'predicted rating' which is related to a predicted order of a limited number of items which the viewer is most likely to rank that way.

Personalization on Netflix's platform starts on the home page. It shows a wide range of movies and series in horizontal rows with different genre categories. Data used by machine learning algorithms is able to define three levels of personalization in the rows as follows:

1. **Choice of genre itself**
2. **Subset of titles**
3. **Ranking of the titles**

One more thing that Netflix does to fully personalize content is to give prominence to actors or actresses the viewers are familiar with. Moreover, the service runs 250 A/B tests per year per subscriber and it knows when the viewers hit play or pause. That is why no viewer has the same combination of rows on the Netflix home page.

Netflix's goal is always to impress viewers with personalized content and keep them on the platform. Recently, the company launched a new idea of interactive viewer experience with one of the latest episodes of Black Mirror 'Bandersnatch'. The viewers guide the protagonist Stefan through the episode by making a series of decisions. The decisions influence Stefan's life, experience and mental state and result in different endings of the same episode. This type of customer experience gives viewers power and control over the movie/series. However, it is striking that Netflix guides its viewers through different predefined choices creating the 'illusion of free choice', making them feel they determine what and how they experience the content. It is interesting that the mutual advantage of this business model is visible to both viewers and Netflix. Through active user participation, the viewers and Netflix together create greater value.

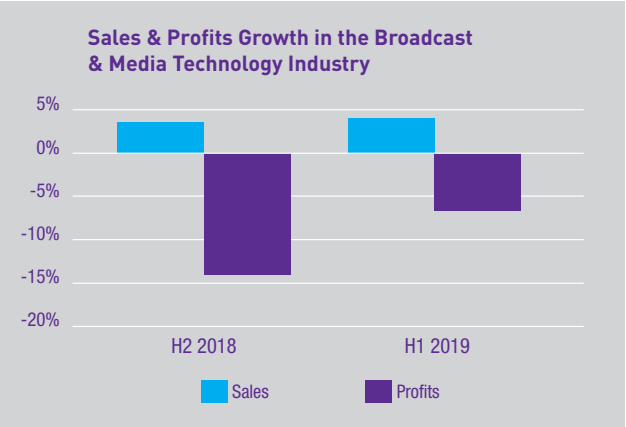
Source: Consumer Value Creation

In conclusion, media and entertainment stakeholders are seeing a disruption in their industries in that the focus is shifting from a content centric to a consumer centric experience. The use of big data in personalization and recommendation of content are crucial for media companies to follow this disruption, to find the right audience and give them the best possible experience. Nowadays, many media companies are already providing personalization and recommendation of content to their users, while some are still trying to figure out the best way to provide this benefit to their viewers.

Supply Trends

The results of our latest Supply Trends Report show that the supply side of the industry is still in flux, with changing business models and buyers' purchasing behavior having a significant impact on its general performance and sentiment.

The transition to new revenue models continues and this was evident from recent financial results that showed an improvement in both sales and profits. However, change is everywhere, from demand to revenue models. Our analysis of demand shows that each block of the content supply chain is being disrupted by a new transition, be it the move to IP or virtualization or multi-platform content delivery. Most of the demand is concentrated on content management systems as buyers streamline their content supply chain. Hardware remains the primary source of revenues. The revenue outlook shows that software subscriptions continue to be the fastest growing category of revenues, particularly for software vendors. Service providers said that they derive more revenue from core service revenues, which is clearly up from the previous survey.



Source: IABM

Year-on-year sales in the broadcast and media technology market registered an increase. H1 2019 registered a growth of 2.9%, which is up from 2.5% in H2 2018. This improvement was led by progress in the transition to new technology offerings at major supplier organizations.

The decline in profits, which started at the end of 2015, continued throughout the industry affecting all companies, regardless of their size, until the first half of 2018. Starting from H2 2018, profits registered growth, even if still negative, reaching -15.1%. In H1 2019, profits grew at -7.74%. Generally, investment has decreased, and this has had a positive impact on profits. Our analysis of investment in R&D and exhibitions shows that this is true for most companies, although R&D spending levels remain high in the industry. Cost reduction, financial transition and market expansion have positively contributed to profit rates as shown by the improvement in the last six months. We have also seen more companies move to new offerings and diversify their portfolios to appeal to emerging and adjacent market segments.
The snapshot of profitability as of June 2019 shows that most companies (76%) remain in profit. This percentage is significantly up compared to recent months and consistent with the improvement in profits. This change was primarily driven by the decrease in the percentage of companies in loss in both years. This decreased from 20.2% in H1 2018 to 7.5% in H1 2019.

Year-on-year confidence has improved over the last six months. This can be read in conjunction with the financial performance data showing a slight improvement (although still negative) in profitability among media technology suppliers which was reported in the previous section on financial performance. Software suppliers (72% of total) continued to have a rosier outlook compared to hardware vendors (63%), followed by service providers (58%).

The IABM Confidence Ratio decreased from 9 to 8.6, as companies which reported being 'quite positive' about the market outlook in the previous survey now felt more 'neutral' in terms of confidence. The IABM Confidence Ratio does not take into account 'neutral' responses, which translates into a decrease in the overall value of the ratio. However, the current value of the ratio is consistent with historical standards.
When it comes to confidence by each supply chain block, respondents in Consume were the most optimistic about the market outlook, followed by Store and Manage. This is in line with the ongoing trend of broadcasters increasingly launching direct-to-consumer (DTC) offerings and their own streaming services. The rise of OTT is driving demand for content management systems (Manage) as well as transition to cloud and cloud storage (Store).

In terms of technology demand, respondents representing the Consume category are the most optimistic, expecting demand to increase during the next 12 months most in this supply chain block. Respondents representing the Monetize category rank second most optimistic, followed by Store and Manage. Moreover, also in terms of demand drivers, our data has continued to show a divide between different content chain blocks. Another divide shown by our data is the one between hardware and software suppliers. The latter category continues to be more positive and to predict a larger increase in

revenues. The challenges faced by hardware suppliers are also completely different as most of them cite competitive pressures as the most important constraint preventing them from growing.

When it comes to parallel markets, research participants were asked what percentage of their revenues is derived from broadcast customers (broadcasters, media organizations, content distributors etc.) vs non-broadcast customer types. This is important to know as an increasing share of broadcast and media technology suppliers' customer base comes from a non-media background. The results show that, on average, research participants' reliance on traditional customers stood at 72.6%, being slightly higher than in the previous survey (69%). While 70% told us that broadcast and media was stable or declining (49% and 21% respectively), all the non-media segments were reported as high-growth. This was particularly true for eSports (100%), Gaming (100%) and Mobile/Telecom (71%) where respondents indicated a growing trend.
In the last six months, pressure on selling prices decreased with a higher percentage of companies saying that they have stayed the same or reduced. In the next six months, most respondents expect selling prices, material costs and labor costs to stay the same.

Research participants were also asked which emerging technologies were the focus of their R&D strategies going forward. Similar to last survey, IP technology and cloud/virtualization raked first at an equal 57.5%, followed by UHD (47.1%). This indicates the increasing importance of IP and the cloud and virtualization in suppliers' R&D plans as their customers invest in these technologies going forward. The primary focuses for hardware suppliers were IP technology and UHD at 64% each. For software suppliers, cloud/virtualization (75%) was by far the most important focus of their R&D strategies, followed by advanced analytics/AI/machine learning (59%). Compared to the previous survey, the importance of AI/machine learning increased significantly, which is in line with our discussion in the earlier chapters that thanks to the rise of OTT and direct-to-consumer offerings, content management systems using AI have become crucially important for broadcasters and media companies who now need to be able to collect, process and analyze huge amounts of data – and metadata.

The transition to new media offerings continues and our latest data brings good news on this front. However, it is important to note that we are still in the midst of this shift and that change is accelerating on the demand-side as well. In 2019, more media companies will launch direct-to-consumer offerings in what looks like a digital war with streaming players.
IABM members can access the full report in the IABM website.

Media Technology Special: Immersive Experiences

What are UHD and VR?

UHD

Ultra-high definition (UHD) refers to a variety of formats, including 4K and 8K (approximately four and eight times HD respectively), but also enhancements such as high frame rate (HFR), high dynamic range (HDR), and/or wider color gamuts (WCG).

UHD adoption by broadcasters has been slower than expected for a variety of reasons. Firstly, UHD benefits compared to HD can only be fully appreciated on a large screen and at a shorter viewing distance. Secondly, UHD adoption is linked with IP deployment - broadcasters have been generally reluctant to go UHD with SDI.

Despite the low adoption on the distribution side of the business, consumer adoption of the technology has significantly risen in recent years. In the production sector, UHD has also become an established format as major OTT players such as Netflix and Amazon now demand content only in UHD.

Broadcasters are generally more interested in the viewing benefits of enhancements such as HDR. In fact, studies have demonstrated how this format is more noticeable to viewers.

VR

Virtual Reality (VR) relies on headsets (often called goggles) to achieve a full 360-degree view of a virtual world. More specifically, it relies on sending streams with complex processing into headsets.

Interest in VR skyrocketed in 2014 when Facebook acquired Oculus for $2bn. This acquisition led to a flurry of investment in the technology.

However, more recently, interest in VR has waned for a variety of reasons. Slow consumer adoption of VR equipment has led major companies with a stake in it such as Facebook to significantly lower prices. The complexities (and costs) of VR content production and post have also contributed to stifling adoption in the media industry. For example, in post-production, 360-degree video needs to be stitched together before editing.

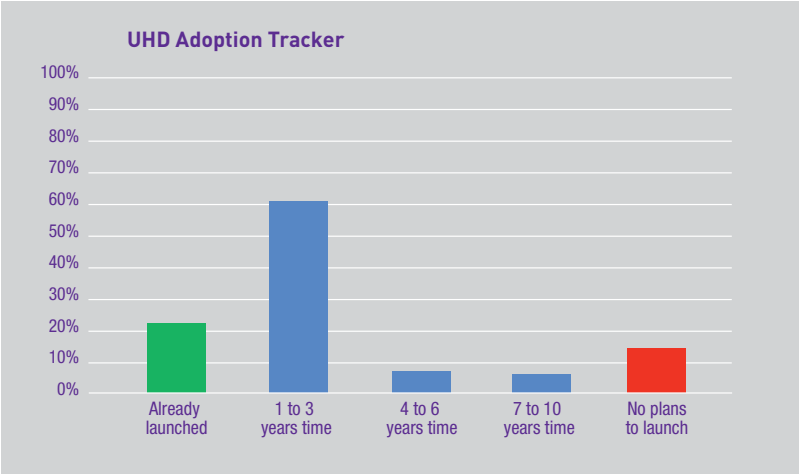
With regards to broadcasting, the main application area remains sports where VR could represent an alternative, or surrogate, to watching a game in the stadium.

Source: Shutterstock

UHD & VR in Broadcast & Media

State of Adoption – UHD & VR

According to IABM data, UHD adoption has grown slowly in recent years, from the 14% reported at NAB Show 2018 to the 20% reported at NAB 2019. Deployments have risen although there is still a high percentage of companies unlikely to launch any UHD offerings. The chart below illustrates UHD adoption among broadcasters and media companies:



Source: IABM

UHD adoption by broadcasters has been slower than expected for a variety of reasons. These have included high deployment costs and uncertainty over consumer adoption. Also, UHD adoption is linked with IP deployments – broadcasters have been generally reluctant to go UHD with SDI due to its lack of flexibility. Although consumer adoption of UHD sets is rising and IP is increasingly chosen for new infrastructure, UHD has

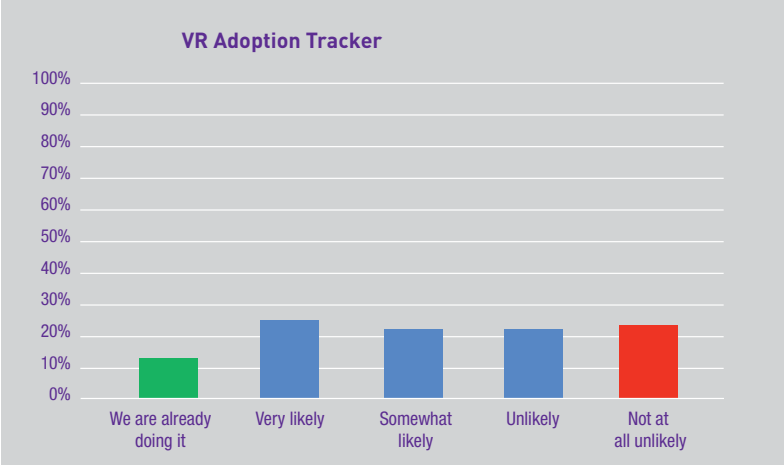
remained a niche market for Pay-TV operators to differentiate their offerings and increase subscription revenues – commercial broadcasters have been reluctant to broadcast in UHD due to the inability to monetize it through higher ad prices.

Despite the slow roll out, UHD channels continued to grow in 2018 as major sporting events such as the Winter Games and the FIFA World Cup have prompted broadcasters to launch offerings – sports remain the major application area for UHD. Major broadcasters such as the BBC and NBC broadcast these events as OTT streams in UHD – not without challenges. In the production sector, UHD has also become an established format as major OTT players such as Netflix and Amazon now demand content only in UHD. In 2019, we expect UHD adoption to continue to grow although this is not a priority for most broadcasters.

According to IABM data, broadcasters now prefer IP or hybrid SDI-IP deployments for launching UHD services. With regard to compression standards, HEVC and MPEG-4 have become the most preferred for UHD delivery - HEVC was the most preferred up to NAB Show 2018. IABM data shows that broadcasters generally prefer launching 4K (or HD) with enhancements rather than launching 4K offerings only. With regard to enhancements, HDR is by far the most preferred format.

Like UHD, most VR applications have focused on live sports. As a result of this, spending on VR has also been correlated with the occurrence of important live sporting events such as the FIFA World Cup. In sports and other applications, VR production can be extremely complex and costly. Despite this challenge, the production and post-production sectors continue to be very interested in the immersive format. Most VR deployments have seen broadcasters (and leagues) partnering with VR specialists such as NextVR and Jaunt VR. Broadcasters have generally struggled to monetize their investment in VR – one of main reasons behind the low adoption of VR is the lack of certainty around the business models supporting it. Consumer adoption has continued to be slow despite repeated price cuts by major device suppliers such as Facebook. VR content is generally fragmented on a plethora of apps and devices, which is also not helping adoption. Feedback from broadcasters continues to show low interest in this technology aside from sports and we therefore expect VR adoption to remain stable in 2019.

According to IABM data, VR adoption has not significantly increased in recent years. As mentioned earlier, low consumer adoption coupled with high complexity and cost have all contributed to stifling adoption by broadcasters and other end-users. The main VR deployments have been in sports.



Source: IABM

UHD and VR Deployments

UHD deployments have primarily focused on live events such as sports and concerts although there are some channels that transmit other (non-live) genres such as documentaries and drama. UHD adoption has been higher at Pay-TV operators. This is due to the low added revenue potential of UHD in commercial broadcasting compared to Pay-TV. In fact, the presence of UHD channels in Pay-TV bundles can constitute a subscription and therefore revenue driver while the same does not apply to a commercial setting – i.e. advertising inventory's value is generally uncorrelated with image resolution.

Recently, movies, drama and natural history have emerged as other common UHD content types in addition to sports. This largely due to the fact that delivering UHD content on-demand is less expensive than broadcasting it live. The BBC did however cover some live events in UHD OTT in 2018, including the Royal Wedding, the FIFA World Cup and Wimbledon. For on-demand OTT, the Crown on Netflix as well as the BBC's Planet Earth were both shot in UHD format. In fact, the BBC started its first UHD production experiments in 2014, when it broadcast the Queen's Christmas speech in UHD. In 2016, the BBC produced Planet Earth II in UHD, followed by Blue Planet II in 2017. However, sports still remains the key deployment area of UHD and VR, and the major sporting events act as crucial steppingstones for immersive technologies. Accordingly, 2018 was the first big year of live sports production for 4K HDR thanks to the 2018 Winter Olympics in Pyeongchang and the 2018 FIFA World Cup in Russia. Moreover, broadcasters and media companies already have their eye on the Tokyo 2020 Olympic Games, which will likely be another milestone in the development of the 4K/8K worldwide.

In the US, one of the early adopters of UHD was DirecTV, which announced a UHD offering in late 2014 - the feature was intended as differentiation versus other Pay-TV offerings. In 2018, DirecTV broadcast National Hockey League (NHL) and National Basketball Association (NBA) games in UHD HDR. Today, DirecTV – now owned by AT&T – offers more 4K than its competitors, including three channels fully dedicated to 4K content as well as some 4K pay-per-view. Another early adopter of UHD in the US was NBCUniversal, which offered 83 hours of the 2016 Summer Games in 4K/UHD and 4K HDR. In 2018, NBC covered the 2018 Winter Olympics in Pyeongchang featuring HDR.

In February 2018, Celebro Media announced the launch of its new Washington DC live broadcast studio with a view of the White House. The studio is fully 4K/UHD using IP technology and it gives news broadcasters the possibility to create an instant pop-up studio to cover breaking news from the US government or national stories. At the end of 2018, Verizon announced that it had started rolling out Fios TV One set-top boxes, which offer 4K capability to its fiber-optic service subscribers. Currently, Verizon offers only 4K VOD, but it has announced a plan to expand its portfolio in the future. In the US, SES is currently leading the 4K charge with its UHD trial agreements with more than 40 cable operators across the country.

In North America, 4K/UHD content continues to be abundantly offered by OTT operators such as Netflix and Amazon. In July 2018, Netflix tested a new high-end streaming plan – dubbed 'Ultra' – to see whether North American consumers were willing to pay more for four Ultra HD streams or content in HDR format. At the end of 2018, Netflix increased the price of its monthly subscription in the region, offering content in UHD to premium plan subscribers.

In Asia-Pacific, UHD offerings have been launched in more developed countries such as South Korea, China and Japan across Pay-TV operators (cable, IPTV, and satellite) since 2014. China – preparing for the 2022 Winter Olympics – continues to dominate the 4K UHD TV market globally, and the country is catching up in UHD content production too. In March 2019, China Media Group (the new parent organization of CCTV), the Ministry of Industry and Information Technology and the National Radio and Television Administration (NRTA) launched a 4-year action plan to develop China's 4K UHD video industry. In December 2018, Japan's NHK launched the first 8K satellite channel, while many other broadcasters in Japan also have 4K and 8K content. From January 2019, news in Japan has been transmitted in 4K. Also, major Japanese manufacturers are working on the production of 8K cameras. For example, Astro Design introduced its new 8K camera during Inter BEE Show 2018.

In Europe, most UHD initiatives have been launched by Pay-TV operators. Commercial and public broadcasters have not gone beyond broadcast trials in the higher resolution format - and/or occasional broadcasts for special live events. This is due to the low revenue potential of 4K/UHD in commercial broadcasting as opposed to Pay-TV. A great majority of UHD deployments in Europe have been launched by cable, IPTV or satellite operators with IPTV being the most popular platform. This is different from North America where most of the initiatives have been launched through OTT services.
When looking at specific European countries, most UHD initiatives have been launched in the UK and France with Germany closely following:

- **The UK:** BT and Sky launched 4K initiatives in the summer of 2016. BT launched its 4K/UHD service on IPTV, which covers live sports including the UEFA Champions League and the Premier League, in August 2016. Sky started broadcasting sports, films and TV shows in 4K/UHD via satellite from August 2016 as well as through its Sky Q technology. In 2018, BBC UK showed the 2018 FIFA World Cup in 4K/UHD via the BBC iPlayer app. Virgin Media also launched UHD live service via cable in 2018.
- **France:** IPTV operators such as Orange France and Free launched 4K offerings between 2015 and 2016. Orange launched a 4K offering featuring sports and Netflix programming in 2016 while Free started carrying a 4K channel – Festival 4K – focused on music festivals, concerts, entertainment events at the end of 2015. Other 4K offerings in France were launched by Fransat and SFR on satellite and IPTV respectively. In 2018, Canal+ launched 4K UHD live channel via satellite and OTT. In addition, beIN Sports launched a 4K UHD channel thanks to a partnership with Canal and Orange.
- **Germany:** In 2016, Sky Deutschland launched a UHD channel covering live sports – both Bundesliga and UEFA Champions League football matches. Mediengruppe RTL Deutschland launched a UHD channel in April 2018 that broadcasts Formula 1 races and a selection of football games. ProSiebenSat.1 broadcast its first program in UHD in July 2018; unlike many players that start with sports events, ProsiebenSat.1 inaugurated its service with an edition of *Galileo Spezial*, a regular non-fiction program addressing cultural and social topics.
- **Italy:** Mediaset launched the first UHD sports channel at the end of May 2016 to broadcast the UEFA Champions League Final. This was distributed over a terrestrial network. Sky Italia also launched UHD services by making available its Sky Q in Italy from the end of 2017

- **The Netherlands:** Insight TV announced the signing of an agreement with the Dutch telco KNP in 2018 to make its programs available in UHD via IPTV services.

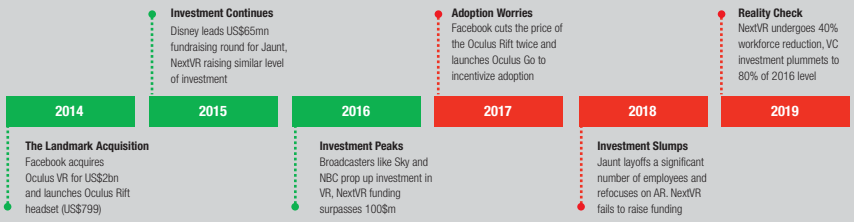
Source: ABC-CBN News

Consumer interest in VR waned between 2017 and 2018; slow adoption of VR equipment has led major companies with a stake in it such as Facebook to significantly lower prices. It cut the price of the Oculus Rift twice in 2017 and launched a new US$200 headset, the Oculus Go, to attract consumers. In March 2019, Facebook launched the Quest (a newer version of Oculus Go), an all-in-one VR system with 6 Degrees of Freedom (DoF) priced US$399. The new technology used by Quest does not require a computer, wires or game consoles, but it is set up through a smartphone app. Given that the very first version of the Oculus Rift launched in 2014 cost US$799, the new Quest headset featuring the latest technology is relatively cheap. Such price cuts of high-end VR equipment demonstrate that consumers' adoption of the technology has been lower than anticipated.

In addition to the Quest, Facebook launched the Rift S – the next version of the Oculus Rift – at the end of May 2019 priced US$400. Compared to the Quest, the Rift S is intended for use with a PC and it uses wires to connect to a PC powering the virtual reality experience. Facebook claims that the Rift S is capable of delivering a higher-fidelity experience than the original Rift, while it also eliminates the need for external tracking sensors. The timeline below illustrates some of the milestones of VR technology.

In February 2016, Fox Sports and NextVR signed a five-year deal to develop virtual reality offerings for sporting events broadcast on Fox Sports. In 2017, the partnership between NBA Digital and NextVR marked the first time VR technology was monetized in broadcasting.

VR Timeline



Source: IABM

Fox renewed its commitment to VR broadcasting in 2017, when it decided to collaborate with Livelike on a 'social' VR experience for the CONCACAF Gold Cup – an international football tournament of the North and Central American and Caribbean regions held every two years. During the 2018 FIFA World Cup in Russia, Fox Sports & LiveLike provided four matches in VR through Oculus Go and Gear VR headsets.

In 2018, NBC covered 50 hours of the Pyeongchang Winter Olympics in VR. NBC has relied on Intel True VR technology to produce an interactive 360-degree VR experience – accessible through the NBC Sports VR app. This has given viewers the possibility to modify their vantage points, interact with games' stats and access the natural sound captured by each camera. In July 2018, Copa90 announced a new partnership with NextVR. The International Champions Cup match between AC Milan and Manchester United was the first virtual reality live broadcast. NextVR also had a dedicated Copa90 channel through its app, debuting with behind-the-scene access to US soccer star Christian Pulisic. However, later in 2018, NextVR announced that it had laid off 50% of its staff after failing to raise a Serie C founding round.

Intel and Turner Sports are returning for the 2018-2019 NBA season with virtual reality broadcasts via NBA on TNT VR app. It is available for Oculus Go and Samsung Gear VR headsets, bringing fans onto the virtual set of Turner Sports with access to replays, live game action and highlights.

In 2018, Magic Leap entered a partnership with AT&T. In 2019, it raised US$280 million from NTT Docomo, the Japanese cellphone service provider. The main goal of the deal for Magic Leap is to start approaching 5G, and for Docomo to provide its customers immersive media and experimental spatial computing.

Sky expanded its VR platform *Sky VR Studio* in 2018 with the ambition of building an 'immersive content library', through a partnership with the VR content producer Jaunt, signed in January 2018. In 2018, the BBC also announced it would broadcast its first VR-driven TV show *Watch This Space* produced by its own in-house VR studio founded in 2017. For the 2018 World Cup, the BBC offered the possibility to watch matches in VR via an app – a total of 400,000 people downloaded the BBC World Cup VR app. In Spain, Vodafone Espana showed to a limited audience in March 2018 its ability to stream VR by broadcasting one program of its YouTube networks, called YU, through its 4G network.

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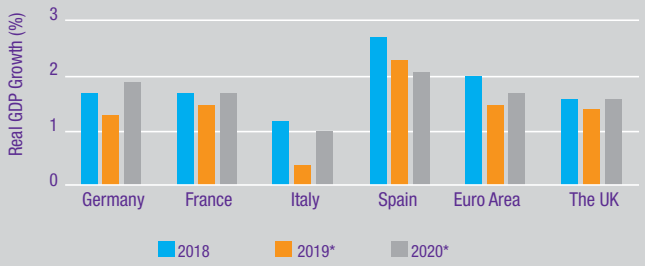
IABM – September 2019

Business Environment

The European business environment has been relatively sluggish since the 2008 financial crisis. Economic activity in the EU slowed further in the second half of 2018 as growth in global trade and economy weakened due to unresolved trade tensions between China and the US, tightened global financing conditions and high uncertainty among investors as well as exceptional weakness in Europe's manufacturing sector – particularly in Germany – that extended into the start of 2019. Moreover, the continuing uncertainty around Brexit has negatively affected financial sentiment in the EU.

The slowdown was stronger in the Euro area, as the region is highly dependent on external demand and vulnerable to sector- and country-specific factors, particularly in its largest economies: Germany, France and Italy. Increased economic uncertainty between Euro area trade partners deepened as a result of continuing uncertainty related to Brexit, social unrest in France, economic stagnation and lack of structural reforms in Italy as well as increased policy uncertainty after several national – and EU Parliament – elections that took place in the course of 2018 and the first half of 2019.

Real GDP growth in Euro area and selected European countries (Y-oY%, 2018-2020*)



Source: Eurostat

According to the IMF, gross domestic product (GDP) growth in the Euro area is set to moderate from 1.8% in 2018 to 1.3% in 2019 and 1.5% in 2020. The 1.8% growth in 2018 was markedly lower than in 2017, when economic growth got a boost from foreign trade. Now, growth rates have been marked down for many economies in the region, of which Germany – the largest economy in the Euro area – is expected to suffer from weak industrial production and subdued foreign demand as well as soft private consumption in 2019. In Germany, industrial production fell by 1.9% in April 2019, which was the worst monthly fall in almost four years, according to Germany's statistics office. Accordingly, Germany's Bundesbank sharply downgraded its growth forecasts for 2019 from 1.6% to 0.6%.

The French economy is also slowing, but less than its neighbor. In the first quarter of 2019, the country's economy expanded by 0.3%, according to the French statistics body INSEE.

The growth of Euro area exports nearly halved in 2018. This was mainly due to a sharp slowdown of intra- and extra-Euro area trade flows. Demand from China slowed down significantly, while there were also disruptions in the manufacturing sector. According to the European Union Chamber of Commerce in China, the severe trade dispute between the US and China has hurt one-third of EU companies operating in China.

Germany – the biggest producer and exporter of manufactured goods in the EU – naturally has a key role in driving production and exports of the whole EU region. When looking at the reduction of German exports, demand for German goods from the EU froze in the third quarter in 2018 reflecting weakness in demand as well as the introduction of new emission test procedures in the automotive sector. As a result, the production of motor vehicles in the Euro area fell by 6.5% (quarter-on-quarter basis) in the third quarter. Accordingly, leading indicators like new export orders signal that Euro area exports are likely to remain sluggish in 2019 and 2020.

Source: Shutterstock

The Euro area saw a decline in headline inflation from 1.9% in the last quarter of 2018 to 1.4% in the first quarter of this year due mainly to lower increases in energy prices. Weakened inflation – signaling further weakness in consumer demand – and other evidence of diminishing economic activity in the Euro area made the European Central Bank (ECB) announce cuts to its forecasts for both growth and inflation this year as well as unveiling an unexpected round of new stimulus in March 2019.

THE BROADCAST & MEDIA INDUSTRY

The Euro has weakened by about 2% in nominal effective terms since the beginning of 2019, reflecting lower-than expected growth as well as the ensuing downward adjustment of market expectations about the European Central Bank's monetary policy. The combination of a lengthy Brexit extension and the political fractures in play after the EU elections have increased political uncertainty in the whole EU region. In the first quarter of 2019, the Euro/USD fell 2.2% as global growth deteriorated sharply and the European Central Bank (ECB) turned more dovish.

When it comes to the British economy, the IMF has announced that its baseline projection of 1.2% and 1.4% growth for the UK in 2019-2020 is surrounded by uncertainty, reflecting the negative effect of prolonged uncertainty about the Brexit outcome, despite the postponement of the dead-line for Britain's exit to 31st October 2019. The IMF's baseline projection assumes that a Brexit deal is reached in 2019 and that the UK transitions gradually to the new regime, even though as of mid-August the form Brexit will ultimately take remained highly uncertain. A hard Brexit remains one of the biggest and most incalculable external risks for the Euro area, even though its immediate threat has temporarily decreased thanks to the EU agreeing to postpone the Brexit deadline to late October 2019. In late July 2019, Boris Johnson, representing Conservative Party, took office as the new prime minister of the UK, replacing Theresa May. He announced that, deal or no deal, the UK will definitely leave the EU on 31st October.

Boris Johnson the new UK Prime Minister.

Source: Shutterstock

Overview

The broadcast market in Europe is much more fragmented than in North America. Beyond the obvious issue of multiple languages, each major country typically has a large state-funded broadcaster, a variety of commercial broadcasters, and often several Pay-TV operators. Because rights holders typically sell content to a single broadcaster per country, programs must be delivered to each country/territory with the appropriate audio tracks, subtitling, aspect ratio, and technical metadata to meet local regulatory requirements.

Given the complexity of preparing content for distribution to dozens of countries, many programmers find it more efficient to deliver internationally syndicated content to European broadcasters via a central playout center, which has the staff and expertise to take care of all the technical and regulatory compliance issues at the point of content origination. As a result, the European market has a significantly larger number of service providers than other regions.

Despite strong competition from other delivery methods, cable continued to be the most popular distribution platform in Europe in 2018, followed by DTH, IPTV and linear OTT. Transmission in Europe is often done through a centralized service provider. The switch from analog to digital transmission in Europe gave rise to a number of digital multiplex operators, who own or lease broadcast spectrum and deliver content on

behalf of multiple broadcasters. In many countries there are one or two primary multiple operators.

Although Europe is a large collection of sovereign nations with varied economic situations, the market can be broadly divided into three sub-regions, each of which includes countries with similar broadcast and economic fundamentals. It is important to note that the division is purely geographical and thus includes both EU and non-EU countries. These sub-regions are:

1. **North Western Europe:** has very high Pay-TV penetration and the dominant broadcast infrastructure consists of cable and satellite
2. **South Western Europe:** has relatively low Pay-TV penetration and is heavily dependent on terrestrial transmission. The region remains a challenge for many vendors
3. **Eastern Europe:** has a moderate penetration rate of Pay-TV and heavily relies on cable and satellite distribution

Many long-standing industry transitions such as the transition to digital broadcasting, HD and file-based workflows have already reached saturation point in Europe and thus market growth stems more from other technology transitions. With traditional European broadcasters being challenged by the expansion of players such as Netflix and Amazon Prime Video, media technology investment is focusing on the transition to new media offerings. For example, the UK suffered the largest decline in Pay-TV subscriptions of any European country in 2018; it had a net decline of 424,000 Pay-TV households. Also, Denmark, Switzerland and Germany reported notable rates of declines in the number of Pay-TV subscribers in 2018. However, Pay-TV is still by far the most common way of receiving TV services in Europe.

Compared to the US, Europe's Pay-TV market remains highly fragmented with the top five players – including Sky/Comcast (with an estimated market share of 15%) and Liberty Global (14%) – accounting for less than half of all subscribers in the region. Nevertheless, consolidation has accelerated in Europe's Pay-TV industry following the global trend. In terms of subscriber numbers, Russia's Gazprom Media, the owner of Tricolor TV, occupies top spot in Eastern Europe, closely followed by the Russian incumbent telco Rostelecom, which currently accounts for the majority of new Pay-TV subscribers. Other key players in Europe include Liberty Global and Deutsche Telekom, of which the former is in the process of selling its assets in Germany, Czech Republic, Hungary and Romania to Vodafone.

As in North America, the price of sports rights in Europe remains at a record high. In the UK, Sky and BT paid £4.4 billion ($5.97 billion as of May 2018) for the rights to the majority of Premier League matches for the 2019-2022 seasons. This is approximately 13.7% less than the previous rights deal, which was signed in 2015 (although the 2015 deal represented a 70% increase versus the cost of rights for the 2013-2015 seasons). In Germany, the new contract for the broadcast rights of the Bundesliga has experienced an 85% price increase compared to the previous deal.

The broadband market across Europe is going through far-reaching technological changes, with fiber and high-speed internet access (DOCSIS 3.x) rapidly replacing ADSL and standard cable. Next Generation Access (NGA) broadband is also increasingly deployed and in some countries such as Switzerland, Germany and Hungary, NGA penetration as a share of the population is already higher than the European average. NGA has acted as a catalyst for OTT streaming services, which as of second quarter of 2018 were received in 20 million households in Europe. Even though Netflix – accounting for over half of the total – and Amazon are expanding their subscriber bases in Europe, local OTT services are also becoming increasingly popular in the region. For example, in Russia, ivi.ru, Megogo and Amedia have recently emerged as the three largest OTT platforms in the country.

Multi-screen initiatives by broadcasters have proliferated in recent years although the European continent lags behind on this compared to North America. Various factors have contributed to this trend, including the average lower cost of Pay-TV services in the old continent and insufficient content localization by major new media players. In spite of this trend, traditional media companies in Europe continued to roll out new media initiatives during 2017 and 2018.

Another new technology trend in Europe – and globally – is the emergence of 5G and telecom operators in the video distribution space. In Europe, the development of 5G infrastructure dates back to 2013, when the European Commission (EC) established a Public Private Partnership on 5G, the EU flagship initiative to accelerate research and innovation in 5G technology. 5G standards are also one of the five priority areas under the recently launched Digitising European Industry initiative.

Media Technology Demand Drivers

We examine specific trends driving broadcast and media technology spending in Europe. The trends we discuss are:

- Transition to Digital & HD Broadcasting
- Transition to DVB-T2
- Transition to New Viewing Experiences
- OTT and Multi-Platform Delivery
- Digital Single Market Initiative

Transition to Digital & HD Broadcasting

In most European countries, the transition to digital broadcasting has been completed. In Europe, Luxembourg became the first country to complete analog switch-off in September 2005, followed by the Netherlands in December 2006. In terms of scope, the transition to digital terrestrial broadcasting in the EU countries has covered 28 countries with about 512 million people.

Ukraine had originally planned to begin its transition to digital broadcasting at the end of 2017 and complete in 2018; the National Council announced in March 2018 that it had put completion back to April-May 2019, but would follow the initial 3-stage switch-off plan. Greece, in turn, granted temporary nationwide DTT licenses to Alpha, Ant1, Epsilon TV, Star and Skai in May 2018.

As of May 2019, Romania, Albania, Bosnia and Herzegovina were the only countries within the EU which had not completed the analog switch over, according to ITU data. Albania and Bosnia have both experienced setbacks in their switchover processes. Albania has received much criticism from the EU for the delay.

Non-EU countries in Europe that have not completed their analog switch off are Ukraine and Moldova, according to the ITU data. Nevertheless, Eastern Europe is slowly ridding itself of the legacy of analog cable, as the transition to digital broadcasting has now successfully taken place nearly in the whole Eastern part of the EU region. In addition, Turkey has yet to start its transition.

In the cable sector, as of mid-2017, there were about 17.6 million cable households in Germany, of which almost 3.1 million still received analog cable TV signals. Unitymedia, Germany's second-largest cable operator owned by media behemoth Liberty Global, was the first German cable operator to have completed its analog switch off in July 2017. Also, market players such as Vodafone (formerly Kabel Deutschland), PYUR, M-Net, wilhelm.tel and komro as well as Deutsche Telekom's cable service removed analog TV channels in July and August 2018 in cities including Hamburg, Munich, Stuttgart, Bremen, Dresden, Leipzig, Augsburg, Ingolstadt and Regensburg. However, even though a full analog cable switch-off in Germany was planned for the second half of 2018, the remaining cable companies wanted to accomplish the transition to fully digital distribution by spring 2019.

In 2018, the German media authorities founded the initiative Digitales Kabel in collaboration with industry associations, cable operators and broadcasters to coordinate and support the transition to sole digital TV distribution on German cable networks. The members of the initiative include cable association ANGA, network operators Vodafone Deutschland, Telekom Deutschland and PYUR, commercial broadcaster association VPRT and broadcast groups ARD, Mediengruppe RTL Deutschland and ProSiebenSat.1. Consultancy and a research group Goldmedia.

The transition to HD has been one of the most important technology drivers in Europe in the last fifteen years. Most European broadcasters have upgraded part of their operations to HD. They will continue investing in HD infrastructures over the coming years to go with the development of high-quality content production and innovative HD customer experiences (e.g. VR, eSports). With the transition to digital and HD broadcasting approaching maturity, broadcasters are turning their investments toward the launch of new HD channels.

In March 2018, the Austrian Pay-TV operator HD Austria – owned by M7 Group – added seven new HD channels to its offering. In the same month, Eurochannel launched a Portuguese language version HD channel on Vodafone's Pack TV Plus offer. According to Eurochannel's CEO Gustavo Vainstein, "Portugal is a country with a growing appetite for premium quality content. This new partnership allows us to take an important step to keep growing in the Portuguese market." In September 2018, France24 HD launched in the UK supplementing the standard definition version of the channel. Later between October 19th and November 1st 2018, Sky Deutschland launched a pop-up Halloween channel offering a collection of 70 horror movies. Sky has aired a growing number of pop-up channels around major calendar dates and

events in recent years. In November 2018, SPI International launched gaming channel Gametoon HD in Sweden through a new agreement with Swedish TV provider Kalejdo. The deal extends the existing carriage of SPI channels on Kalejdo's platform to eight in total. Gametoon HD focuses on gaming and eSports.

Source: Shutterstock

In some Eastern European countries that have awarded DTT licenses, an increasing share of these have been HD in 2018 and 2019. For example, Gazprom-Media of Russia launched a new national sports channel in March 2019 covering the XX1X Winter Universiade 2019, which is available in both SD and HD. However, as a whole, the number of HD channels offered in Eastern Europe remains lower compared to Western Europe. Therefore, there are stronger expectations for HD channel growth in the Eastern part of the continent.

Overall, the transition to HD broadcasting is a trend approaching maturity in Europe and does not represent a significant driver of broadcast and media technology investment compared to other emerging broadcast markets in the world such as Latin America and Asia-Pacific.

Transition to DVB-T2

All European countries rely on the DVB-T standard. DVB-T2 is the next-generation terrestrial transmission standard, offering 50% more efficiency compared to other DTT systems and supporting SD, HD, UHD, mobile TV, radio, or any combination thereof. HD services consume more bandwidth than traditional services due to higher image and sound definition. The transition to DVB-T2 allows an increase in the capacity of DTT platforms.

The latest EU country deciding to deploy DVB-T2 was Germany in March 2017. Germany was the first country to launch a DVB-T2 service using HEVC as its compression standard – other countries that have already transitioned to DVB-T2 have chosen MPEG-4 as their preferred compression standard. The DVB-T2 switchover in Germany is expected to be completed in 2019. However, as the transition to the next generation standard takes time, many countries which have officially adopted DVB-T2 are still in the process of expanding DTV-T2 coverage to the whole country.

With regard to the countries that have adopted the next-generation standard, the Czech Republic is currently rolling it out, and it is expected to be completed by 2020 when DVB-T signals will be switched off. France and the Netherlands are also currently transitioning to DVB-T2, together with other Eastern European countries such as Poland and Slovakia, who are also in the midst of the transition. In these countries, selected broadcasters and transmission operators are experimenting with the new standard. Also, it is worth highlighting that DVB-T2 will continue to be rolled out in Germany up to 2019. Broadcasters and transmission operators in these countries are therefore more likely to increase demand for transmission-related infrastructure/equipment to make the transition to the next-generation terrestrial standard possible. Hence, the rollout of DVB-T2 and HEVC in some European countries such as Germany is also acting as a catalyst of demand for HD products as broadcasters have the possibility to deliver more HD channels.

Transition to New Viewing Experiences

The deployment of 4K/UHD television in Europe is currently ongoing; more dedicated channels have been launched since 2017. By the end of 2018, Eutelsat had identified at least 142 UHD channels or services worldwide, of which more than one third (55 channels) were in Europe, including independent channels, Pay-TV services and national television channels.

According to IABM's Buying Trends survey conducted mainly among European broadcasters in October 2018, nearly a quarter of respondents had already launched UHD initiatives, while end-users remained more interested in combining enhancements such as HDR and HFR with 4K/UHD rather than 4K offerings only. This indicates that better pixels are likely more important than more pixels for them.

Most UHD initiatives have been launched by Pay-TV operators. In fact, UHD so far remains a Pay-TV niche market. Commercial and public broadcasters have not gone beyond

broadcast trials in the higher resolution format – and/or occasional broadcasts for special live events. This is due to the low revenue potential of 4K/UHD in commercial broadcasting as opposed to Pay-TV. 88% of UHD deployments in Europe have been launched by cable, IPTV or satellite operators with IPTV being the most popular platform. This is different from North America where most of the initiatives have been launched through OTT services. This difference translates into different types of services in the two continents: live prevails in Europe while VOD is prevalent in North America.

2018 was the first big year of live sports production for the 4K HDR thanks to several major sporting events such as the 2018 Winter Olympics in Pyeongchang and the 2018 FIFA World Cup in Russia. Moreover, broadcasters and media companies already have their eye on the Tokyo 2020 Olympic Games, which will likely be a milestone in the development of 4K/8K worldwide.

Source: Shutterstock

When looking at specific countries, most UHD initiatives have been launched in the UK and France with Germany following closely:

- **The UK:** BT and Sky launched 4K initiatives in the summer of 2016. BT launched its 4K/UHD service on IPTV, which covers live sports including the UEFA Champions League and the Premier League, in August 2016. Sky started broadcasting sports, films and TV shows in 4K/UHD via satellite from August 2016 as well through its Sky Q technology. In 2018, BBC UK showed the 2018 FIFA World Cup in 4K/UHD via the BBC iPlayer app. Virgin Media also launched a UHD live service via cable in 2018.
- **France:** IPTV operators such as Orange France and Free launched 4K offerings between 2015 and 2016. Orange launched a 4K offering featuring sports and Netflix programming in 2016 while Free started carrying a 4K channel – Festival 4K – focused on music festivals, concerts and entertainment events at the end of 2015. Other 4K offerings in France were launched by Fransat and SFR on satellite and IPTV respectively. In 2018, canal+ launched a 4K UHD live channel via satellite and OTT. In addition, beIN Sports launched a 4K UHD channel thanks to a partnership with Canal and Orange.
- **Germany:** In 2016, Sky Deutschland launched a UHD channel covering live sports – both Bundesliga and UEFA Champions League football matches. Mediengruppe RTL Deutschland launched a UHD channel in April 2018 that broadcasts Formula 1 races and a selection of football games. ProSiebenSat.1 broadcast its first program in UHD in July 2018; unlike many players that start with sports events, ProsiebenSat.1 inaugurated its service with an edition of *Galileo Spezial*, a regular non-fiction program addressing cultural and social topics.

With regard to VR, European broadcasters have yet to launch consistent offerings featuring the emerging technology. In general, VR technology is still in its earliest stages and mainly used in live sports and concerts. In 2018, some broadcasters were still in an experimental phase to explore implementation requirements and the customer demand for this new way of watching TV. However, it seems that VR is not yet a top priority for most media technology end-users due to the lack of a consistent business model to monetize it. In Germany, Deutsche Telekom continues development of *The Magenta Musik 360*, a platform that had been launched in 2017 and enables VR viewing of live concerts; more live music events are now available in VR including major Summer festivals like Openair Frauenfled 2018 and Parookaville 2018.

In the UK, Sky expanded its VR platform *Sky VR Studio* in 2018 with the ambition of building an 'immersive content library', through a partnership with the VR content producer Jaunt, signed in January 2018. In 2018, the BBC also announced it would broadcast its first VR-driven TV show *Watch This Space* produced its own in-house VR studio founded in 2017. In Spain, Vodafone Espana showed to a limited audience in March 2018 its ability to stream VR by broadcasting one program of its YouTube networks, called *YU*, through its 4G network.

As often highlighted by IABM research, this technology needs to find a clear business model backing it as most deployments – both in Europe and North America – rely on free broadcast to viewers through apps.

OTT and Multi-Platform Delivery

The transition to new media offerings is a trend influencing the whole media ecosystem, forcing broadcasters to drastically transform their technology infrastructures. In Europe, the incentives for traditional broadcasters to deliver effective new media offerings have significantly increased over the past few years, even though European broadcasters are still behind their peers in the US.

In 2018, the number of on-demand services established in the EU region reached a record-high level of about 2,500, according to the European Parliament's Policy Department for Economic, Scientific and Quality of Life Policies. In the next five years, the value of the European OTT market is expected to double from an estimated US$10 billion to US$20 billion. This growth will originate particularly from Western Europe, where the biggest single market will be the UK accounting for an estimated 35% market share.

Reflecting the rising importance of the telcos, IPTV is gaining subscribers in Western Europe at the expense of the other Pay-TV platforms. In 2015, IPTV overtook satellite TV in the region and will be approaching cable by 2024; Western Europe will have an estimated 5.5 million new IPTV subscribers between 2018 and 2024, according to Broadband TV News.

For broadcasters, launching OTT offerings is a more attractive proposition - despite the thinner margins offered by streaming. In fact, broadcasters can add an additional revenue source by going direct-to-consumer as well as reaching new geographies through new distribution agreements – even outside of Europe. For example, the French broadcaster TV5 Monde signed an agreement with Partner TV, an Israeli OTT platform, for the distribution of its content in Israel. This globalization of content through streaming also applies to cross-border Pay-TV operators such as Sky. In 2017, Sky unveiled plans to launch OTT services both in Switzerland – with a product focused on live sports – and Spain. Content globalization is also a catalyst of increased M&A activity within the European continent.

In 2018, French broadcasters including France Televisions, TF1 and M6 partnered to launch a joint SVOD platform called Salto. Also in France, Orange and Altice/SFR are expected to merge their premium TV and movie subscription services to improve their content offering. In May 2019, Canal+ agreed a deal to buy M7 – which distributes content from Disney, HBO and Eurosport – for around US$1.1 billion. Canal+, a French premium television provider, will acquire M7 from private equity firm Astorg, expanding the Vivendi-owned TV company's footprint into seven new European countries: the Netherlands, Belgium, the Czech Republic, Slovakia, Austria, Hungary and Romania. In Germany, ProSiebenSat.1 and Discovery have teamed up to build a German TV streaming platform, which unites ProSiebenSat.1's 7TV and Maxdome service with Eurosport Player. Due to launch in 2019, the service will include an ad-supported tier as well as premium SVOD access to sports and movies. The door is open for RTL and public broadcasters ARD and ZDF to join the German venture. In the UK, collaboration between the BBC and ITV resulted in the creation of a video streaming service Britbox to be launched in the UK by the end of 2019.

Commercial broadcasters are also teaming up at a pan-European level to counter the big OTT players in the advertising space. ProSieben.Sat.1 (a German broadcaster), Mediaset (a commercial television operator in Italy and Spain), TF1 and Channel 4 have set up the European Broadcast Exchange (EXB) to allow advertising customers to programmatically buy pan-European campaigns. Interestingly, in May 2019, Mediaset announced that it had acquired a 9.6% stake in ProSiebenSat.1 and that the aim of the alliance is to "develop scale economies which are crucial for the future of European TV".

Netflix and Amazon dominate the European new media landscape. In 2018, Netflix accounted for 52% of all SVOD revenues in Europe, followed by Amazon (21%), according to Kagan. At the end of 2018, the top five SVOD services accounted for 89% of total subscription streaming revenues of about US$6 billion in Europe. In November 2018, Netflix announced that it would ramp up the number of series, documentaries and movies it produces across Europe in 2019 as it steps up its competition with broadcasters in the old continent. In 2019, Netflix plans to make over 220 projects in Europe, including 153 originals. Netflix sharply increased its content investment in Europe last year by spending an estimated US$1 billion on original productions across the old continent.

In Germany, Amazon has established itself with aggressive consumer prices, which has resulted in it having nearly twice as many subscribers as its nearest rival Netflix. In Italy, Sky is the clear Pay-TV market leader with a market share of about 77% in 2017. Accordingly, in 2018, Netflix and Sky on Demand announced a partnership under which Sky will become a content partner of Netflix. The two companies will offer a specific entertainment TV package entitled 'SkyQ', combining Netflix's service with Sky's programming. In the Netherlands, Netflix is by far the largest player in the market with a market share of 75%, followed by a Dutch subscription-based streaming platform Videoland (12%). Owned by RTL Nederland, a subsidiary of Luxembourg based RTL Group, Videoland recorded year-on-year paid subscriber growth of 119% in September 2018.

When it comes the legal implications for the booming OTT sector and the framework of competition law in the EU, there has been a significant movement of the competition law position in the UK with the launch of BritBox, a joint project of BBC and ITV. According to MediaWrites, a media group of Bird & Bird, BritBox comes ten years after the Competition Commission blocked a proposal for a similar multi-channel British streaming service, Project Kangaroo. In 2009, the chairman of the Competition Commission, Peter Freeman, considered the joint venture between ITV, BBC and Channel 4 "too much of a threat to competition in this developing market and has to be stopped". In contrast, in 2019 Ofcom has encouraged the release of BritBox, arguing it will allow broadcasters to "keep pace with global players".

In Germany, attempts by channel providers to collaborate, similar to that of Project Kangaroo, have been prohibited by the German competition authority, Bundeskartellamt. The prohibition is the result of contract clauses that breached Article 101 TFEU (cartel prohibition). Hence, it seems likely that other European countries will try to follow BritBox and channel providers will try to work together to establish such platforms. However, major players need to carefully consider their position in the market due to the EU competition law requirements associated with market dominance.

The arrival of Netflix in Europe has changed the game fundamentally also in terms of how to deal with EU competition law. Netflix has effectively started the 'wild west' of contract negotiations in the region; Netflix became the first company to negotiate buy outs of content with no residual payments for production companies in Europe. This is seen as one of the big game changers in negotiations, particularly for writers, actors and directors.

Digital Single Market

In May 2015, the European Commission (EC) set out its proposal to reform the 'Digital Single Market' with the aim 'to tear down regulatory walls and finally move from 28 national markets to a single one'. According to the EC, the digital single market could contribute $415 billion a year to the European economy. The EC proposal contained 16 initiatives – some of these have not been implemented at the time of the writing. Five of these initiatives will directly influence the European broadcast and media landscape:

- EU Content Portability (i.e. End of unjustified Geo-Blocking)
- Harmonization of the national laws on Copyright
- A review of the Satellite & Cable Directive
- A review of the Audiovisual Media Framework
- Promotion of Cloud Services Development

The first two initiatives make consumption of audiovisual content available in every single market country with the end of cross-border geo-blocking. The benefit for content providers is to be able to provide content to their subscribers without having to acquire licenses for the territories where the customer is temporarily residing. The ambition is to adapt the rules to the new consumption habits of Europeans. The EU estimates that at least 29 million people – accounting for 5.7% of EU consumers – could benefit from the use of cross border portability, and up to 72 million by 2020.

The review of the audiovisual media framework consists of extending existing rules on content quotas to new media operators such as Netflix and Amazon. According to the Commission's original proposal, new media operators would have been forced to devote at least 20% of their catalogs to European films and TV shows. The European Parliament hiked this percentage to 30%. According to the Parliament's tweaks, member states will also be able to fine operators that do not comply with the quota. On June 6th 2018, the European Parliament, Council and Commission confirmed the political agreement that will apply to audio-visual media across Europe.

The background of this reform is the drastic change that is taking place in the media landscape. Millions of Europeans, especially young people, watch content online, on-demand and on different mobile devices. Global Internet video share in consumer internet traffic is expected to increase from 64% in 2014 to 80% by 2019.

IABM BUSINESS INTELLIGENCE QUARTERLY DIGEST – SEPTEMBER 2019

The information contained in this Regional Update is derived from our newly published Regional reports, which are available on the IABM website. The latest Regional report focuses on Europe and will be published soon.

The full report on Europe contains an overview of the business environment, an overview of the broadcast and media technology industry and an analysis of technology buyers and demand drivers.

This should provide member companies more tools to better address opportunities and challenges in new markets. In an ever-changing industry such as media technology, it is increasingly important for suppliers to keep track of regional trends and broadcast and media technology developments within these regions.

Knowledge, support and leadership for media technology suppliers

IABM is the international trade association for suppliers of broadcast and media technology. IABM facilitates the important networking and interaction between suppliers that shape and define the unique ecosystem of the broadcast and media technology industry.

IABM supports member companies with a comprehensive range of services across market intelligence, training, technology, exhibitions and best practices – all designed to help them do better business.

We hold the interests of member companies as paramount, and strive to provide strong guidance and support at every level in all geographies.

We understand that in today's rapidly changing media landscape, our members have never had a greater need for timely, relevant and effective advice and support. IABM's mission is to be an ever more powerful beacon that is highly responsive to all our members' needs in a timely fashion, helping them to prosper and navigate change successfully.

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