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Swiss Entertainment and Media Outlook 2016

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Executive Summary

Swiss Market Situation

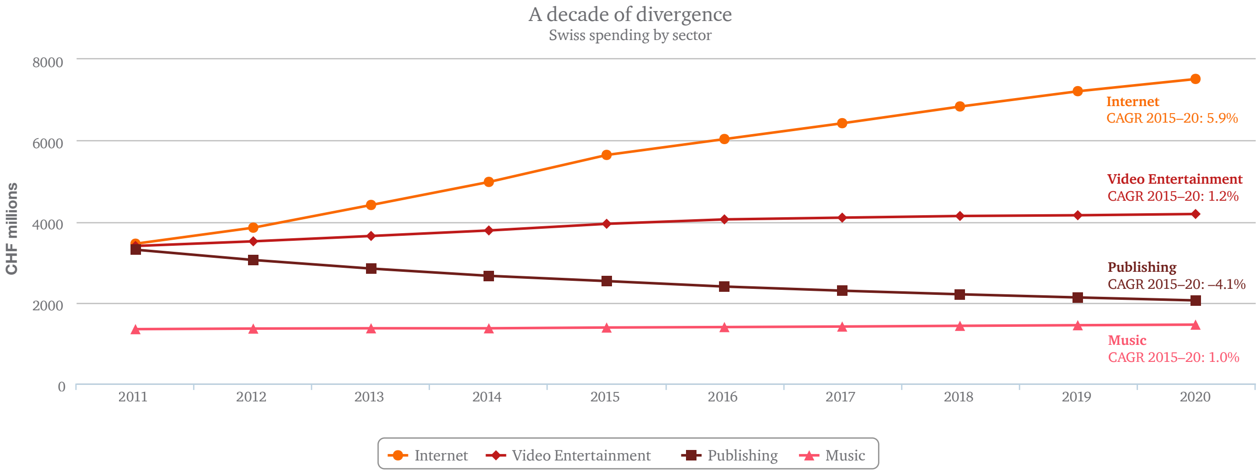
Out with the old, in with the new – or rather, in with the Internet. That was 2015's story, and indeed, it is the story of the decade. Internet Access and Internet Advertising accounted for a quarter of Switzerland's Entertainment and Media (E&M) revenues in 2010, today it's 40 per cent, and by 2020 it will be nearly half.

The Internet obviously is driving Internet Access and Internet Advertising, and only slightly-less-obviously is it driving the other E&M segments. TV Subscriptions, Video Games, Out of Home Advertising, Radio, Music and Filmed Entertainment are all riding the Internet rocket, to a greater or lesser extent. TV Advertising is being somewhat burnt by the rocket, as viewers use new technologies and formats to avoid adverts. Completely scorched by the rocket's exhaust are the once-proud Consumer Magazines and Newspapers segments, whose size and influence have fallen faster than most anyone could have imagined.

The actual functions of the Internet are evolving as well. There is an ongoing move from personal computers to tablets and smartphones. Streaming is replacing downloads and pay-per-view. Media such as TV, films, video games, radio, even magazines and newspapers are being distributed online – with greater and lesser success. Sales of 'hard copy' physical product are diving. Substitution is rampant: E&M segments are much more turbulent than their aggregated revenues suggest.

Total E&M revenues climbed by 5.6 per cent in 2015 to CHF 14.2 billion (thousand millions). A number of segments outperformed their 2010–2020 trendlines, as Switzerland's economy recovered from its early–2014 stumble when the Euro/Franc exchange rate was unloosed. The only real outlier last year was Filmed Entertainment. Thanks mainly to a triplet of blockbusters that packed cinemas, the segment's revenues jumped 19 per cent to CHF 600 million. More blockbusters are expected in 2017–2018, but these will compensate losses elsewhere only in part, leaving the segment in modest decline.

2016 will see a cooling in E&M growth to 2.8 per cent, near to the 2.4 per cent compound annual growth rate (CAGR) forecast for 2015–2020. The biggest advances will come in – what else? – Internet Access and Internet Advertising. Bringing up the rear will be – what else? – Consumer Magazines and Newspapers. By 2020, Switzerland's E&M industry is expected to top CHF 16 billion.



Analysis by PwC

Five shifts in entertainment and media

Shift 1: Young people are the trend-setters

We've all seen the speed at which younger consumers adopt new behaviours, and we've recognised their startling ability to multitask in different media. It is precisely these attributes that are leading the way, setting trends and driving demand for E&M around the world. What that means for E&M companies in Switzerland is clear: to secure future revenues, companies must understand the needs of the younger generations. And these will change, as evidenced by changes to date: from music downloads to streaming, from desktop PCs to mobile Internet, from linear TV to OTT and time-shifted viewing, from newspapers and magazines to online news and social networks.

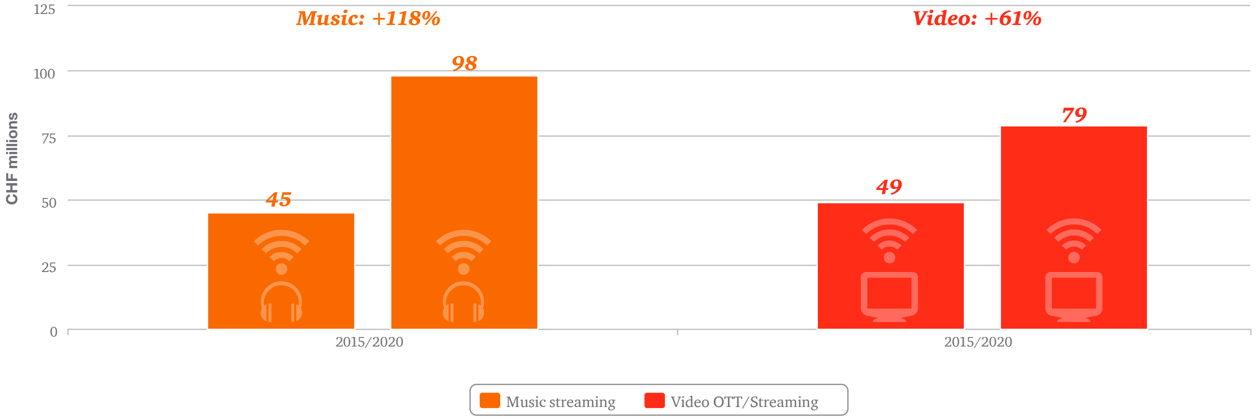
Shift 2: Content is king, especially if it's regionalised and personalised

In a world where Netflix can launch streaming in 130 countries in a single day, it's easy to assume that content is becoming more homogeneous. But in fact, the E&M industry is becoming ever more 'glocalised'. For example, Swiss service providers such as Swisscom create value and earn money by 'content curation' (choice of movies for VOD/streaming subscriptions, according to the Swiss-tastes and specific national factors). So we have an industry that is growing more global, yet pitching to cultures and tastes that remain steadfastly local.

Shift 3: I stream, you stream, we all stream

Streaming defines a vast shift in the approach to music consumption, just as video streaming is becoming the 'new normal' for digital natives to watch TV. This is driving a change of business models, from on demand (pay per view/download/article) to monthly subscriptions. "The shift from VOD offers towards monthly subscriptions is comparable to the transformation seen in telephony, says Swisscom's senior strategy manager Matthias Schmidt. "Customers do not pay per unit anymore. Instead, packages and monthly subscriptions grant unlimited access." Providers are moving to 'omni-channel' offerings for TV, laptops, tablets and smartphones. These appeal to consumers who still want a one-stop-shop. A good example is the @12 app from a Swiss publisher – offering 12 articles per day from various magazines and newspapers, on a monthly subscription.

Growth in music and video streaming
Comparison 2015/2020



Analysis by PwC

Shift 4: Distribution is the new battleground

Platforms have developed independently of existing structures/infrastructure, and they are focused on content distribution, not its production. They function as gatekeepers, controlling access of millions of consumers to content, and vice versa. Major platforms (such as YouTube, Netflix, Spotify, Facebook and Snapchat) have enormous power to set market rules, such as prices, revenue-sharing terms and technical standards. Media companies (content creators) will increasingly be forced to cooperate with majors to reach consumers. There will be little choice but to 'play by their rules' – i.e. the distributors' rules.

Shift 5: Technology combines with industry-specific expertise

The turbulence of ongoing change is reordering the way many E&M companies work. Advertising, for example. Huge, integrated data sets, smart analytics, new visualization and delivery platforms – combined with the growth of programmatic advertising and the advent of native content – would seem to significantly undermine the roles of traditional agencies and media companies. Revenues are migrating from companies who sell 'big ideas' toward those, like Google and Facebook, whose differentiator is their algorithmic buying platform. Meanwhile, multichannel networks, social media, and content marketing businesses are seeking to grab a slice of the advertising pie. A potential Swiss champion here is Admira, a joint venture of two publishers and a telco. Their complimentary expertise in technology, advertising and marketing are the best prerequisites for future success.

Outlook for Switzerland's Entertainment and Media Market

Internet Access

The largest segment of Switzerland's E&M – accounting for one third of its revenues – is still on a roll, with 6 per cent growth in the cards for 2016. Two main factors are driving expansion. One is increased penetration of mobile devices: the market is headed toward saturation in another 4 years. The other factor is consumer demand for higher fixed-broadband bandwidths. As wired bandwidth prices have remained stable over the last few years, consumers have moved to higher bandwidths. This increases revenues per user, especially in cable.

Internet Advertising

Online adverts is the fastest-growing segment of Switzerland's E&M, with an 11 per cent climb projected for 2016 and a 7.7 per cent CAGR for 2015–2020. This is part of a secular trend: ever more industries are acknowledging the significance of the Internet. They are increasing their presence, by shifting budget from the classic advertising channels like print and television to Internet Advertising, whose share of the 2015 media mix grew to approximately 30 per cent. And it's not just the Internet's ubiquity they like, they also value its ability to track and to target advertising.

TV Subscription and License Fees

Cable still predominates in TV transmission, but it is steadily losing subscribers to the upstart IPTV, which is growing at a CAGR of over 4.7 per cent. Royalties are also climbing briskly, at over 5 per cent. Public license fees are holding steady, with a 2015–2020 CAGR of just under 1 per cent. The dash to digital continues apace. Multi-platforms are all the rage: UPC has signed up over 200,000 customers to its "Horizon Box"; and Sunrise has attracted nearly 150,000 to "Smart TV". Web TV is also strong, with offerings from Swisscom, Teleboy and others.

TV Advertising

This segment lost its predominance to Internet Advertising in 2012, and it is still very challenged by the rise of 'time-shifted viewing', whereby viewers can fast forward through or even skip adverts. Nonetheless, TV Advertising will grow 2.7 per cent in 2016, slightly above its CAGR for 2015–2020. The health of the general economy helps here, as do the sporadic, significant revenues delivered by major sporting events.

Music

Revenues here are nearly flat. Growth will be 1 per cent in 2016, and the CAGR for 2015–2020 just slightly lower. But this masks an internal dynamism. Physical sales of CDs are plunging, while digital downloads are falling prey to the boom in streaming. The latter is a battleground between Spotify – which is still operating at a loss – and Apple Music. Live music, at concerts and festivals, is a still-profitable but very mature market in Switzerland.

Filmed Entertainment

Netflix and other digital channels are on the rise, while cinema receipts are strong, thanks to an ongoing string of Hollywood blockbusters that pack seats. Still, these won't be enough in 2016 to compensate for the deep decline in physical product sales: CDs, Blu-Rays and the like. Revenues are expected to fall by 4 per cent this year, and the 2015–2020 CAGR is reckoned at –0.6 per cent. Digital channels will continue to be a major battleground. Existing TV providers Swisscom, UPC and others are offering new subscription services, while international players such as Amazon Prime and HBO are potential entrants to the Swiss market.

Video Games

'Gamification' is a powerful trend, with 'virtual reality' and 'augmented reality' increasingly becoming just 'reality.' The craze for Pokémon GO was typical, and this could spread much further than the traditional gaming industry. Tourism promoters, for instance, could put Pokémons on mountain tops and other attractions to keep the punters coming. Sales of physical games are tumbling as gamers go online, but console and PC revenues are still rising modestly. Social and casual gaming (Angry Birds, Pokémon and co) as well as traditional, online gaming are rocketing, with CAGRs of more than 10 per cent. Overall, the segment's 2015–2020 CAGR is 4.4 per cent.

Radio

As predicted in previous outlooks, radio is still popular in Switzerland and will stay so in future. Revenues will rise modestly – driven by their main source, public license fees – at a 2015–2020 CAGR of 1.1 per cent, thanks mainly to stipulations of a new radio and television law (RTVG). Advertisers are of course tempted by Internet and mobile advertising, but radio is maintaining its market with its unique mix of 'hyper-local' news, information and music. Radio is ingrained in many Swiss households and workplaces, so it still offers unique access. On the technical side, conventional FM broadcasting is being overtaken by digital broadcasting for the first time in summer 2016. It will – thanks to government decree – go the way of the dinosaur in the next few years; by 2024 all Swiss radio should be digital.

Out of Home Advertising

OOH Advertising revenues are expected to be flat in 2016, but otherwise growing at a 2015–2020 CAGR of 1.2 per cent. The segment's two giants, APG and Clear Channel Outdoor, are steadily shifting away from non-digital to digital, while keeping a tight grip on available public spaces such as buildings, malls, business centres, ski areas, privately owned car parks and public transportation. A typical OOH innovation is the 'Rail eBoard', being installed at railway stations across the country. These have turned arrival/departure boards into huge (60 metres squared) video screens.

Consumer Magazines

Popular magazines will not disappear within the next five years, but their revenues are fading fast. Too many readers expect to get online content for free. Too many advertisers are unwilling to pay the same kind of fees for online advertising as they did for print. And print continues to wither away. Nonetheless, print advertising is still the backbone of the segment's revenues, and publishers have cut back their costs to make the best of a market that is declining at a 2015–2020 CAGR of –3.9 per cent.

Newspapers

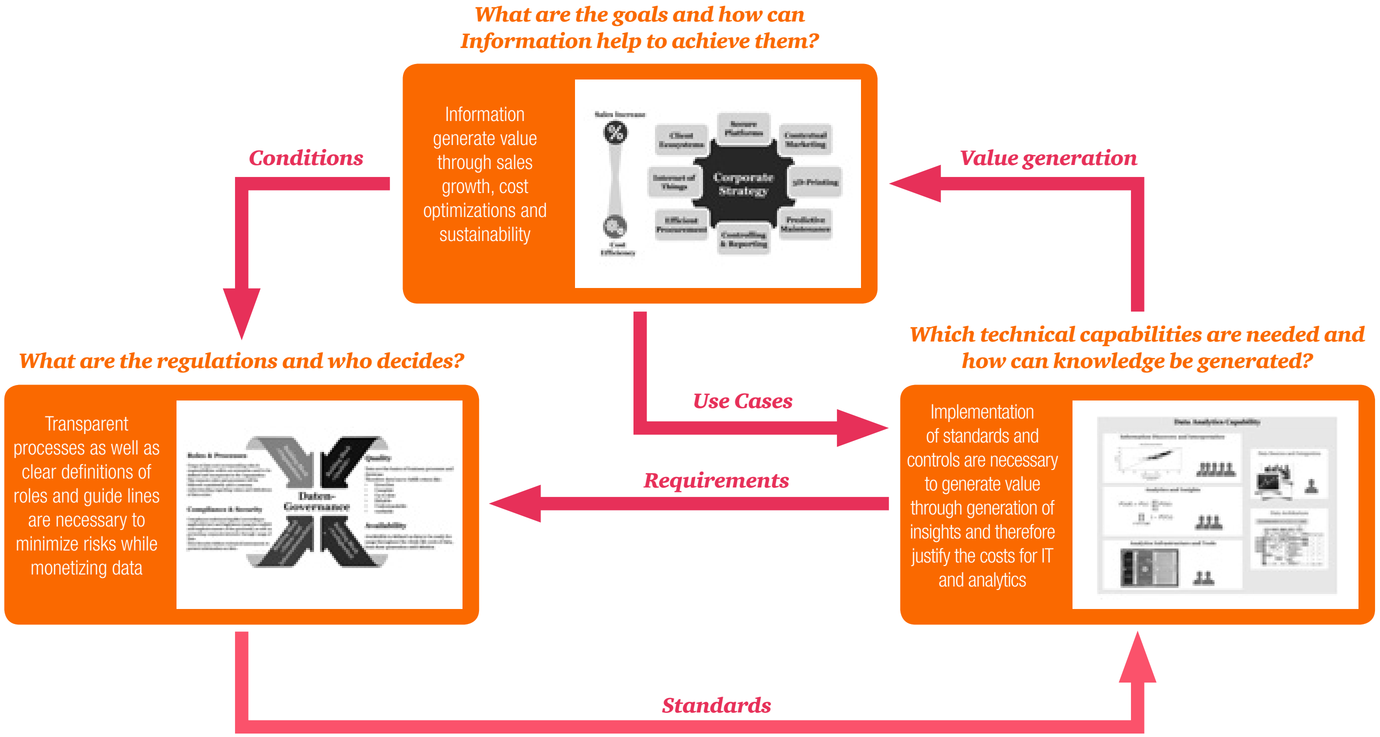
This is the only segment faring worse than consumer magazines, with a 2015–2020 CAGR of –5.5 per cent. Papers have the same problems as magazines, yet they face stiffer competition from conventional news outlets and from newbies like Apple, Facebook and YouTube. Their efforts to go online, and to offer more background and analysis, are laudable, but they have not stemmed the rush of readers to the exits. Especially Sunday papers are suffering heavily, as a sharp decline in advertising revenues in the first half of 2016 indicates.

The Information Asset

The E&M industry depends on information and data. Trends such as mobility, streaming, social media and personalized channels have changed customer demands, which means the E&M industry and its players need to become information-centric. Only this way they will be able to act quickly on new trends, create new distribution channels and adapt their business models if needed.

The major challenges of transforming to an information-centric company are the same as those of 2010 when the The Economist wrote in 2010: "…the technical, infrastructural and even business-model implications are not well understood right now." Most companies struggled with transformation, because of a common mistake – In the first step, they focus on technologies such as Hadoop and Cloud, rather than on actual business goals – e.g. expanding the customer base to a specific group or entering new, more profitable markets.

Indeed, transformation to a data-centric company is possible only if the sequence is reversed. First, strategy must be defined. Second, governance must be implemented. Third, analytics capability must be established. These are inextricably intertwined, as shown below.



Strategy – The value of information and their establishment as corporate asset

Especially in E&M, organisations are challenged by digitization: more distribution channels and formats, the search for individualism, variety of content, the change cycle, and the speed of trends. Data can help to address these challenges, to add more value and gain profit, but only if they are understood as corporate asset.

Many organizations understand that data can help: to create new products and services, to understand customer needs better, to reduce production costs and improve distribution channels. Still,

Information – and the ability to transform it into knowledge – is crucial to gaining competitive advantages and staying relevant in the market. Two principles guide the transformation into an information-centric company: 1) information and data are corporate assets, to be managed accordingly; 2) business, compliance and technology must be aligned to assure legal, legitimate handling while also generating value.

Andreas Quandt
Practice Leader Information economics | PwC Switzerland

often they do not recognise and treat their data as assets. To change this is goal of the data strategy, which establishes the following three attributes for data: data is something that (1) generates probable future economic benefit; (2) is exchangeable for cash and (3) controlled by the organization.

The first attribute– generates probable future economic benefit – defines which data are required (i.e. to be created or collected) to achieve business goals in future. The second attribute – exchangeable for cash – defines the worth of data, whether they should be shared with third parties and the importance of their protection. The third attribute – controlled by the organization – is the most difficult to establish because it requires a modern data governance that helps to control the organization's data, which today are bigger, faster-changing and more diverse than ever.

Governance – Manage information transparently, and foster innovation

Data quantities are booming, its potential value to organizations is growing, and its regulations (such as the EU data protection reform) are changing and C-suites find it increasingly important to manage the data they hold. This, plus the often missing transparency of the data life cycle, leads to the establishment of modern data governance which is shaped by business requirements that are defined as part of the data strategy.

Data governance means different things to different people. Some focus on data protection, others on technical topics or data quality. But almost never is data governance understood as a support of data-based innovation, therefore a business enabler for all data-centric companies. Governance not only helps minimise legal risks and public exposure, but also gains value and acquires competitive advantage.

To help organizations reclaim their data, modern data governance needs two major components:

The organisation – alliance of business, compliance and IT
An increasing awareness of the value of data and the painful recognition of an inability to take advantage of the opportunities that it provides, the handling of data and their responsibilities must be regulated within a company and anchored accordingly in the organization. There are three key factors to doing so.

First, there must be close coordination of procedures for decision-making and escalation within the organization. These processes must be defined clearly, to assure timely decisions and innovation without increasing risk.

Second, decisions about data need to balance demands of business, compliance & information technology (IT). The new organization needs to facilitate the dialog between these groups and establish decision-making bodies on the various levels of the organization. It is also important to coordinate with existing roles and processes, to keep transformation efforts to a minimum.

Third is sponsorship. A board member must be a leading sponsor and management backing is indispensable. This means CEO, CFO, CSO or similar, but not an IT-executive. Data governance can succeed only if business takes full ownership of processes and policies relating to the creation and management of data. IT has often led data governance initiatives in the past: these have tended to focus on tools, rather than on the needs of the business with a limited business value as result.

Policies and specifications – It is not all about the law
These are based on the determination of rules, standards and criteria to evaluate data over the entire life cycle of data, from generation to extinction. There are three major blocks to it: quality, availability and protection.

Data quality is essential to interpreting data correctly, and to create value for business processes and improved decision-making. Data should be accurate, complete, timely, credible, consistent, clear, understandable, verifiable and interpretable.

Data availability specifies when data are available for use within specific business processes. There should be multiple key-performance-indicators (KPIs) to monitor and improve handling of large, complex data landscapes.

Data protection includes legal policies to adapt to current law, and policies specific to each organization. Examples are legitimacy (socially accepted norms) and corporate interests (sharing of data with third parties or intellectual property). This block can also contain policies regarding data security, the technical means for protection of data in an organization.

Analytics Capability – Creating value through new insights

Strategy and governance are two important steps to gain value from data and use it as new raw material for the business: Data strategy sets the scene for business development, and it defines the expected value of data. Data governance provides the power of control to manage data as corporate asset and measures progress towards a data-centric organization. To take these beyond the theoretical, and to justify investments, another capability is needed: data analytics. This includes: (1) hypothesis-verification of new, data-centric businesses through use cases; (2) value-generation through data analysis & reporting as part of established processes, such as business intelligence (BI) and enterprise performance management (EPM); (3) compliant exchange of data, and interaction with third parties.

The impact on the Swiss market

Socio-economic changes such as digitisation, the rise of generation Y (the millennials) and globalization have broad impact on products, service offerings and customer interactions of every organization. National players in E&M will succeed only if they react quickly to market trends and if they build reliable client relationships.

Turning information into knowledge helps to (1) define new distribution channels, such as streaming on demand, digital newspapers and eBooks, (2) provide new offerings such as time shifted TV, 360°-movies, augmented reality and interactive storytelling, where TV and video games merge, and (3) adjust business models, because of the expected micro-segmentation of the market and new revenue streams such as pay-per-use, crowdfunding and personalized marketing.

At the same time, there are risks. Society in general and customers in particular are becoming ever more aware of information's impact in our connected world. Irresponsible handling of information is increasingly less tolerated by customers – in the worst case, it leads to brand damage and lawsuits. Recent modifications of European data-protection laws (which will soon be exported to Switzerland) make this more relevant than ever. Transparent use of data, and fair use of customer information, will be unique selling points. These will build reliable client relationships, a major advantage in future.

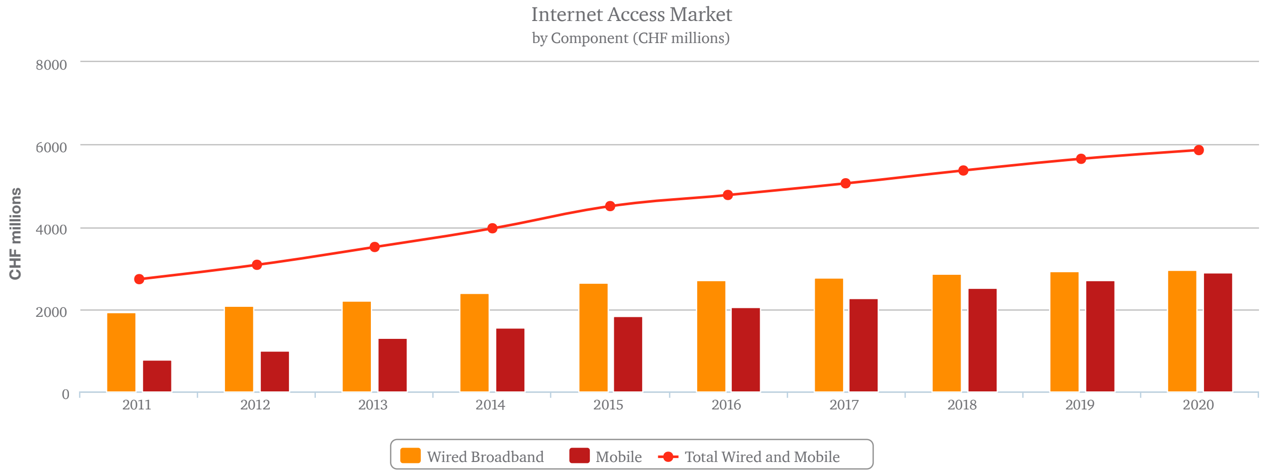
> *Data are becoming the new raw material of business: an economic input almost on a par with capital and labour.*
> ***Craig, Mundie, Head of Research & Strategy at Microsoft, The Economist, Feb. 2010.***

Internet Access Spending

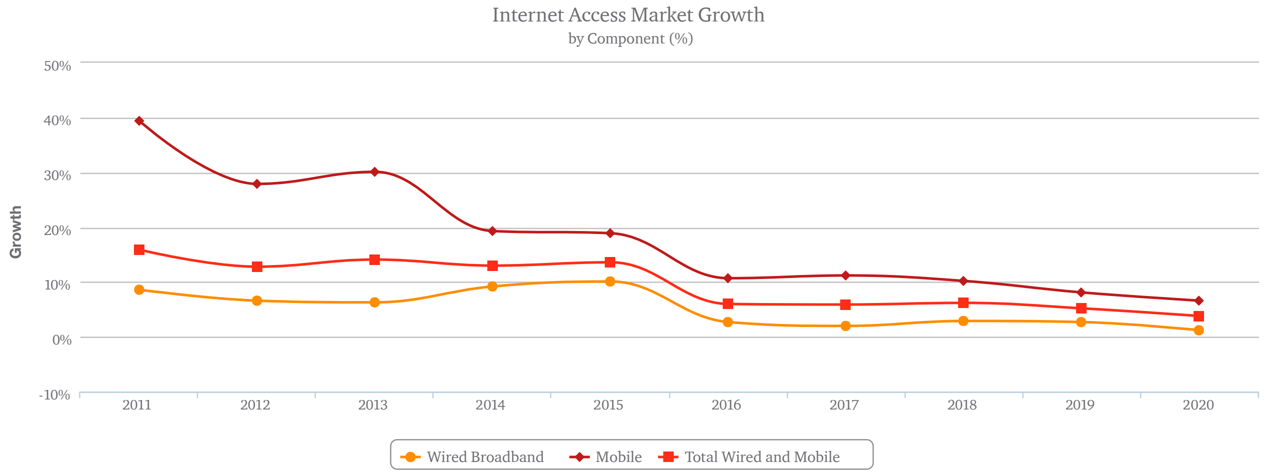
Mobile Internet is growing quickly, mainly due to smartphone penetration and multi-device ownership.

Infrastructure investments of network operators remain very high.

Population increase and a switch in consumer preference are driving demand for fast access.



Analysis by PwC



Analysis by PwC

Segment Definition

Internet Access Spending is the market for fixed broadband and mobile access, delivered by service providers (ISPs). Fixed broadband includes wired and wireless Internet connections, delivered to a fixed location. Mobile Internet is access over cellular air interfaces generally via a 2, 3 or 4G network to mobile or connected devices that use embedded modems, dongles or data cards.

The markets for Internet Access and Internet Content are separate. Content (music, film, news and so on), as well as Access fees for company phones or corporate intranets, is not included in the market for access.

Due to new data sources and a modified calculation, the overall level of the wired broadband market was raised. Subsequently, values for the years 2011–2014 have been adjusted.

The Swiss Internet Access Market

Market Overview

Swisscom, Sunrise, Salt and UPC[1] are the key players in Switzerland's Internet Access, which is divided into two segments: fixed broadband, and mobile. All except Salt are active in both segments; Salt provides mobile access only. Access technologies include cable, xDSL and fibre-optics networks. The latter is growing fastest. Currently, about 10 per cent of the 3.9 million Swiss households have a fibre-optic connection. At the end of 2015, 67 per cent of Swiss broadband households were connected through xDSL (incl. optic-fibre), versus 33 per cent via cable.

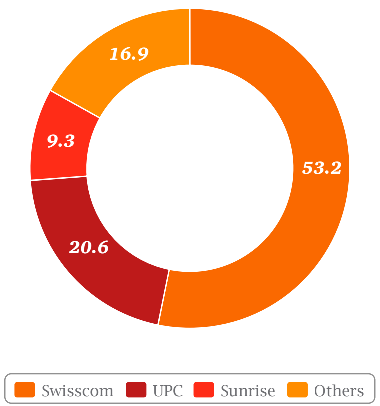
Competition to supply ever greater bandwidth has for some time been fierce, and this is likely to intensify. However, the attendant price increases (of supplying more bandwidth) are slowing. Providers are making large infrastructure investments and innovating technically to justify their relatively high prices. The providers are offering ever-higher bandwidth to accommodate user demand: at the moment, **an average user increases his data volume 60 per cent per year. For mobile users, data traffic doubles every 12 months.**

Bandwidth advancements are reflected in Switzerland's high average connection speed (16.2 Mbit/s in Q3 2015, rank 4 worldwide). Fast connectivity enables providers to follow new developments in content. In Q3 2015, 36 per cent of all Swiss broadband connections could handle 15+ Mbit/s (the minimum for streaming of 4K (Ultra HD) videos).

According to the president of Switzerland's Federal Communications Commission (ComCom), infrastructure investments of network operators remain high. "In 2015, investments to develop fixed broadband and mobile communications infrastructure reached 2 billion CHF," he said. "This has enabled LTE (4G) coverage of over 94 per cent in Switzerland for all three mobile network operators."

1 Previously UPC Cablecom

Broadband Internet Access
Market Shares in June 2015 (%)



Analysis by PwC

Nine-tenths of Swiss residents aged 14–69 access the Internet several times per week. Mobile Internet penetration reached 99 per cent in 2015. Due to the trend of second devices, we estimate that penetration will in the next few years increase to significantly more than 100 per cent. This fosters the need for fast mobile internet access. Accordingly, the use of LTE for high-speed, mobile access is advancing rapidly. LTE coverage of the Swiss population has reached 94–98 per cent (depending on the provider). Providers are currently introducing the next-generation LTE-A standard, which allows mobile bandwidths of up to 450 Mbit/s. At the end of 2015, Swisscom has already introduced 300 Mbit/s LTE-A in 28 cities.

The necessity of this is evident. In Western Europe and North America, mobile data usage is expected to multiply 6-fold by 2021. With new Voice-over-LTE (VoLTE) technology that enables faster, higher-quality voice transmission, providers will be encouraged to move phone transmission from the current 2G and 3G frequencies to faster 4G/LTE frequencies.

By 2017, Swisscom plans to shift all telephony from conventional landlines to IP (Internet based). More than half of Swisscom's customer base have already switched. Thanks to this transformation all services run via the internet – it is the basis to digitalise business and drives bandwidth requirements.

Currently, Swisscom and Ericsson coordinate and support research for the 5G standard, which is expected to be fully developed by 2019. Their research includes applications such as smart transportation, smart grid, Internet of Things (IOT) and virtual reality, which are being developed and tested with industrial partners.

Market Growth

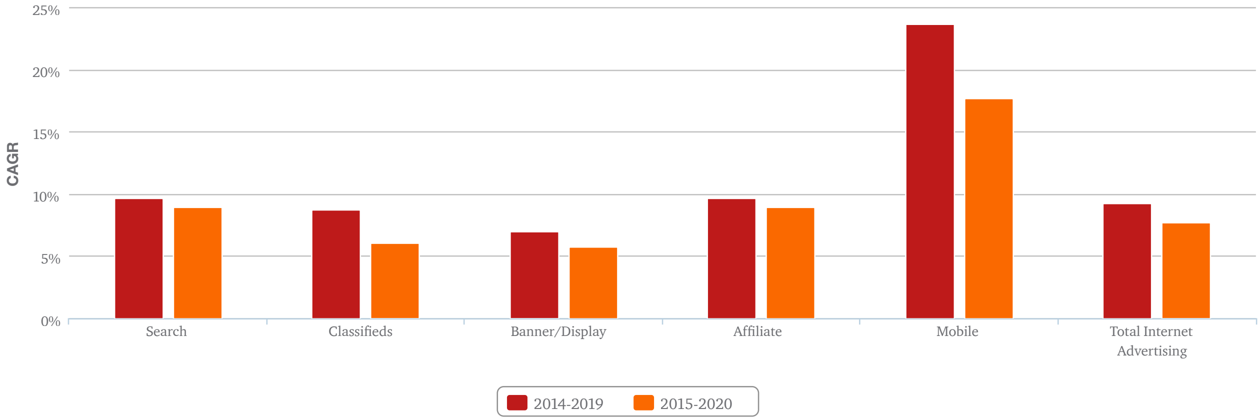
Two main factors are driving Internet Access growth: increased mobile device penetration; and consumer demand for higher fixed-broadband bandwidths. Without the latter, a saturation of the mobile market should lead to receding growth in the next 5 years. As bandwidth prices for wired broadband remained stable over the last few years, consumers increasingly choose higher bandwidths. This increased average revenue per user (ARPU), especially in the cable segment[2].

We do not expect ever-rising ARPU for wired broadband access, as decreases in bandwidth prices are likely to offset higher bandwidth demand. The mobile-data ARPU will likely decrease over the next years, due to: increased price competition, and UPC's recent entry into the mobile market. This cutback will be more than compensated by two factors: first, the growing number of mobile subscribers; second, technological advancements in machine-to-machine communication that is sparking remarkable growth in the mobile-data traffic. The revenue impact of this development remains to be seen. In total, we assume that Switzerland's Internet Access market will grow to CHF 5.9 billion in 2020.

2 We have adjusted prior years' figures to reflect this development.

Total LTE (4G) coverage is at 94 per cent for Switzerland.

Comparison of CAGR
by Component (%)



Analysis by PwC

Principal Drivers

Need for significant infrastructure investment

Online content trends and consumer preferences are boosting demand for higher bandwidths and faster mobile-connections. To attract new customers, and to increase ARPUs of existing customers, sizeable investments in new technologies and existing infrastructure are required. Thanks both to strong competition among providers and consumer willingness of to pay for higher bandwidths, Switzerland's Internet Access infrastructure is among the world's most advanced.

Strong growth of mobile Internet

Mobile Internet Access is the fastest growing market segment. Users want to be flexible and access the Internet regardless of where they are. Over the next few years, we expect mobile access revenue to overtake that of the wired access. This will be driven by increasing numbers of smartphones and tablets.

Increasing numbers of online users and higher data volume

A growing population, a growing number of households, and a shift in consumer preference towards online content: all these are pushing demand for faster access. Meanwhile, quality of media content is constantly improving, which also demands higher data volumes. Developments of smartphones to higher resolution and smaller size are also sparking content changes. Large increases in video content are underway, often in HD quality. Finally, there is a virtuous circle being created: higher data-volume causes Internet service providers to develop their networks, which in turn pushes providers to create content of even higher quality.

Multiple device ownership calls for simultaneous Internet connections

Mobile device penetration is rising steadily. The multiplicity of devices creates need for simultaneous mobile connections. Providers therefore can sell either multiple mobile connections or bundled options leading to higher revenues. Mobile Internet access in the next few years is estimated to reach penetration rates of well above 100 per cent.

Business Innovation

Globally, Internet Access still has enormous growth potential. Tech giants like Facebook are making great efforts in this area. Their motivation is the conviction that access to the Internet is already important, and that it will only become more important. In 2013, Facebook founder Marc Zuckerberg launched .org, an initiative that aims to connect all people, especially the poor and those in remote regions. This example serves to illustrate how the importance and dispersion of internet access might grow even further in the coming years.

> *"Access to the Internet is a fundamental challenge of our time."*
> ***Mark Zuckerberg, 2016***

Given relentless demand for internet access, Swiss Internet Access providers will continue to build larger, faster, more-stable networks. As user behaviour changes, Internet Access is bound to see new technology, innovative services and products on a regular basis. Big telecom players are investing heavily to prepare their networks for rising user expectations in terms of speed and stability. This development holds true for wired broadband and mobile internet.

In Switzerland, especially the demand for mobile internet is growing remarkably. This stems from increasing mobility and smartphone use, plus new forms of communication and entertainment. Not least, the "Internet of Things" (machine-to-machine technology) will drive growth in mobile Internet. Moving on from smartphones, tablets and other consumer electronics, wireless connectivity is now being implemented into to a variety of machines such as vehicles, household appliances, monitors and sensors. These machines, connected to the Internet, offer innovative new services to customers. And they will require massive growth in data transfers. Network operators will need to put even greater effort into infrastructure to increase its power and stability. This will allow rising revenues in Mobile Internet.

As demand for mobile Internet access increases, shared Wi-Fi networks will also gain importance as means of connecting to the Internet. Swisscom owns a large network of public hotspots in Switzerland that grant its customers with certain subscriptions access at no additional cost. Since this network is concentrated at highly-frequented locations, its geographic coverage is limited. Still, Swisscom has increased hotspots from 2'200 last year to a current 3'400. This rapid dispersion is a prime example of efforts being made by providers to fulfil customer expectations. Thanks to these public hotspots, consumers with lower value subscriptions benefit from faster internet connections.

UPC takes a "Shareconomy"– approach: its international Wi-Fi network "Wi-Free" can be accessed by any UPC customer who activated the service on his own device. After a pilot phase in St. Gallen, it was activated on customer networks in October 2014, and now more than 500,000 open homespots exist in Switzerland. All over Europe, there are about seven million open access points. All UPC users, who have registered their home network, can use these. As Wi-Free uses a second network, the private WiFi connection is not affected, and its bandwidth is not shared with Wi-Free users. So far, Wi-Free bandwidths are rather low: their sharing capacity is limited to five simultaneous users per homespot. Operating distance is also limited by low signal strength.

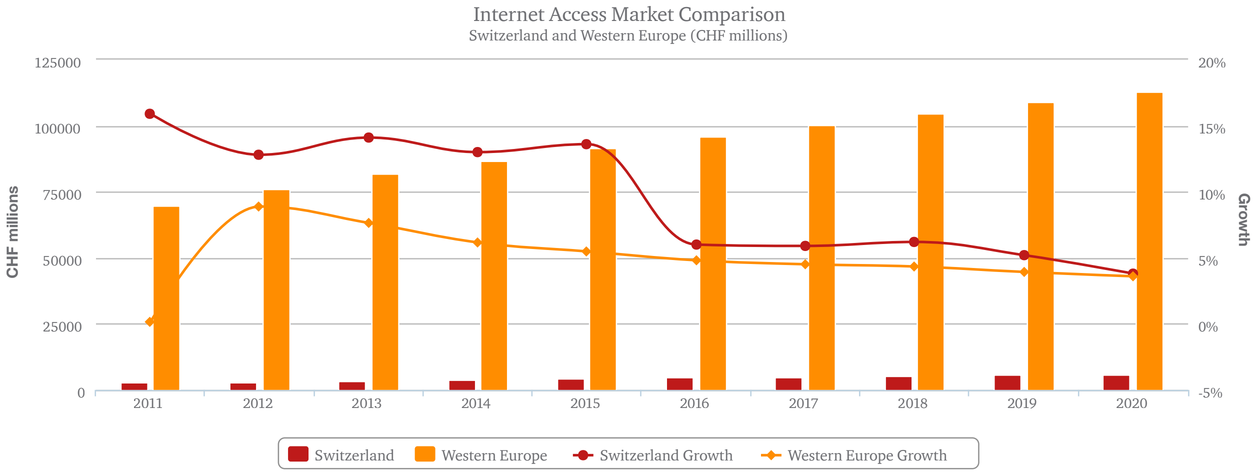
Because UPC operates internationally, its customers are able to use Wi-Free abroad. Networks in Austria, the Czech Republic, Hungary, Ireland, the Netherlands, Switzerland, Slovakia, Poland and Romania allow users to connect with the same credentials. This could be a valuable alternative to roaming.

> *M2M use cases are driving connectivity volumes in both SIM cards and sensors in a world where everything is connected. While bandwidth requirements from most M2M cases will be less of an issue, the convergence of various connectivity technologies and underlying networks is the key challenge to master for network operators.*
>
> ***Matthias Schmidt***
> Senior Manager Strategy | Swisscom

Comparison to Western Europe and the OECD

According to the OECD, Switzerland has the highest fixed-broadband penetration of all OECD countries, 52 per cent as of Q4 2015, versus an OECD average of 29 per cent. Switzerland's average connection speed is one of the highest in Europe, and it should increase along with the growth of new optic-fibre networks. Switzerland's mobile broadband penetration of 99 per cent beats the OECD average of 90 per cent, but is still lower than some OECD countries, such as Finland, Japan and Sweden which lie above the 100 per cent penetration.

In recent years, the Internet Access market has grown at double-digits both in Switzerland and in Western Europe. We expect growth in both regions to decrease over the next five years. The decline is likely to be more pronounced in Switzerland than in Western Europe. Market saturation and competition will cause that slowdown.



Analysis by PwC

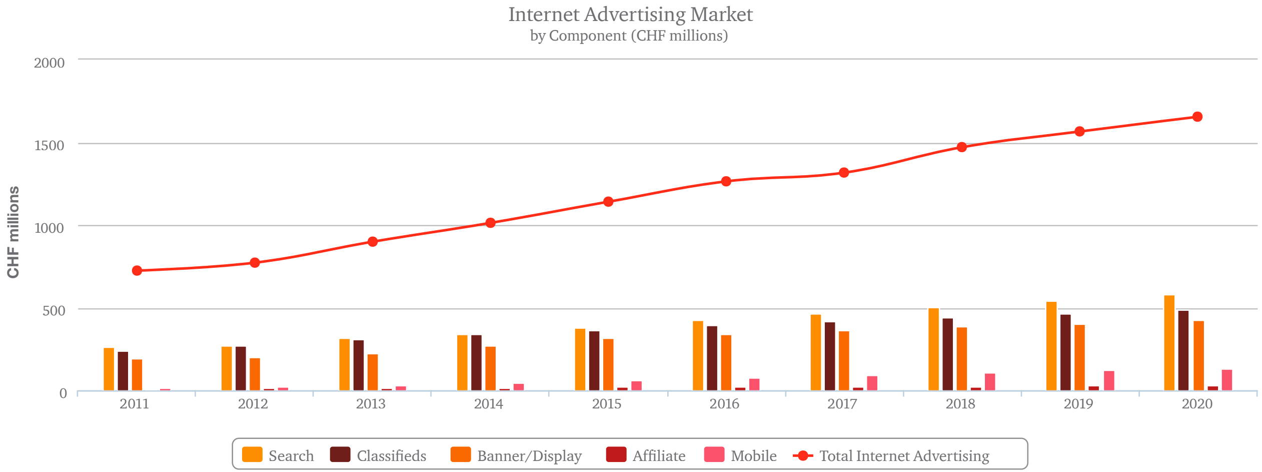
Internet Advertising

Internet Advertising is the fastest growing segment in the Entertainment and Media industry.

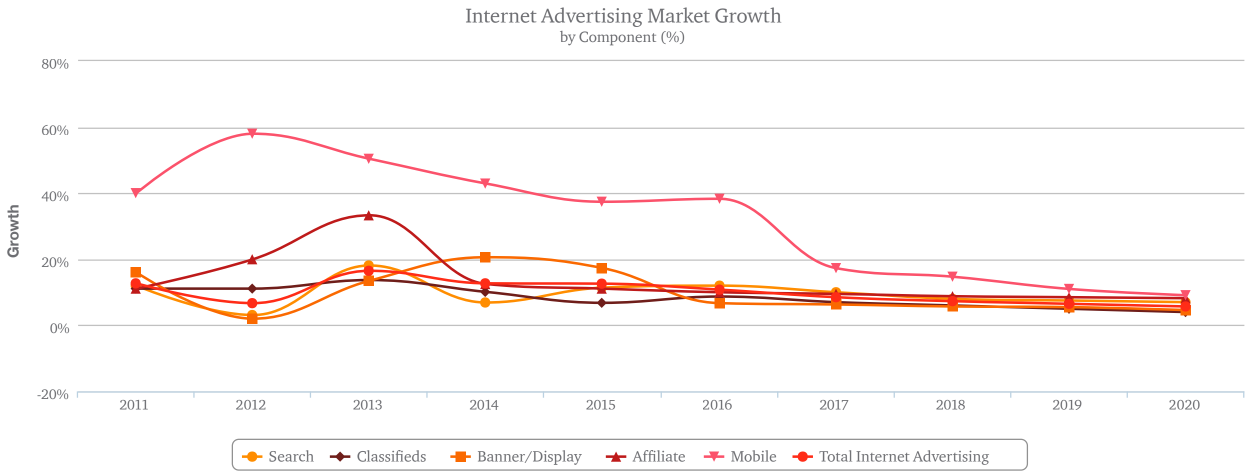
Mobile advertising will be one of the big growth stories through 2020 – but it won’t yet dominate Internet advertising.

Internet advertisers must work harder to consider users’ experience, if they are to counter the appeal of ad blocking to users.

Borders between mobile and desktop channels will become blurred.



Analysis by PwC



Analysis by PwC

Segment Definition

This segment comprises spending by advertisers either through a wired Internet connection or via mobile devices. It consists of paid advertising placed via search, classified, banner/display, affiliate and mobile channels.

The video sector, which encompasses online television and video-on-demand advertising, is not covered in detail in this chapter, as it is already included in the Television Advertising segment. In-stream and in-banner video advertising are included in the banner/display channel and are not shown separately.

The Swiss Internet Advertising Market

Market Overview

In Switzerland, Internet Advertising is still the fastest growing segment of the advertising market. In 2015 its spend amounted to approximately CHF 1.14 billion, a 12.6 per cent increase over 2014.

As Internet use rises among consumers and advertisers, ever more industries recognize the importance and impact of Internet Advertising, so they are increasing their spending and visibility in this segment. Internet Advertising's share of the 2015 media mix grew to approximately 30 per cent, with an ongoing shift of budget from the classic advertising channels like print and television to Internet.

Search advertising is still the largest channel in Switzerland's Internet Advertising, accounting for about 33 per cent of volume. This is explained by the steadily-growing search-engine user base, market innovations like "Google Shopping", and text ads, which already are a basic advertising medium for advertisers across all industries. Yet, while search is advancing, we expect growth to slow in the long run. The market for paid searches will become saturated, and advertising rates will stabilise.

Classified advertising has almost reached the volume of search. Some of its most prominent websites are: AutoScout24, ImmoScout24, homegate.ch, anibis.ch and jobs.ch. Classified ads comprise paid entries in databases with additional features such as highlighting, logos or interactive content. As search advertising rates increase, due to competition for the best keywords, Classified ads will gain in attractiveness. Still, over the next five years, growth of Classified is expected to be slightly lower than that of overall Internet Advertising.

> *Another challenge will be to monetize the reduced wastage of targeted ads, as it is still uncertain if advertisers are willing to pay for an uplift.*
>
> ***Marco Gasser***
> Head of National Advertising | 20 Minuten | Tamedia AG

Banner/display advertising will be shaped by interactivity and "rich media" in coming years. A typical example of rich media is video advertising. As young people are switching off conventional TV channels to watch more specific entertainment options via the internet, video channels as YouTube with 4 billion video views daily, Facebook with 8 billion video views daily or other streaming services, video consumption is booming.This behaviour change of younger generations could lead to further material shifts of advertising revenues to this segment.

> *TV should be the source of growth! But there is no impact for Switzerland yet – we are facing the challenge of transferring TV revenues into digital channels.*
>
> ***Marco Gasser, Head of National Advertising, 20 Minuten, Tamedia AG***

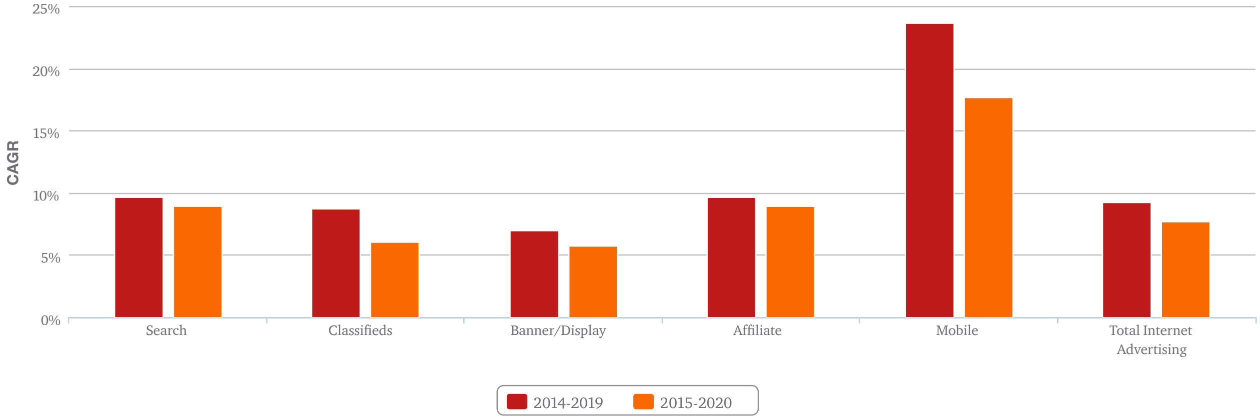
The classic banner and display advertising – aimed at Internet browsers on desktop computers – will grow less than in the past, as advertisers shift budgets to the mobile channel. Still, classic banners will stay an essential part for large size, cross-media campaigns. In total, Banner/display (including in-stream and in-banner video ads) will grow at a 5.8 per cent CAGR – driven in particular by video – but its share of total Internet Advertising revenue over the forecast period will fall from 28 per cent in 2015 to 26 per cent by 2020.

Mobile advertising will be the growth driver through 2020. While mobile will grow at a CAGR of 18 per cent to CHF 132 million in 2020, its share of total Internet Advertising will still be just around 10 per cent, even in 2020. Ubiquitous mobile devices imply a larger number of users and their longer use of the Internet. In 2016, already 91 per cent use their smartphone or tablet to access the internet. The challenge for publishers will be to monetize the massive mobile user base; the challenge for advertisers will be to pivot their advertising towards mobile. In this channel, there is no indication yet of market saturation.

Market Growth

We expect Switzerland's Internet Advertising to grow 8 per cent annually over the next five years. This characterises the ongoing journey of digital transformation, and is supported by high prices and a stable economy. All channels are likely to gain ground, with mobile leading the way. Search, affiliate and mobile are predicted to increase their share of Internet Advertising. The other channels will grow, yet slightly lose market share.

Comparison of CAGR
by Component (%)



Analysis by PwC

Principal Drivers

Dominance of mobile over desktop

The rise of mobile Internet advertising is perhaps the biggest trend in Internet advertising in the next five years. Consumers – especially the young and the city-dwellers – are spending more time on their mobile devices. Since 2015, digital natives use their smartphone as the most frequent (55 per cent) access to the internet. This is driving innovation in advertising formats and technology.

Mobile Video advertising as a growth driver

Another trend to factor in is the growing importance of social media and messaging platforms, including Facebook and Snapchat, for the sharing, consumption and distribution of media content, especially video, and especially using mobile devices. The role of the publisher (and the ownership of the inventory) is changing, as power is ceded to third-party platforms. Yet amid this, publishers, broadcasters and other media owners are improving their digital services, in particular to take advantage of the opportunities afforded to them by mobile and video advertising.

Tracking of advertising across platforms

Perhaps the biggest challenge for the industry, though, if the potential of Internet advertising is to be fulfilled, will be the effective measurement of ad campaigns across multiple platforms so that advertisers can accurately gauge the impact of different media. Using TV metrics to measure mobile video consumption is not a long-term solution, but as and when cross-platform measurement becomes accepted and adopted, the real value of digital advertising will be realized.

Targeted advertisements

Big data and analytics enable focused customization of online ads. The tracking of user behaviour, paired with more sophisticated algorithms, allows more accurate targeting. This trend will be reinforced by the expansion of the wearables market and allow even more insights into consumer behaviour. As a result, media owners use their audience data to improve the performance of their inventory, while advertisers understand that effective use of data can increase the efficiency of their advertising budgets.

Fibre optic technologies

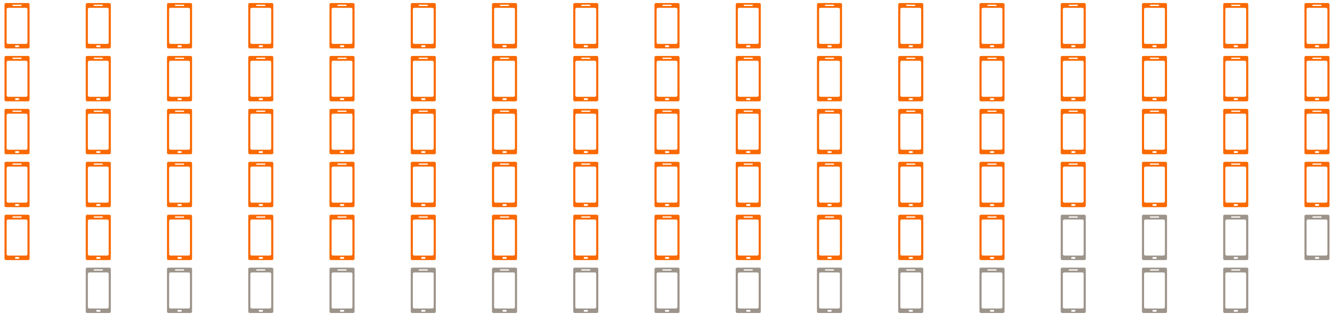
Investments in optic fibre technologies will enhance the bandwidth throughout Switzerland. This will enable faster download speeds and simplify the consumption of high-definition content. Internet advertisement will benefit from enhanced bandwidths through the ability to stream larger data packages to users.

Second screen

Increasingly, people are simultaneously using different devices and screens. According to a recent study, 81 per cent of people, when watching television, also use their smartphone or tablet at least once every half hour. This adds to the time spent online and the amount of information consumed. Online advertising can benefit from this trend by tailoring advertising to the content consumed on TV.

Business Innovation

Internet advertising is complex and driven by new technologies like smartwatches, fitness trackers and the upcoming virtual reality technology. These technologies enable marketers place their adverts on diverse channels. Classic banner and display advertisements are not reaching enough young consumers anymore: in the last few years, ad blocking on conventional computers has increased. Its integration into Apple's iOS 9 in September 2015 brought ad blocking into the mainstream. Recent studies reveal that 20 per cent or more of Swiss users (one third of them are younger than 35 years) have installed ad-blocking software. Internet advertisers must work harder to consider users' experience, if they are to counter the appeal of ad blocking to users who are fed up with intrusive ads and slow load times.



81 per cent of people watching television also use their smartphone or tablet at least once every half hour.

Part of the solution will be to mine consumer data better, to ensure that advertising is relevant to each individual consumer. Publishers are investing in data analytics to this end. The secret is not just "big" data, but "right" data. The aim is to create "enterprise marketing platforms" that take in data on viewing/purchase behaviour, and then feed it into software that combines marketing models, attribution models and other analytics. The result: predictions that relate watching to buying, more precisely than ever before.

Processing and utilising consumer data confronts advertisers with new challenges. Especially in small Switzerland it is difficult to find the right granularity, to mitigate wastage but to target the right audience. Still, we are convinced that intelligent software will create future opportunities for customized, specific adverts that will increase marketing efficiency.

Programmatic advertising will optimize and automate processes, and we do expect additional revenues due to this innovation.

Marco Gasser

Head of National Advertising | 20 Minuten | Tamedia AG

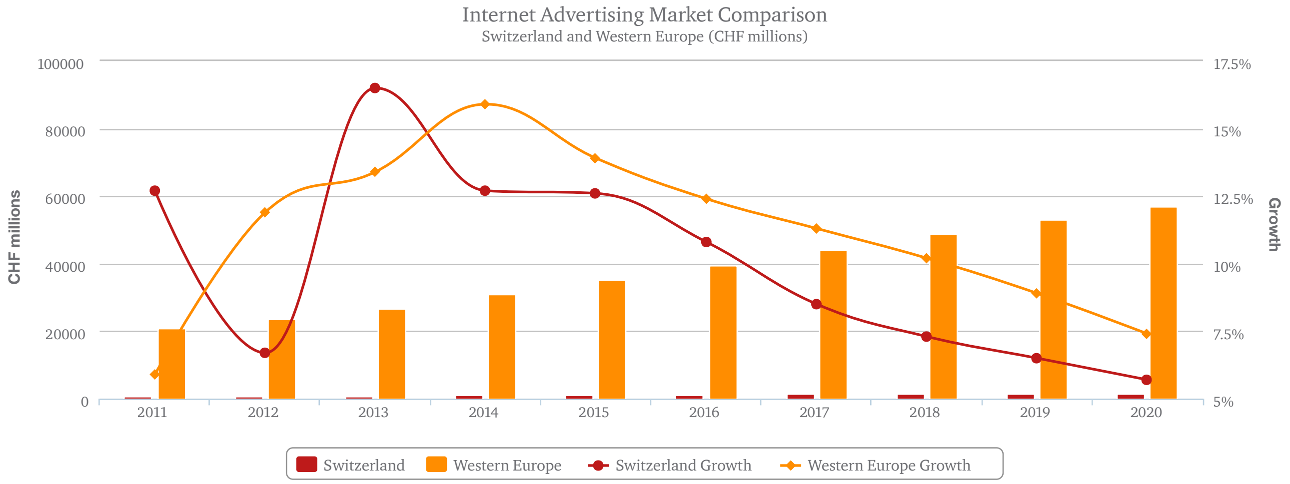
Another way to counter ad blocking is through native advertising: sponsored and branded content. Native advertising is a strategic marketing approach focused on creating and distributing valuable, relevant, and consistent content to drive profitable customer action. Ever more renowned firms are using this to promote their products and services in a pleasant, unobtrusive way.

Major players in the space are investing to ensure that they own the means to plan, to sell and to measure digital ads. Still, concerns about the impact of programmatic trading on the value of inventory, and the current cost and complexity of ad tech, are not fully incentivizing advertisers to migrate to digital platforms. As such they remain a potential barrier to growth.

Comparison to Western Europe

Internet Advertising in Switzerland has caught up to and sometimes exceeded growth rates in Western Europe. We expect Switzerland's growth rates to remain stable over the next few years. Western Europe has a slightly higher potential for short-term growth, because most of its national markets are not as saturated as Switzerland's.

Switzerland is very attractive for business. With excellent infrastructure, education and international ties, the country attracts talent and investment from all across the world. This will drive growth of Internet Advertising in Switzerland.



Analysis by PwC

TV Subscriptions and Licence Fees

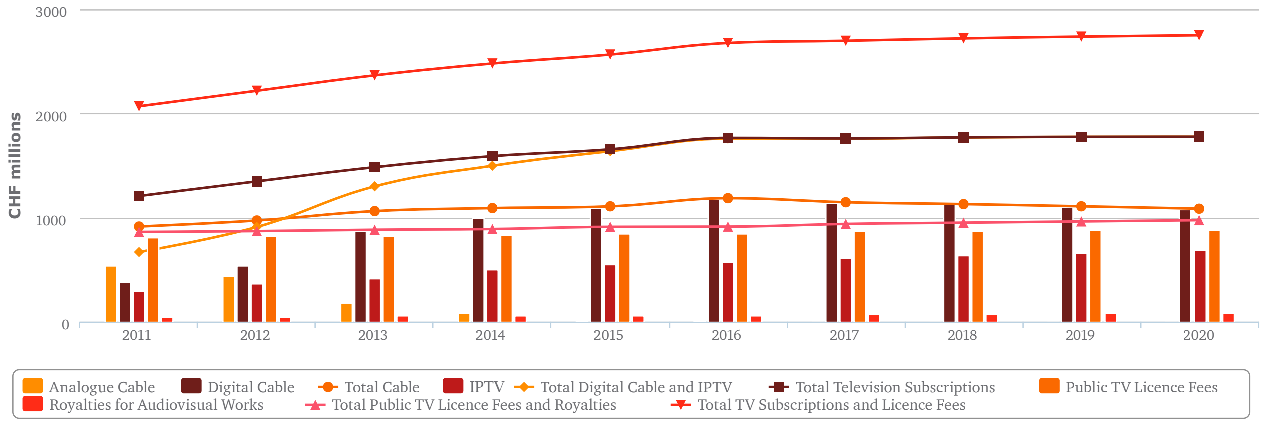
The revision of the Federal Law on Radio and Television (RTVA) will direct more license fees to local radio and TV stations.

Swiss TV providers are expanding their Replay-Functions. This 'time-shifted' TV allows viewers to record broadcasts in parallel, and then watch them anytime.

Streaming is driven by large technology companies, who offer Streaming Boxes and TVs.

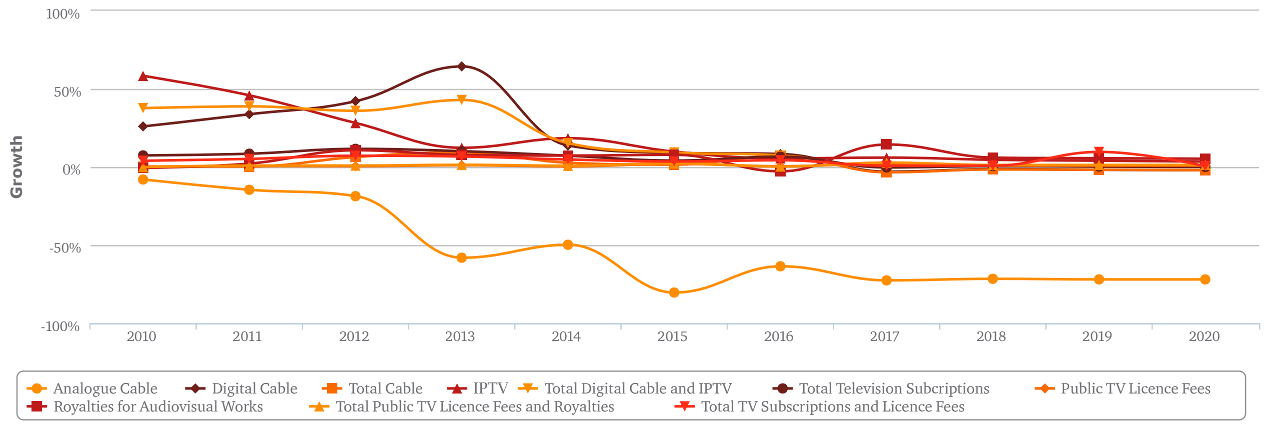
International sport programmes are shifting from traditional broadcasting to the Internet.

TV Subscriptions and Licence Fee Market
by Component (CHF millions)



Analysis by PwC

TV Subscriptions and Licence Fee Market Growth
by Component (%)



Analysis by PwC

Segment Definition

The TV Subscriptions/Licenses market consists of revenues generated by distributors of TV content. It includes spending on subscriptions to basic and premium channels accessed via cable, telephone companies, over-the-top (OTT) providers and other distributors. Swiss public TV license fees and royalties for audio-visual works are also included.

Video-on-demand (VoD), pay-per-view (PPV) and separately paid TV programmes delivered via the Internet (OTT) and by TV providers are only included in the Filmed Entertainment segment. Mobile TV subscription spending is no longer reported here, because it is increasingly obsolete as a standalone revenue stream (revenues are included in the IPTV segment).

Swiss TV Subscriptions/Licenses

Market Overview

The Swiss TV subscriptions market consists of cable TV and IPTV. In Switzerland, free digital, terrestrial TV or free-to-air satellite TV compete with subscription TV. BILLAG, a government agency, is responsible for collecting the public TV license fees. On June 14 2015, the Swiss approved the revision of the Federal Law on Radio and Television (RTVA), which came into force on 1 July 2016. The aim is to replace the current license fee with a general tax, and to strengthen local radio and TV stations with funding and training (and public service obligations). The change to the general fee by households is made at the latest in 2019; until then, license fees apply.

Until mid–2015, cable TV was receivable in analogue as well as digital formats. Then, UPC, Switzerland's largest cable network operator, ceased analogue broadcasting. The last six analogue channels (SRF1, SRF2, SRFInfo, Joiz and two local ones) were shut down on May 19, 2015.

Swisscom has overtaken UPC in numbers of cable subscribers, expanding its TV market share (satellite and terrestrial not included) to 33.5 per cent, accordning to figures from the Federal Communications Commission Comcom. Swisscom also leads the Swiss IPTV market. In total, Swisscom TV subscribers increased 14.3 per cent to 1.33 million at the end of 2015. Almost 90 per cent of the subscribers use bundle offerings. In April 2014, Swisscom launched "Swisscom TV 2.0", a Cloud-based TV subscription that offers seven-day replay of over 250 channels, over 70 of which are available in High Definition (HD). Swisscom TV 2.0 counts more than one million customers. In 2015, Swisscom extended the replay function from 30 hours to seven days, and integrated around 50 of the most popular apps such as YouTube and Facebook in Swisscom TV 2.0.

With a 32.7 per cent share of the Swiss TV subscriptions, UPC has lost its leading position to Swisscom. UPC counted 1.30 million TV subscribers at the end of 2015, a loss of 6.1 per cent from 2014. Price increases for 3-in-1 cable connections might have depressed the growth rate for subscriptions. Since 2013, the Horizon Box is on the market, and it is used by over 200,000 customers. With the Austrian launch of the Horizon Box in 2016, UPC had announced innovations: the new Horizon Box can record up to four broadcasts simultaneously, and it has a menu item for recommendations based on personal viewing habits.

Almost 90 per cent of TV subscribers at Swisscom use bundle offerings.

A mobile offering is increasingly important in the TV market. Users expect to access content whenever and wherever in high-definition formats. Mobile offerings remain a focus but they will not yet replace fixed access and bundle products in the long run.

Matthias Schmidt
Senior Manager Strategy | Swisscom

Sunrise, Switzerland's largest private telecommunications provider, entered the IPTV market in 2012 with "Sunrise TV", which by the end of 2015, had 134,000 customers, 25 per cent up from the previous year. Sunrise TV offers more than 270 channels, of which more than 80 are available in HD. With the launch of the new "Smart TV", Sunrise has made the next step: thanks to the cloud-based recording, customers can simultaneously record programmes up to 1200h.

Cable operators and telephone companies face increasing competition in domestic TV. Web-TV, with its innovative features and mobile applications, has changed TV consumption. The leading Web-TV services Zattoo, Teleboy and Wilmaa differ in their range of channels, features and supported platforms for the playback of programs. Common to all, however, is a freemium payment model, that provides a basic offering including live TV for free, and a premium version with more features. For example, Swisscom has launched Swisscom "TV Air" – an offer that includes 190 programmes, 30 hours replay and 60 hours recording capacity. TV Air is ad-financed and available to anyone. For Swisscom customers the service is ad-free. Web-TV is available on all screens such as smartphones, tablets, PCs and smart-TVs.

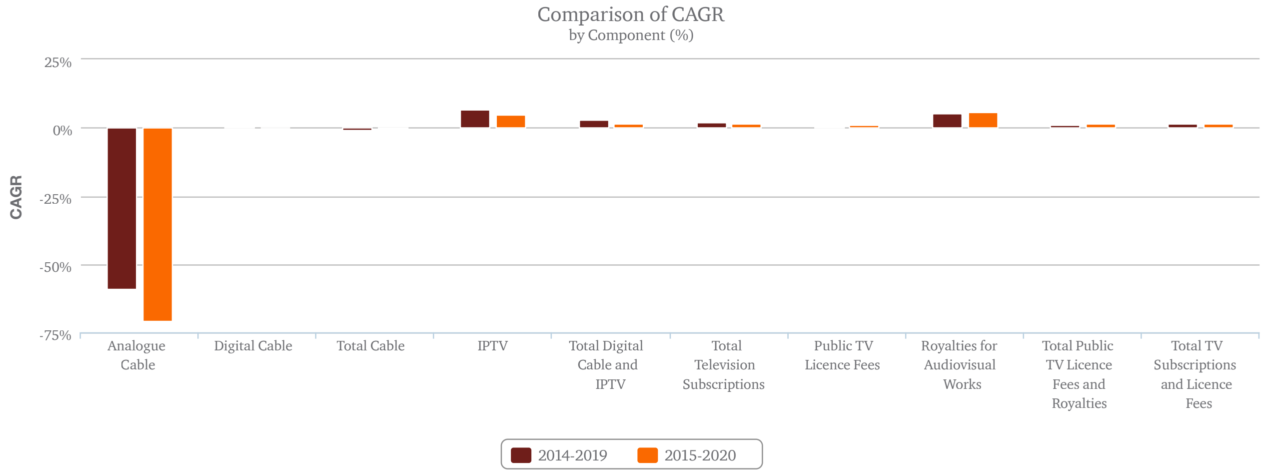
Zattoo is one of the first Web-TV providers to offer delayed viewing of programs. At the end of 2015 Zattoo counted 933,000 unique clients 16 per cent more than 2015. Presently, Zattoo is offering 46 national and international stations. In 2016 Zattoo activated time-shifted contents. Zattoo has already entered the UK, and is expanding into new markets in Denmark and the USA (starting with testing by students of the University of Michigan).

Wilmaa grew customer numbers by 55 per cent to 473,00 at the end of 2015. Teleboy maintained its customer base at 538,000 unique clients growth of 8 per cent. In March 2016 Teleboy and Wilmaa created a corporate operating company, with the aim of bundling forces and leveraging synergies, although the two brands will still be maintained.

Market Growth

Swiss TV subscription and license fees are expected to grow at an annual rate of 4 per cent over the next five years, mainly driven by price increases on the part of cable companies and the adoption of IPTV. There will be a shift from analogue to digital. UPC shut its analogue broadcasting in mid–2015, and other cable operators will likely follow suit by 2018. Digital cable and IPTV have gained from switching since 2014, as remaining customers of analogue began shifting.

IPTV is a key growth area, with an anticipated CAGR of 4.7 per cent through 2020. IPTV has become a real alternative to cable TV and is expected to serve 2.0 million households by 2020, up from 1.3 million at the end of 2014 and equivalent to a CAGR of 7.2 per cent. Cable is under increasing pressure. In 2015, cable lost around 130,000 subscribers and is forecasted to lose further market share through 2020. Public license fees should remain stable over the next five years, with a CAGR of 1 per cent. Royalties are growing, due to new opportunities such as copies via smartphones and tablets. Its CAGR should amount to 5.6 per cent over the next five years.



Analysis by PwC

Key Players

The two largest players in Swiss TV are Swisscom and UPC, boasting a combined market share of 65.8 per cent in 2015, up from 57 per cent in 2013. Swisscom's TV market share increased to 33.2 per cent according to the ComCom per cent by the end of 2015. The growing subscriber base of Swisscom TV is being driven by the outstanding customer experience and Swisscom's marketing initiatives. UPC's share of the market remained stable with a marginal decrease of 0.3 percentage points to 32.7 per cent in 2015. Sunrise increased its market share[3] over the previous year by 0.9 percentage points, reaching 3 per cent market share at the end of 2015. Other cable providers include Quickline, WWZ and Openaxs and a number of other very small operators.

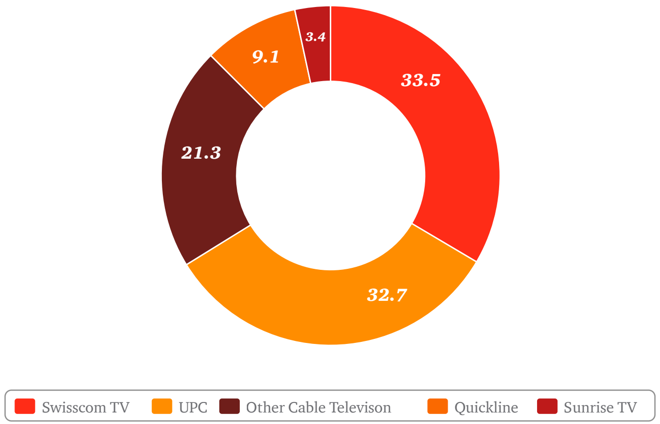
Principal Drivers

Videostreaming is booming

Streaming TV is now a viable alternative to traditional reception. Companies such as Apple and Google offer powerful Streaming Boxes and TVs. Streaming's quality, contents and usability are getting steadily better, and prices for equipment and upgrades of existing televisions are falling. This fuels attractiveness and spreading of Internet TV. These days, more than 20 per cent of Swiss residents stream on the big screen.

3 Market share based on calculations made by PwC.

Market Share: TV Subscription and License Fees



Analysis by PwC

More than 20 per cent of Swiss residents stream on the big screen.

Expansion of replay for time-shifted TV

With replay, TV providers are free from fixed programme times. Altogether at 99 channels available in Switzerland, UPC horizon customers can call up TV programmes from the last 7 days or 30 hours – depending on the subscription. Swisscom TV 2.0 offers since 2014 seven-day replay on over 250 channels. The recording function also gives viewers greater freedom: thanks to a cloud-based solution, customers may record any number of programmes in parallel. Sunrise increased in 2015 the number of channels with 7-day-replay-TV function, from 110 to 230 channels.

Digital-TV und IPTV replace analogue cable

UPC switched off its analogue TV in mid–2015, saying that its customers had gone "digital". Digital TV offers better picture and sound quality, a broader selection of channels, and allows for features such as time-shifted TV, electronic program guides and interactive TV. IPTV is another key trend, driven by IP networks' ability to offer more flexible infrastructure and programming.

Enlarged TV offerings for mobile devices

Digital cable TV and IPTV are enhancing their pay TV by offering free mobile TV on PCs, tablets and smartphones. At the end of 2015, Swisscom expanded the TV-supply for mobile devices. With "Swisscom TV Air free", which is ad-financed, by non-Swisscom customers can use TV 2.0 on their mobile phones: the service is free via the app, and it includes replay and programme recording. UPC's mobile" Horizon Go" brings over 100 TV channels to smartphones and tablets. Sunrise offers an App for Smart TV since November 2015 that is comparable to TV 2.0 App and Horizon Go.

Business Innovation

Sport is one of the most common subjects of live programming. TV providers must keep an eye on its shift from traditional broadcasting to online broadcasting. In May 2016, BT (UK's leading communications company) announced that the Champions League as well as the Europa League finals would be streamed on YouTube, free of charge within the UK. Likewise, Twitter agreed to broadcast 10 US NFL games to its 800 million customers for free. Additionally, in-game highlights and pre-game live broadcasts from players and teams have been introduced. Twitter has bid against tech companies such as Yahoo and Amazon to win these broadcasting rights. According to the BBC, Facebook was part of the bidding, but dropped out before the final round. In any case, this shows how tech and social media are looking to disrupt distribution of TV. It is unclear how soon this will reach Switzerland; still it could have a severe impact if or when it does.

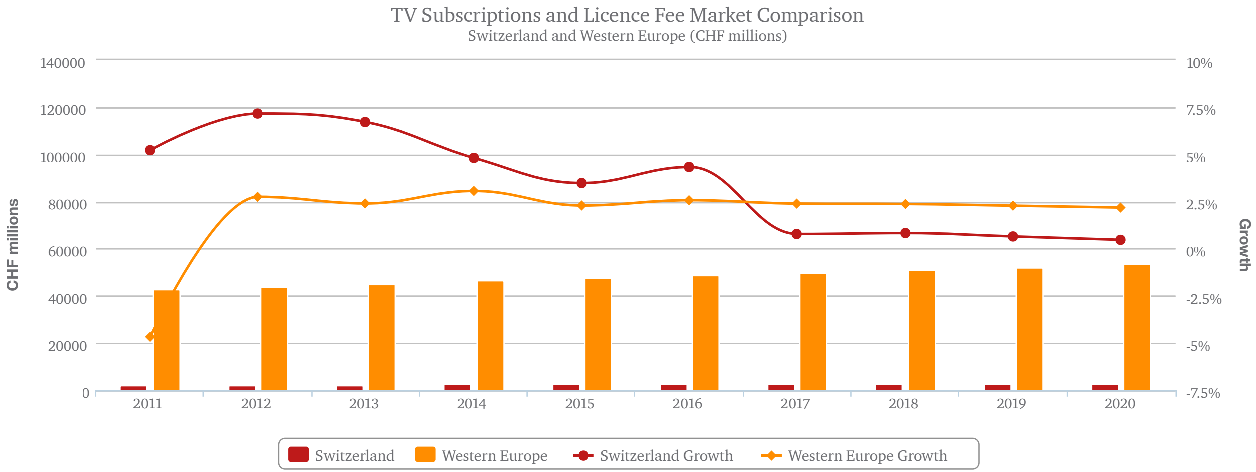
Swisscom is betting on the success of Live-Sports. With Teleclub Sport Live, Swisscom TV carries around 5,000 live broadcasts each year, including every goal from the Super League and the National League.The offering includes top European football, all Formula 1 races and major tennis and golf tournaments in HD. From the 2016/2017 season onwards, Swisscom will team up with Teleclub to broadcast two games in the Raiffeisen Super League in UHD every week.

Comparison to Western Europe

As in Switzerland, subscription TV in Western European is upselling customers to higher-value bundled packages, featuring more TV and/or home communications, and introducing new value-added services like multiscreen capability and advanced set-top boxes. International players in OTT are increasing their presence in Europe home videos, with Netflix in 2015 launching in Spain, Italy and Portugal, having entered Germany and France in 2014. Amazon is also present with its Prime Instant Video service, while Apple pushes its TVOD iTunes store primarily via its Apple TV set-top box.

With a 4 per cent CAGR over the next five years, Swiss TV might lie below the Western European average of 2.4 per cent. Although cable generates the biggest subscription TV revenue by a considerable margin in Western Europe, it has peaked in subscribers. A steady decline is forecast to persist and will see total cable households fall from 45.7 million at the end of 2015 to 44.5 million by the end of 2020. In Switzerland, cable is also expected to lose subscribers. The main beneficiary of cable's decline will be IPTV: by the end of 2020, the number of IPTV households in Western Europe will increase at a CAGR of 4.7 per cent. France, Europe's biggest IPTV market, will continue to drive Western European growth for the technology, followed by the UK.

Unlike the Switzerland, where analogue TV will cease in four years' time, subscribers in Germany, Western Europe's largest cable market, are not easily convinced to change from analogue to digital. The reluctance of subscribers to upgrade from analogue to digital services in major markets such as Germany will restrict the sector from achieving better growth.



Analysis by PwC

Television Advertising

The popularity of time-shifted viewing is growing rapidly and constitutes new challenges for TV advertising.

TV is transitioning from a linear to a cross media experience.

New technologies and the increasing consumption of TV on mobile devices enable interactive TV-consumption.

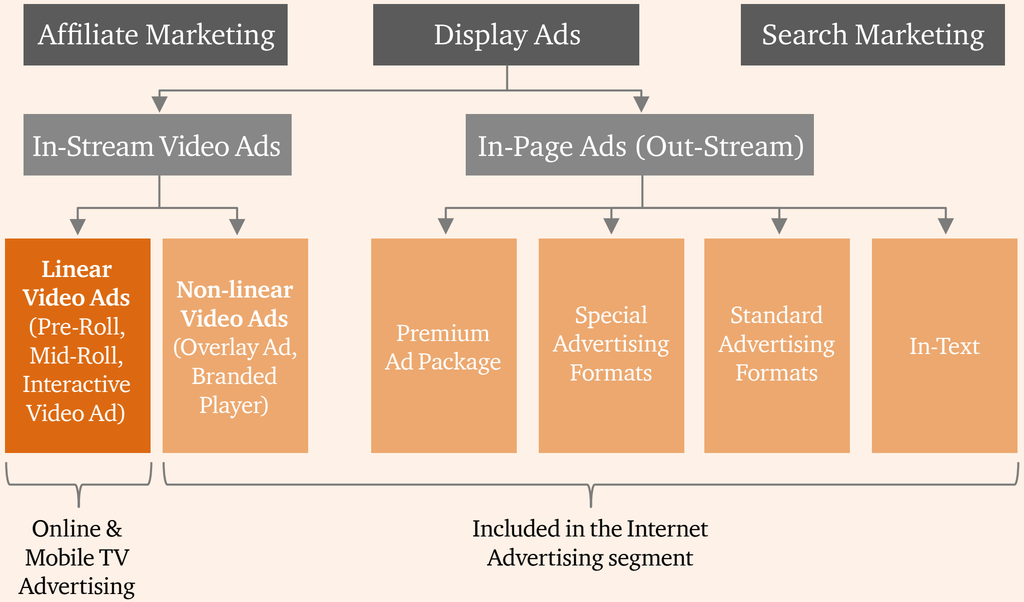
Segment Definition

The television advertising market encompasses all advertising spending via broadcast or online television within, before and after TV programmes. Broadcast advertising comprises revenues generated by free-to-air networks (terrestrial), cable, satellite, Internet Protocol TV (IPTV) and other distribution services.

For the current year, the definition for online & mobile TV advertising was aligned closer with industry standards. Therefore Online and mobile TV advertising consists of linear in-stream adverts only (combining pre-roll, mid-roll and post-roll revenues). Not included are the following components: Non-linear adverts (such as overlay ads, where advertisers use a video overlay layer to deliver an ad unit) and In-page ads, as these are already included in the Internet Advertising segment.

Within linear in-stream adverts, only revenues from broadcast TV viewed on TV websites and Internet-TV platforms (such as Zattoo, Wilmaa, Teleboy) are taken into account. The type of device is irrelevant. Video content consumed via other platforms such as YouTube are not covered. These revenue streams are part of Internet Advertising.

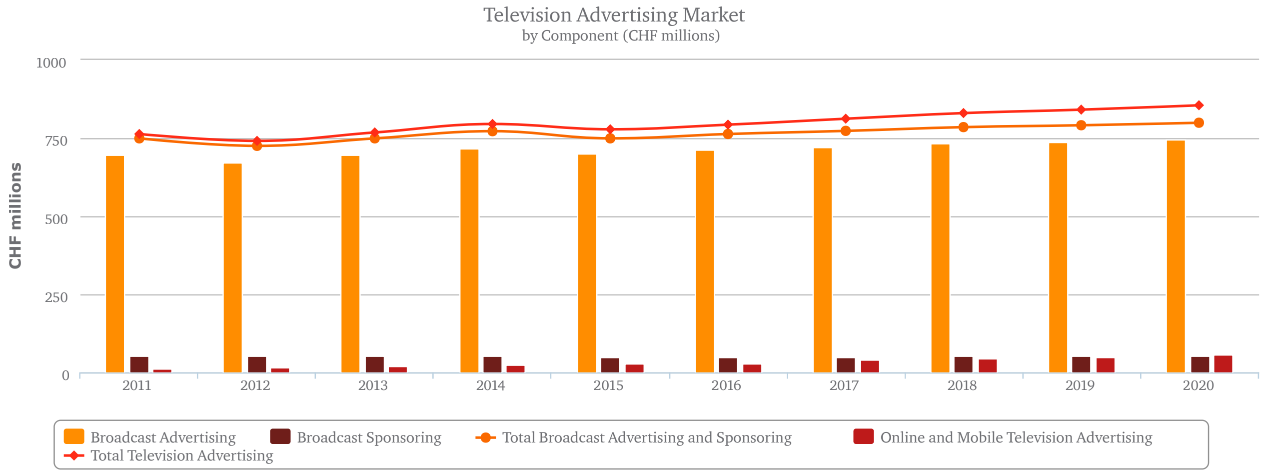
All TV Advertising figures are shown as net revenues, excluding agency commissions and discounts.



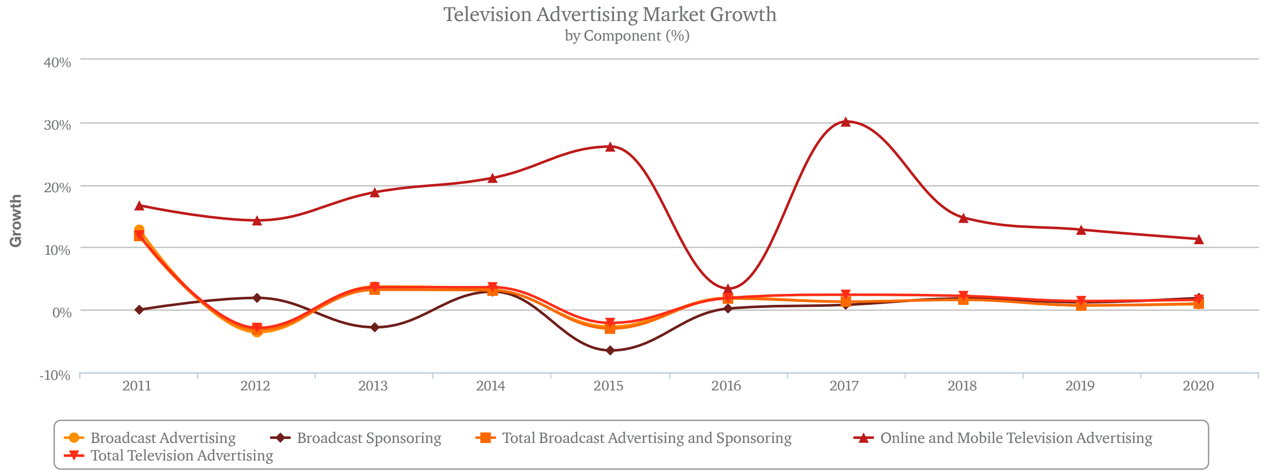
The Swiss TV Advertising Market

Market Overview

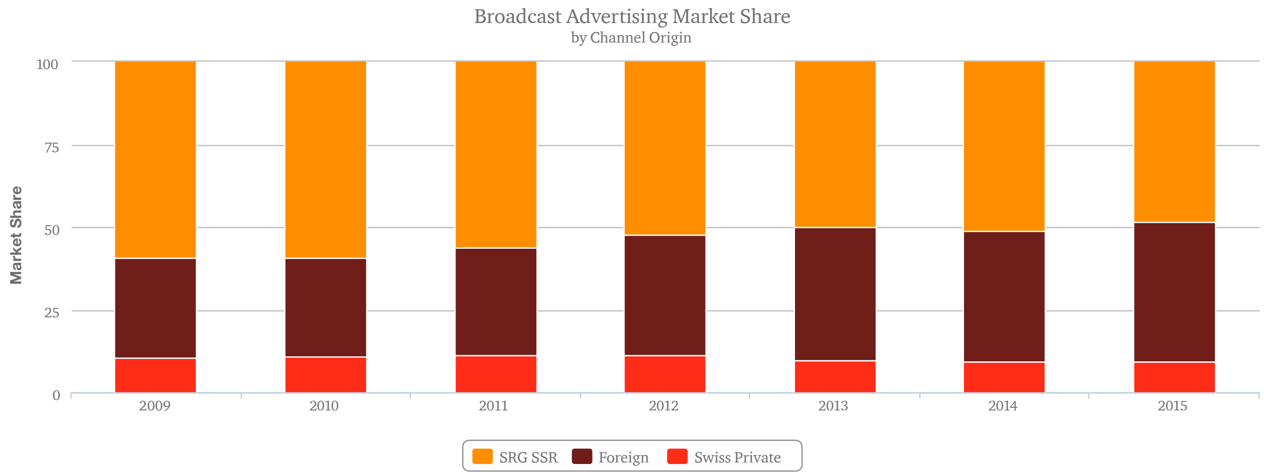
Switzerland's broadcast TV advertising revenues were reported by 51 channels in 2015. In total, those broadcasters have reported revenues of CHF 749 million, a decrease from CHF 772 million in 2014. This indicates a decline of –3.0 per cent, a significant slump after 3.1 per cent growth in 2014 and 3.2 per cent in 2013. Public TV channels contributed 48.6 per cent, the largest share, to total TV advertising revenues. They were followed by foreign channels



Analysis by PwC



Analysis by PwC



Analysis by PwC

with 42.2 per cent and private channels with 9.2 per cent revenue shares. Foreign channels increased their market share to 4.2 per cent at the expense of Public TV and private TV market shares.

The Swiss television advertising market is divided into two sectors: broadcast TV and online TV, which also includes mobile TV. In the broadcast sector, advertising revenues are generated by offering advertising slots either for a certain programme or focused on a specific target group. This sector includes the Swiss TV channels in all regions, as well as TV companies from abroad with dedicated Swiss advertising windows. In online and mobile TV, there are certain online or over-the-top (OTT) providers such as Zattoo, Wilmaa and Teleboy, as well as traditional broadcast channels that feed video content to laptops or mobile devices by means of open Internet networks. They sell advertisement slots to finance their business.

Within the forecast period, we expect moderate but stable growth in the broadcast advertising and sponsoring market. In 2015, broadcast advertising revenues declined by 2.7 per cent to CHF 699 million. A drop was also recorded in the TV sponsoring market, where total spending declined by 6.5 per cent after growth in 2013 and 2014. This can be explained on the one hand with the annual variations due to large sporting events such as football or the Olympics, on the other hand the SRG SSR received less advertising revenues because of the Swiss franc exchange-rate shock in 2015.

TV providers are challenged by new players that take advantage of lower barriers to entry and changes in the way viewers watch TV. The trend for time-shifted viewing across a range of devices like smartphones, tablets, laptops and connected devices such as Apple TV or Chromecast has fragmented audiences with game-changing implications for advertisers. While the traditionally high viewing figures for the major networks are in decline, niche channels provide opportunities to target more specific audiences and demographics.

Meanwhile, Pay-TV operators roll out new technology that will facilitate targeted advertising on their platforms - more personalised for on-demand programming. This is possible with advanced services delivered to computers, tablets and mobiles, as well as connected TV sets. Through the use of second screen devices and links to social media to encourage discussion, further views and even links to e-commerce sites where viewers can purchase items, advertisers have the possibility to offer more personalised, targeted and interactive advertising formats.

Crucial for success is the right Cross-Media-Mix and the optimal matching of content and channels. Particularly promising is a coordinated combination of TV-and-Online- promotion, by which the effect of TV promotion can be increased.As marketers buy programmatic ads across multiple platforms – including Mobile TV, Smart-TV and IPTV – it is becoming more and more important for advertisers to engage with their customers across multiple channels as individual people, not as anonymous collections of interests or user devices. Advertisers are leveraging Facebook Custom Audience, Twitter Tailored Audiences, and now Google Customer Match to align advertising to the CRM-based data they already use to guide the customer journey.

For advertisers, it is absolutely essential that data analytics are available in order to understand consumer behaviour and specific needs. Advertising investments are reviewed closely, because technical innovations (ad blocking, fast forwarding of recorded content) are reducing broadcasters' control over when or if ads are viewed by consumers. As a consequence, media services are trying to provide better data, in order to optimise targeted communication on their online-platforms. In 2013, Mediapulse replaced the Telecontrol television audience software with an electronic measuring system that measures time-shifted viewing of households as well as TV use on computers. It would be helpful, if the previously not measurable TV consumption, for instance via Tablets and Smartphones, could be integrated into TV-research.

The move to more sophisticated broadcast infrastructure is both a major opportunity and a challenge to TV Advertising. The proliferation of set-top boxes is increasing and will continue over the forecast period. Time-shifted TV use with its options to fast-forward through or skip advertisements is a general trend. Time-shifted TV-use increased in Switzerland to over 11 percent in the second half of 2015. In the 15–20-year-old viewer group, the share tops 20 percent.

As the numbers using replay and time-shifting increase, advertisers will have to become creative to prevent advert skipping. This could include programme sponsorship, product placement and more interactive experiences. Discussions have started about compensation from TV providers to TV-channels when providing replay-functions. The rise of ad skipping on set-top boxes will make it more difficult to regain the previously achieved commercial block rating.

Market Growth

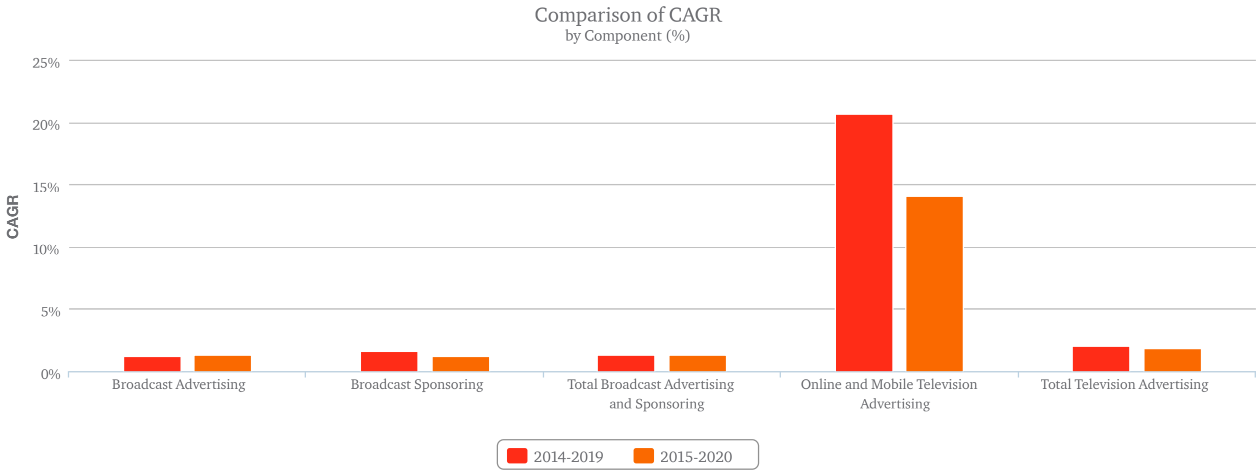
The dynamics of TV Advertising market remain high, so it is difficult to forecast. Nevertheless, for the next five years we expect a 1.8 per cent annual increase in total TV advertising and sponsoring revenues, with cyclical boosts driven by major sporting events. The Swiss economy is forecast to continue expanding in the coming years, which will underpin advertising growth. At the same time, the industry remains exposed to the risk of an economic downturn, as it is strongly correlated to the general economic trend.

The loss of advertising revenue due to Ad Skipping via replay functions and non-linear TV is a major challenge for TV broadcasters. Shifting the monetization through subscription services is an alternative to recoup increasing costs of content in general. New technologies such as dynamic ad insertion and targeting will disrupt long-term agreements between broadcasters and media companies but also allow for alternative revenue models.

Matthias Schmidt
Senior Manager Strategy | Swisscom

In 2015, Swiss broadcast advertising decreased by 3 per cent, more than anticipated. The fall was mainly driven by sponsoring revenues, which declined by 6.5 per cent. However, advertisers were able to leverage new audience measurement metrics to attract broadcast advertisements and absorb losses in the market.

We anticipate TV advertising and sponsoring revenues to grow at an average annual growth rate of 1.3 and 1.2 per cent, respectively, through 2020. Online and mobile television advertising is expected to grow at a CAGR of 12.8 per cent, thanks to improved functions and qualities of online TV providers; however, its market share should remain below ten per cent during the forecast period. Drivers for growth are new inventory (growing channel portfolio) and innovative advertising methods. Classic advertising, such as linear broadcasting in existing channels, shows little potential for growth.



Analysis by PwC

Principal Drivers

Programmatic TV advertising, for more efficiency when buying and delivering ads

A key factor for success of Smart Data and High-End-promotional technology is efficiency. Advertisers are caught between individual responsiveness and the need to communicate in a powerful range. Programmatic TV, a technology-automated and data-driven method, helps to reduce scattering losses. This puts a layer on top of today's TV trafficking and booking system, allowing an automated buy, minimizing the need to make bookings manually – thereby decreasing costs. Programmatic TV also uses a data-driven approach beyond standard target demographics. Instead of using a few thousand TV panel households, it leverages set-top box data of millions of households, allowing more granular targeting. This includes digital TV ads presented via the web, mobile devices, and connected TVs, as well as linear TV ads served via set-top boxes.

Consolidation in Swiss advertising

In TV there are an increasing amount of transmitters with small market shares and a variety of offers for advertisers. However, the key players in the market are Admeira and Goldbach Media as they share almost all TV advertising bookings. Admeira, the joint marketing company of Swisscom, SRG und Ringier, has become operational in april 2016. In December 2015, the Competition Commission WEKO approved the joint venture of the Swiss broadcasting corporation SRG, the private media company Ringier and Switzerland's leading telcom provider Swisscom without requirements or conditions. Regulator UVEK then decided on the 29th February 2016 that SRG can participate in the mutual advertising platform with Ringier and Swisscom. This merger addresses the changing needs of all clients in the Swiss advertising and media market. With the partners' complementary assets, the alliance allows joint development of new technologies and new advertising forms as crossmedia, targeted advertising and real time bidding platforms to capture more of local advertising and to provide greater competition to global players. Swisscom will contribute to the joint venture its technological expertise, customer insights and marketing rights for Swisscom TV as well as its online platforms, while Ringier and SRG will transfer their marketing rights for their convergent media.It is the declared goal of the partners to sustainably strengthen the Swiss advertising market in a globalised competition..

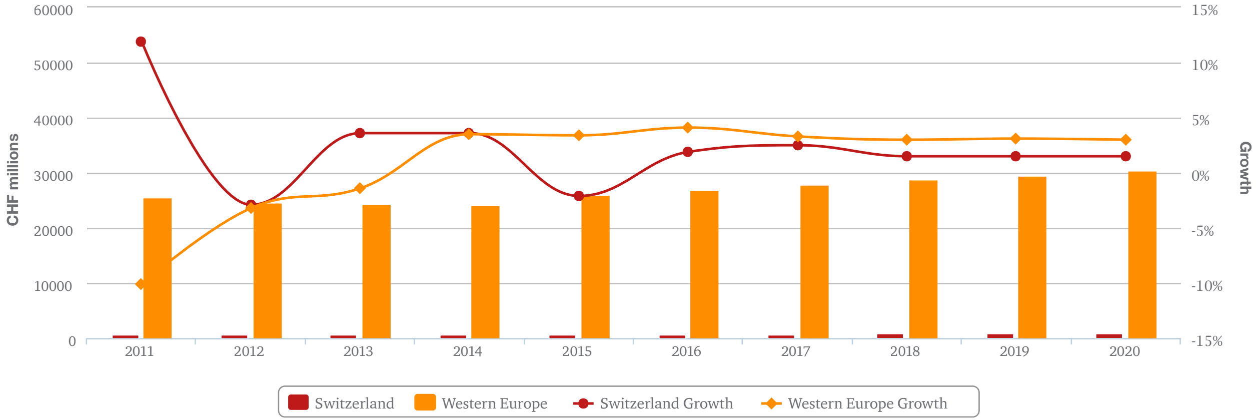
Expanding data measurement on mobile devices

Despite the growth of digital media, TV Advertising is still the place to be. Its revenue is successfully responding to the emergence of newer forms of digital media. Advertisers need to be able to rely on data that reflects their advertisements' impact. A growing number of devices that can be used to watch TV has lead to less accurate estimations by current measurement systems. Time-shifted TV on multiple devices will force broadcasters and advertisers to embrace new audience measurement metrics, in order to track how audiences consume their content. It might be reasonable to implement a new method. At the end of April 2016 the Boards of Directors of WEMF and Mediapulse agreed to set up a joint subsidiary under the project name "Swiss Media Data Hub" for the comprehensive collection, processing and analysis of online media usage data across all genres. The aim is to tackle identification of cross-media brand reach, the complete capture of streaming services and independent research into campaign reach.

Data-driven advertising will gain importance. Available data will be examined more specifically (use of social Media, Web-Browsing, Online-search and direct classic questioning), to attain the relevant customer in the relevant target groups with the specific message about the product of interest through the channel used, offline or online, and always at the right time. Clients, media, promoters and agencies will increasingly join forces and form syndicates to assert themselves against OTT-Players like Google and Facebook, which are strongly data-driven.

Business Innovation

Television Advertising Market Comparison
Switzerland and Western Europe (CHF millions)



Analysis by PwC

Second Screen advertising synching

While viewing TV, people increasingly use screens such as smartphones, tablets or laptops, sometimes to learn more about the shows and commercials they see but also to perform other tasks while the TV is on. Media companies have recognised these changes and offer extra content or experiences available exclusively on mobile devices to compliment the content on the TV – so called Second Screen advertising. Interventions in this space can range from companion app ads, to sponsored tweets or Facebook posts and are displayed at specific times in specific regions to capture the watching audience.

Goldbachmedia provides Second Screen advertising with “Goldbach TV Synch Technology Live Monitoring”, a live monitoring of linear TV and in particular the commercial breaks. This technology automatically detects by categories like senders, subjects, time, advertisers, campaigns or industries and is linked with the mobile Demand-Side platform (DSP) “Splicky” and with Google Adwords. TV Synch allows mobile campaigns parallel to the TV-campaign. The TV campaign can be expanded with additional coverage on relevant mobile apps and sites. Thus, the impact of the campaign in the relevant time slots and the branding effect of the TV campaign increases. The aim is to strengthen purchase intentions of potential customers, and to make multiple contacts with a secondary response element.

Second Screen advertising typically uses listening technology to identify when an advert has run on TV and to deliver immediate advertising messages on digital devices. In addition to improving the effectiveness of messaging, Second Screen advertising also allows brands to initiate a more in-depth dialogue with consumers. For example, an automotive advert on TV could be followed up just seconds after the commercial ends with an offer to arrange a test drive, or a story line from the advert could be continued online with a call to action delivered direct to mobiles and tablets. Global automaker Hyundai is using this technology today.

Comparison to Western Europe

Television Advertising by broadcast in Europe is quite stable, as TV brings to the table both credibility and a strong bond with the audience. Longer term, linear TV’s dominance is in decline and this is most evident among younger audiences. It is becoming difficult to attract younger households to the traditional pay-TV market, so operators must adapt with their “TV Everywhere”, or by including stand-alone OTT apps in their bundled services.

Growth rates in the online TV Advertising vary among European countries but are generally high, mainly above 20 per cent. Europe-wide, online TV advertising will become increasingly important. The challenge ad skipping can be overcome by live programming. Sport remain the most widely televised form of live programming, and other genres are emerging, such as awards shows. Content that will gain the largest live audiences is coming at an increasing premium for broadcasters, pay-TV operators and, subsequently, advertisers.

Under the assumption that the economy will remain stable, TV Advertising should witness steady growth. In 2020, revenues generated by online TV adverts will have more than doubled their share of the total TV advertising spend in Europe, up from 3.3 per cent in 2015. In absolute numbers, Swiss TV Advertising revenues are approximately at the same level as those in Sweden.

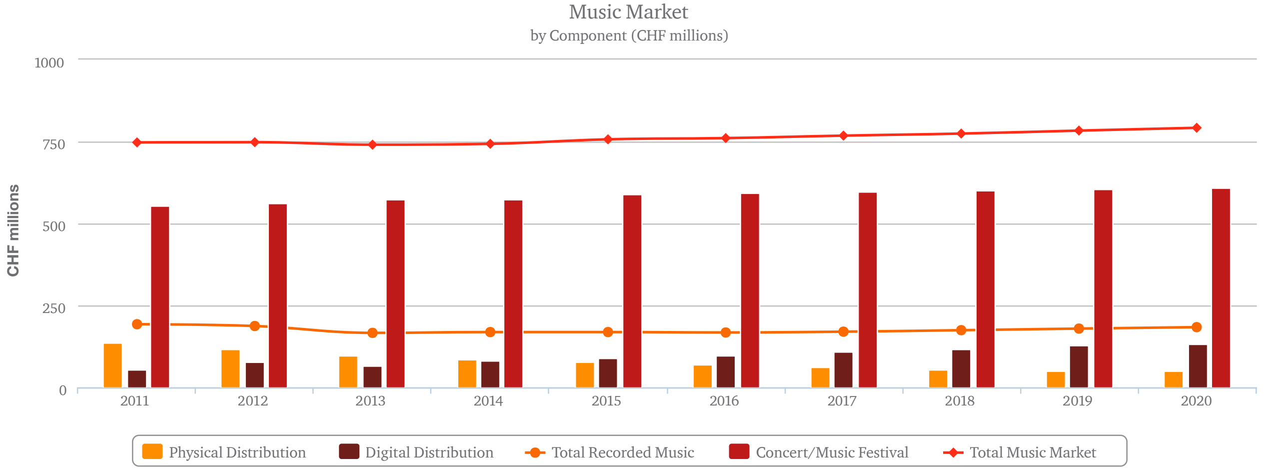
Music

Spotify dominates the music streaming industry, with Apple Music in a comfortable second place.

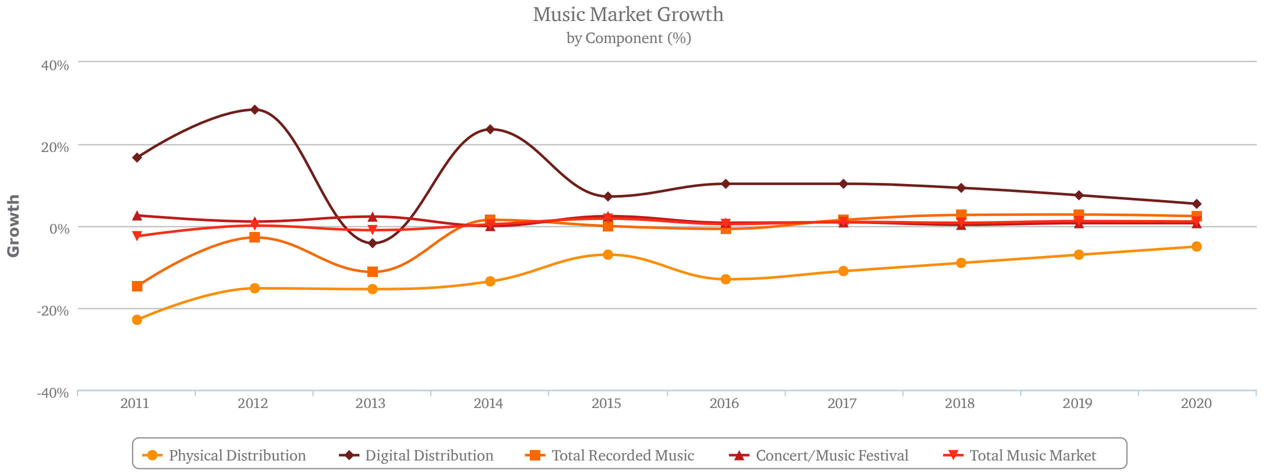
Boarders between music and video streaming are increasingly blurred.

Transparency for copyrights holders is the key to sustainable, evenly distributed growth.

Digital revenues account for over half of recorded music sales in 19 countries.



Analysis by PwC



Analysis by PwC

Segment Definition

The music market comprises recorded music and live music. Recorded music has two distribution channels: physical and digital. Physical covers all retail or online sales of singles, CDs and music videos in hard copy. Recorded music does not include subscription fees or advertising revenues generated by Internet radio services, when these are not part of a music streaming service. Recorded music does not include music publishing. Digital covers any music distributed digitally to mobile devices and computers via download or streaming.

Live music consists of concerts and festivals, including spending both on tickets and sponsorships but not merchandise.

All music purchasing is measured at retail value, which is substantially higher than wholesale or trade values often reported.

The Swiss Music Market

Market Overview

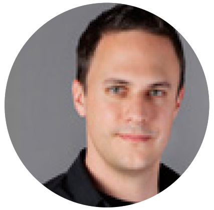
Flat revenues characterize the Swiss Music market at large. However, the details are more dynamic. The live music sector remains stable due to a saturated market, but recorded music's digital and physical channels are in flux. The physical channel continues to struggle with its rapid decline, while the digital channel has taken the lead. The latter's growth in streaming revenues have almost compensated the physical channel's losses. Net, the result is a somewhat-misleading stagnation.

There is also flux within digital. Downloading music is losing importance in contrast to streaming. Listeners who prefer hard copies or digital copies are disappearing. (Yes, there is a so-called 'vinyl trend' of buying old-fashioned turntable records, but this will not outgrow its current niche-status.) Younger listeners are less willing to pay to own music physically or to have it downloaded on their computer. To them, owning does not offer added value to streaming.

Buying criteria for recorded music have changed. Sound quality is no longer a differentiator. Most listeners are just as satisfied with streaming as they are with digital downloads or hard copies. Mobility is more important than ever. Listeners want music everywhere and anywhere, which favours digital in general, especially streaming.

Therefore, we expect physical distribution to continue its decline. Downloading, too. We expect download revenues to be even smaller than physical in 2020. Streaming cannibalizes downloading revenues. While the number of paying users and users in general shrinks, streaming models are emerging to be the core revenue driver in Music. The big question is whether streaming's growth will compensate the decline in other parts of Music and produce growth for the music industry overall.

The digital channel offers many ways to personalize music. Listeners can for example create personal playlists according to their preferences and behaviour, enjoy recommended songs, and even adjust the tempo of songs (to match the pace of jogging,



The switch from download to streaming picked up the pace. Listeners make a distinction between physical and digital. But consumers don't see the benefit of downloading anymore. Thus streaming is continuing to take over within digital.

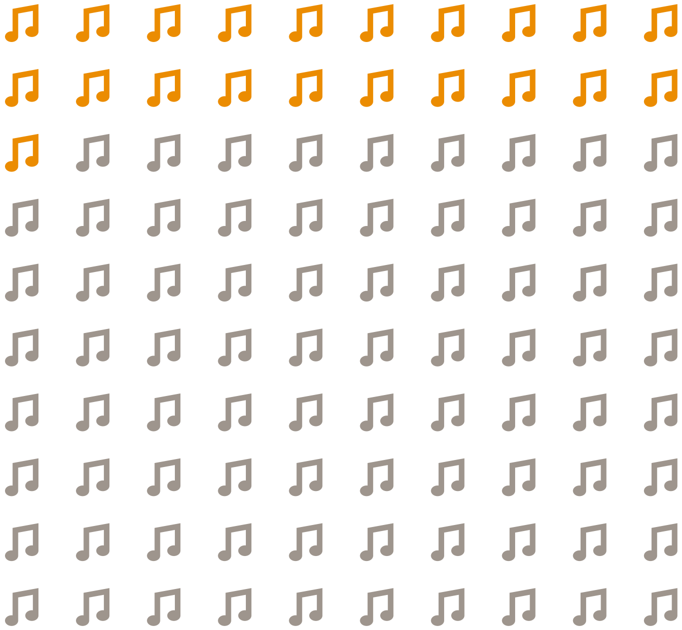
Simon Müller
Director Sales and Business Development |
Sony Music Switzerland

for example). This supports individualistic, mobile and flexible consumer behaviour across platforms, thus they correspond well with current expectations towards modern technology based solutions.

Nevertheless, for some music fans, downloading a full album still is an important part of the music experience. These tend to be the small fraction of listeners who possess large, sophisticated digital music libraries. For this highly enthusiastic minority, a switch to streaming does not come easily. Because of this, we assume the decline of downloads will eventually even out and revenues will stabilize in in the long run.

Switzerland's excellent mobile-broadband network is ideal for streaming. This, plus the deep penetration of smartphones, consumers' purchasing power and willingness to pay, will drive streaming ever higher. Switzerland's ratio of paying (to non-paying) users for streaming services like Spotify still lags those of other countries. This ratio is the key to sustainable revenue growth, so Switzerland has upside potential here.

Rivalry between Spotify and Apple Music in digital distribution is Music's dominant theme. The June 2015 introduction of Apple Music changed the music streaming landscape. Within a year, Apple Music had signed up 15 million paying subscribers around the world. Even though it is thinkable that Apple Music is depleting growth from other market participants, considering Spotify's growth rate and the overall market potential, this scenario is rather unlikely. Although a small number of them might have switched from other providers, most of the 15 million were new users that previously were either unaware of streaming or unwilling to pay for a subscription. Gaining new subscribers is definitely a success factor, and retaining them is at least as important. Apple Music faces trouble with its monthly churn of 6.4 per cent, compared to Spotify's 2.2 per cent. And Spotify is not the only competitor, other rivals are keen to capture market share, too. According to market



In 2015, 38 per cent of Internet users accessed music streaming sites such as Spotify.

researcher Ipsos, 57 per cent of internet users in 2015 accessed music or music videos on internet video sites such as YouTube. In comparison, the study shows 38 per cent for music streaming sites such as Spotify and 26 per cent for download services like iTunes. Further worth mentioning is that more than a quarter of internet users (27 per cent) listen to music on YouTube without watching the video.

Switzerland's live music segment faced flat demand. Although numbers of visitors, events and tickets sold increased, revenues at large shows were stagnant. There are two main revenue pillars. First, the Swiss festivals can rely on a growing number of visitors. Second, related revenues at festivals for food and beverages rise simultaneously. As seen in last years, the Swiss live music segment was struggling with a saturated market.

Numbers of festivals are assumed to stabilise in future. Most traditional music festivals are well established, with clear market positions. The few, very big festivals cover the breadth of music styles. Smaller, new festivals might be able to position themselves in specific niches, but this will not have a big impact on overall revenues in live music.

Secondary ticket services/resellers are raising their prices globally, which is raising revenues across the board, also in Switzerland. This is complicated by personalisation of tickets, but still, the reselling market offers potential. In Switzerland, it has been helped by the government, which recently rejected a proposal to regulate the secondary ticket market.

Overall, the music industry managed to adapt to the digital age and seems to have emerged even stronger. This presents itself in digital revenues growing and overtaking physical revenues for the first time. At the same time, the rise in music consumption via streaming and its revenue growth is not distributed evenly to

musicians and their record labels. This so called "value gap" – a market distortion, withholds musicians and labels of their fair share of return and creates displeasure among artists. Musicians feel under-rewarded, and they are trying to redress this.

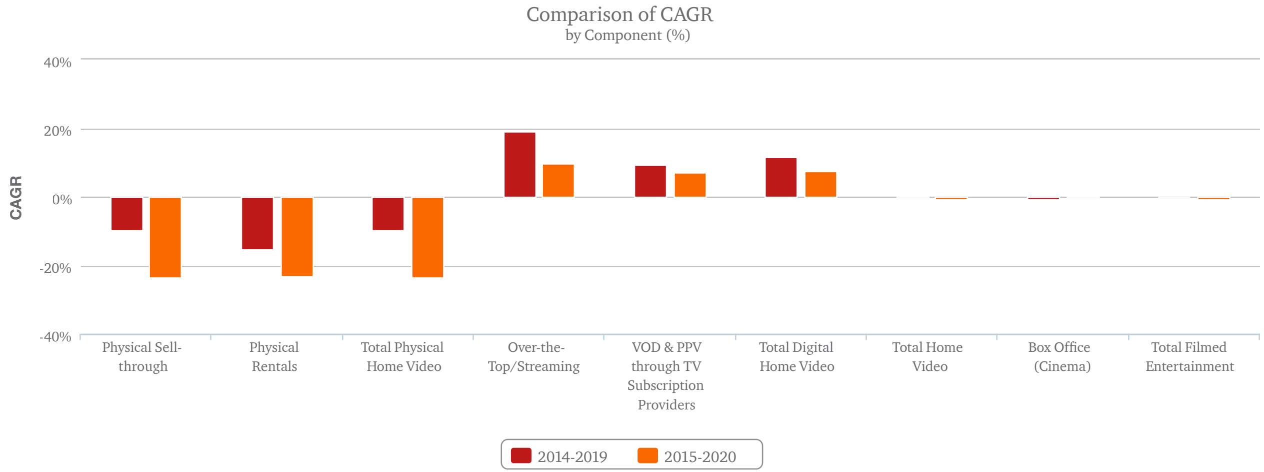
On the other hand, there are activities and developments that aim at strengthening the position of artists and labels. One example is Kobalt, software that registers every single instance a song is streamed or played in a digital channel. This can sum up to 700,000 individual revenue streams for a single song. Another is Sony Music Entertainment's rollout of an online portal that handles the mass of streaming revenue data. It allows analysis of sales, streaming and royalties for every musician. "The Open Music Initiative" (OMI) also is working towards more transparency for copyright holders as well, which should ultimately result in fair and rapid rewarding for artists, songwriters, and everyone involved in the creation of music.

At the same time, Spotify – the biggest player in streaming – has yet to deliver profit. There is still no proof that subscription-based streaming is a viable business model. So there is still much to be resolved in the streaming business to ensure the sustainability of the revenue growths.

Market Growth

The change within the music industry advances at a fast pace. The importance of distribution channels is fundamentally changing with music streaming becoming the pillar of revenues. Nonetheless, the Swiss music industry at large reveals flat growth. Regarding the transition to streaming, we expect a fast paced development with the number of users almost doubling from 2015 until 2020. Apparently, even though streaming revenues are growing steadily, the decline in physical is compensated only scantily.

As the numbers of 2015 indicate once more, the physical music distribution is facing difficult times. The lost appreciation of physical media in future generations poses an existential threat to this industry. We expect the market volume to fall by 30 million from currently still almost 80 million to roughly 50 million in 2020. There is hope though, that a minority of music enthusiasts, vinyl lovers and retro fans will persist and ensure a minimum of revenues.



Analysis by PwC

In physical and download channels hit music and catalogue material [older releases] are especially popular. Streaming users favour other genres and are younger. A few years ago, the average user was around 30 years old; now the user base sees a rejuvenation. Spotify sees the strongest growth among younger users.

Simon Müller, Director Sales and Business Development, Sony Music Switzerland

Given the stagnating live music sector and the collapsing physical music market in combination with an ongoing cannibalisation effect between music streaming and downloading within the digital distribution channel, we expect and overall flat growth for the Swiss music market.

Principal Drivers

Changing behaviour: mobile consumption across platforms.

Thanks to increased mobility, more smartphone usage and excellent mobile network infrastructure in Switzerland, music consumption is changing: it is moving away from physical media and stationary consumption toward consumption irrespective of location, media, device and platform. For the Swiss market, this forebodes increased demand for streaming services and offers that succeed at overcoming platform barriers.

First consolidations occur in streaming

One year after the entry of Apple Music into streaming, competition with Spotify is fiercer than ever. With regard to the Swiss market, it will be especially interesting to see how Apple and Spotify try to increase and retain their paying users. Thanks to the deep pockets of Apple, one answer might be to make an acquisition – Apple is reportedly in talks to acquire Tidal. Given the former's user base of 15 million and the latter's 3 million, one might question Apple's interest, but there are two diamonds in the rough: Tidal offers exclusive content, thanks to Jay Z's name and connections; and the technology underlying Tidal's lossless streaming might interest Apple.

Marketing and pricing models of streaming in Switzerland

The big players of streaming have not deployed fully in Switzerland. To now, they have not used their entire marketing arsenal. In other countries, for example, Spotify and Apple Music promote their subscriptions with discounts for students. In Switzerland, these are not yet available. However, both offer special rates for Swiss families. Spotify is still pursuing the freemium model, whereas Apple offers a 3-month trial period, after which users have to pay. Depending on the growth in coming months, various changes to these pricing plans seem likely, including the introduction of paywalls for specific content. Particularly popular musicians, albums or songs would be restricted only to paying users. Introduction of a paywall could increase the ratio of paying users. Still, it is difficult to imagine that users will subscribe to several services, just to listen to a musician who is exclusive to a particular platform.

Blurred lines between audio and video streaming raise need for differentiation

YouTube illustrates the blur. It has introduced a specific music app, targeted at the expectations of online audio consumers. Meanwhile, classic audio streaming services include videos. In short: streaming platforms are becoming integrated entertainment platforms. Most of them already include radio, either as a proprietary offering or in cooperation with existing broadcasters. Spotify includes video spots, and so will YouTube's soon-to-be-launched Music Key service. By integration of social media, music consumption will become more interactive.

Transparency of ownership will enable sustainable growth

Even though music streaming and its growing revenues spark hopes of a soaring music industry, some obstacles still must be sorted out. Musicians are unhappy with their share of streaming revenues, which also are increasingly difficult to measure. Their value gap must be addressed, to ensure success of streaming and Music in general.

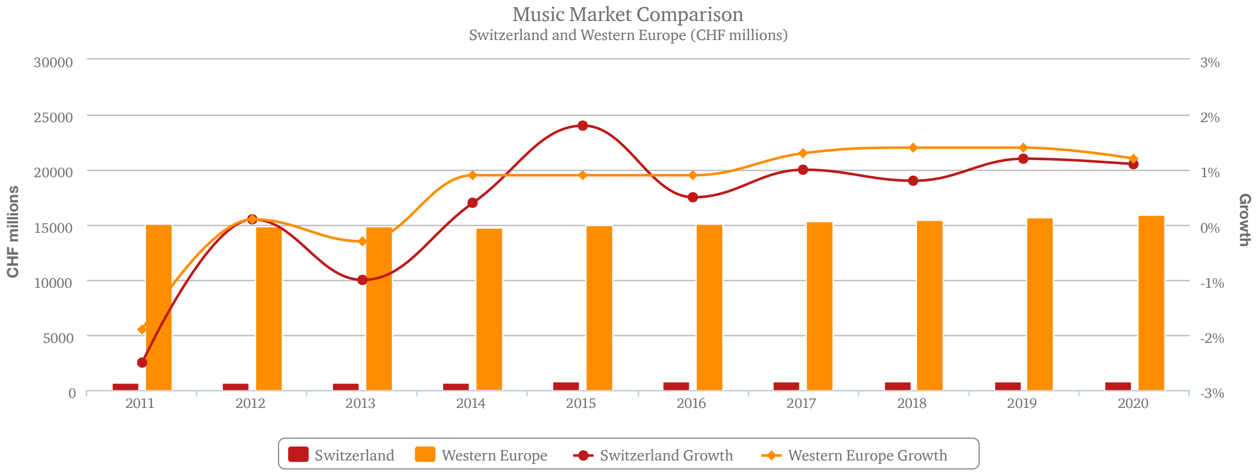
Business Innovation

YouTube's latest move shows how the competitive landscape in Music is changing. To keep its crown in Internet video, YouTube launched 'YouTube red' for $9.99/month (although not yet in Switzerland), which allows users to hear audio but not see video, while doing something else on their smartphone. Storing videos for later offline-viewing is also possible. Then YouTube introduced distinctive apps for specific large, growing niches – Music, YouTube Kids and YouTube gaming. The choice of niches is based on large, growing audiences behind them. Again, this speaks for how much potential is perceived to lie in music streaming. Furthermore, this case serves as prime example on how borders between music and video streaming get more and more blurry. While YouTube is moving into audio, Apple and Spotify are moving into video. Gradually, we believe the line between audio and video will disappear. All these developments seen in the light of limited user attention will result in increasingly hard competition in the entire streaming industry.

There is innovation in other areas of Music – for example in music production. Tools like Splice or Gobbler facilitate collaboration between producers and songwriters, and thus foster creativity. Hardware innovations open new possibilities for live performances. Technology to create music is ever more easily available to anyone. This, plus social media, has lowered entry barriers into Music. One of today's major stars, Justin Bieber, got his start on YouTube.

Another trend in Music is the increasing importance of data analytics. Taking the growing user number of streaming services into account it is no surprise that the analysis of the resulting usage data becomes equally more important. The vast amount of data on digital music consumption allows distributors to customize the listening according to personal preferences, location, activity and situation.

So-called streamripping is another innovation. These apps convert music or video streams into digital files that are then saveable on digital devices. Songs can be saved locally, and are available without internet connection. Streamripping is the digital equivalent of cassette recorder. Similarly, these streamripping apps are not covered by the obligation to pay remuneration. At the same time, demand for streamripping will be limited, in that many subscriptions now include unlimited data transfer: with unlimited data, streamripping becomes unnecessary.



Analysis by PwC

Comparison to Western Europe

Switzerland's Music segment, like that of Western Europe, is rather stagnant overall. Unlike Western Europe, streaming in Switzerland is still in early days. It is still far away in terms of revenue generated. Still, the streaming share of the digital distribution channel is growing at a fast pace, and given Switzerland's ideal conditions for it, streaming's growth and market share will likely match and surpass those of other regions in short order. Assuming linear growth, streaming will overtake downloading as the biggest revenue source in the digital channel within a few years in Switzerland. Thanks to the large potential lying in streaming, the recorded music channel is expected to grow overall.

Live music in Western Europe as well as in Switzerland is a saturated, mature market. Revenues are anticipated to remain stable.

Filmed Entertainment

Revenues for in-home, digital films are skyrocketing.

Increased streaming heightens competition in Switzerland. Especially the in-home, physical channel is under threat. Cinemas should also be worried.

OTT Players like Facebook and YouTube are new competitors.

Two key aspects are new to Filmed Entertainment: social interaction and live broadcasts by anyone.

Segment Definition

Filmed Entertainment is distributed by out-of-home and in-home channels. Out-of-home includes cinemas, i.e. consumer spending at the box office. In-home comprises the home viewing of both physical and online films and shows.

In-home physical includes purchase or rental of videos, CDs and DVDs at video stores and other rental outlets as well as DVD-by-mail services.

In-home digital includes on-demand services that offer movies, TV programmes or other premium video content via TV subscription providers (e.g. cable, satellite and telco providers) or over-the-top (OTT)/streaming services (e.g. Netflix). Digital home video through TV subscription providers comprise spending on video-on-demand (VoD) and pay-per-view (PPV). Digital home video through OTT/streaming services comprise revenues from stand-alone services (such as Netflix) whose content is accessed via a broadband or wireless Internet connection and viewable on a PC,

Online Video und TV Services (on Demand) in the Swiss Market

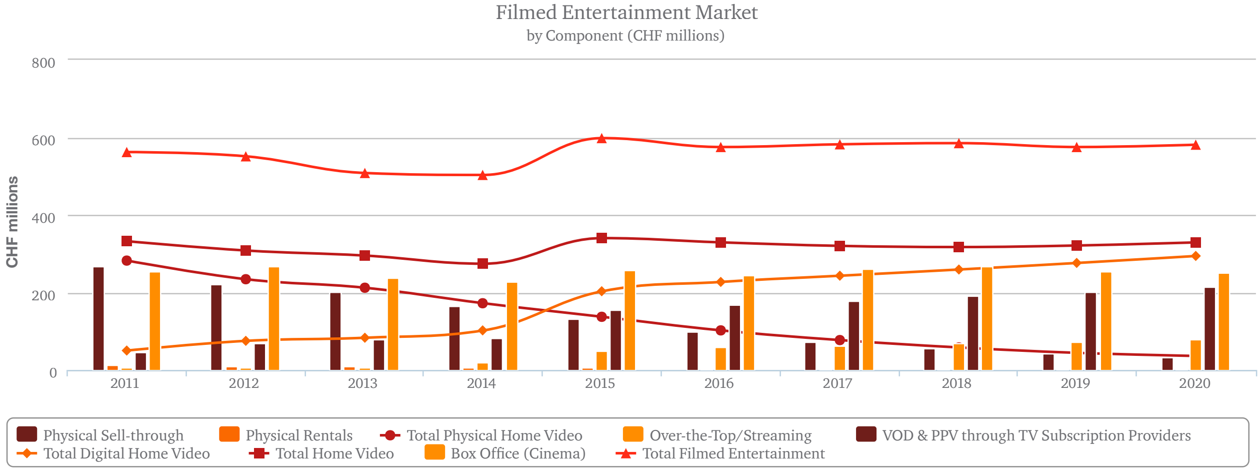
Businessmodel	***OTT-Services****	***TV Subscription Provider****
1 Download to rent		
a **SVoD (Subscription Video on Demand)** User pays a monthly subscription fee	Teleboy | Netflix | HollyStar	Swisscom | Teleclub Prime MyPrime | Sunrise
b **TVoD (transaction-based Video on Demand)** Users pay per consumed item (pay per view)	Wilmaa | HollyStar | Apple TV Google Play | Swiss TV	Swisscom | Teleclub UPC Horizon | Sunrise
2 Download to own (Electronic Sell Through) User pays for item	iTunes | HollyStar Amazon instant video | Google Play	✗
3 AD VoD (Advertiser-supported Video on Demand) User ‚pays‘ by accepting advertising	YouTube | Zattoo | Twitch | Facebook Vimeo | viewster | Sender-Portale	✗

* This list is not exhaustive

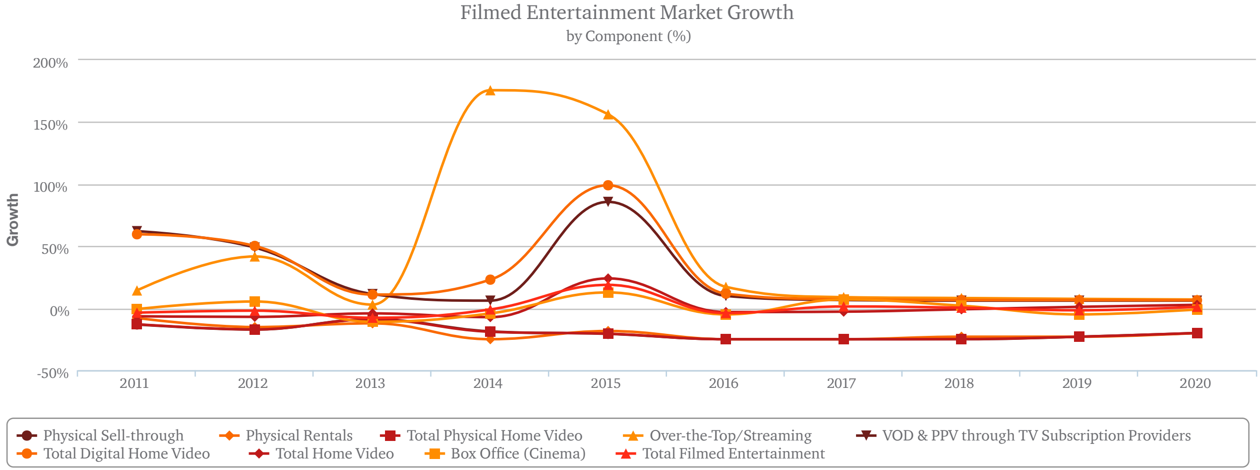
TV, tablet, smartphone or any other capable device that bypasses TV subscription providers. Further, these services are divided into transactional video demand (TVOD) and subscription video on demand (SVOD).

TVOD services (such as iTunes) deliver filmed entertainment content via the open Internet and do not require a subscription. SVOD services (such as Netflix) are also delivered over the open Internet, but require a subscription.

This segment does not include music videos or short clips. It also does not include ancillary revenues earned by cinemas, such as sales of snacks, beverages or accessories (e.g. 3D glasses).



Analysis by PwC



Analysis by PwC

The Swiss Filmed Entertainment Market

Market Overview

An average Swiss resident watches TV for just over 2 hours, i.e. 128 minutes, per day. Compared to 221 minutes in Germany or 282 in the United States, this may seem short. Still, it is a considerable amount of time, showing the importance of TV as a medium and filmed entertainment as content. Filmed Entertainment is also an industry in transition, shifting from physical to digital. Similar to the music industry, revenue is declining in physical channels, while digital ones are on the upswing.

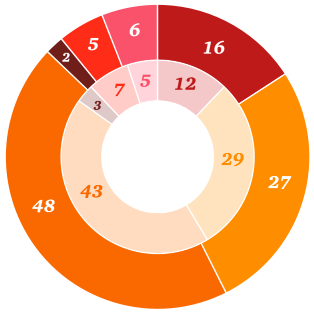
Since 2010, revenues for physical home videos have fallen almost 60 per cent. Sales and rentals have declined about equally. Meanwhile, revenues of digital channels are booming, rising 5-fold since 2010. In 2015 alone, revenues from filmed entertainment through TV subscription providers increased by 85 per cent, over the top streaming revenues rose 150 per cent. This remarkable growth was caused mainly by introduction of a major streaming service at the end of 2014, and by established TV providers' introduction of flat-rate subscriptions.

Cinema has had its ups and downs in the last five years. In 2015, however, cinema delivered a growth of almost 13 per cent. In comparison to the tendency seen in last years this is a very positive development. Presumably, this was driven by popularity of particular movies released in that year.

The remarkable growth in in-home digital and the upswing in cinema compensated, by more than a factor of 3, the decline in at-home physical video. So there was considerable growth for Swiss Filmed Entertainment at large.

September 2014 marked the introduction of Netflix, which changed the way Filmed Entertainment is distributed. For a monthly fee, users can watch any movie or series in an online database. Previously, streaming was minor, offered mainly by YouTube and illegal websites. The essential difference to old concepts is that this distribution model bypasses classic distribution channels, such as common TV ports. Further, it adds an alternative to known concepts of renting single movies from online databases.

Market Share of Films by Country
Comparison 2005 and 2015 in per cent



Analysis by PwC

Filmed Entertainment is distributed more and more via digital channels. Consumers can watch any chosen movie or series at any time, on basically every device wherever they want. Switzerland's strong mobile broadband coverage provides the ideal fundament for streaming. However, people still worry about the relatively high volume (and cost) of mobile data when streaming on the go. Especially new high definition footage is very data intense. Flat rate contracts – which are becoming more common – should counter this fear. Additionally, new coding and streaming techniques might decrease data transfer rates.

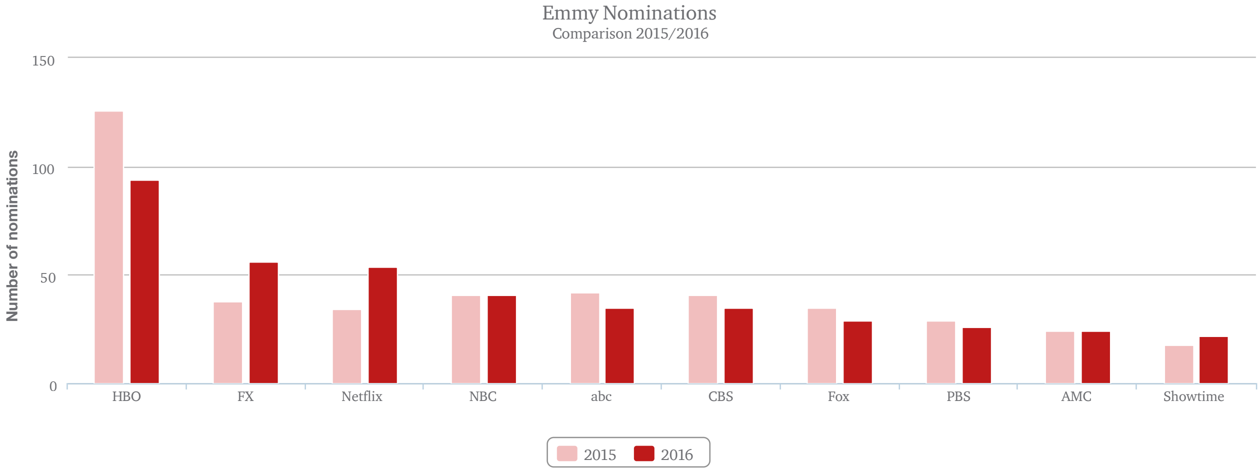
Although streaming via a digital platform as a way of consuming digital videos is a rather new development it plays already a

substantial role in the Swiss filmed entertainment market. Since the introduction of streaming to the Swiss market through the launch of Netflix in 2014, its market shares and revenues are growing at a tremendous pace. After only a year in the Swiss market, Netflix attracted roughly 250,000 subscribers. Competition here is still rather contained: international competitors like Amazon Prime are not yet present. However, as others enter and as classic TV providers broaden their offerings with flat rate models, competition will rise. Filmed entertainment is becoming more diverse, and pressure on all market participants will rise. At the same time, established TV providers are currently also able to grow in their digital segment, specifically the VOD part, mainly thanks to the introduction of flat-rate subscriptions. In 2015 UPC's „My Prime“, a premium streaming service introduced in 2014, was greatly expanded. It now offers over 12,000 items to 265,000 customers. Similarly, Swisscom offers unlimited access to 11,000 movie titles for a monthly, fixed price since the launch of "Teleclub Play" in December 2014.

Further, players with smaller market shares like Hollystar, Teleboy and Apple TV contribute to market fragmentation. This is mitigated somewhat by Teleboy's and Hollystar's cooperation: since February 2015 Teleboy integrated Hollystar's video-on-demand catalogue, encompassing over 5,000 movies.

The shift from VOD offers towards monthly subscriptions is comparable to the transformation seen in telephony. Customers do not pay per unit anymore. Instead, packages and monthly subscriptions grant unlimited access.

Matthias Schmidt
Senior Manager Strategy | Swisscom



Analysis by PwC

Like music streaming, video streaming is likely to be a winner-takes-all market. Due to the characteristics defining digital business models, large players are in a favourable position, while small players are encouraged to stay in niches. Economies of scale, reach and scalability are crucial to success. Apple is theoretically in a good spot to integrate its streaming services. By bundling Apple Music and Apple TV, it could put itself in a dominant position. In addition, Netflix and other streaming providers threaten traditional TV networks. Still, aggressive acquisitions and fast growing user bases is not all. Quality of the content is also important.

As the graph illustrates, Netflix is now the third most successful network in Emmy nominations, beaten in only by HBO and FX. Netflix has established itself as a producer of quality content and might serve as prime example for other streaming services.

At-home digital video is undergoing fast paced, fundamental changes, with the distinction between distribution channels becoming blurred. For example, Facebook has integrated video (a form of filmed entertainment) into its news feeds. Even though Facebook does not offer TV in a classic sense, by introducing the "Live" feature, it brought new perspective to Filmed Entertainment. With "Live" users can record whatever they are doing and broadcast it immediately. As CEO Mark Zuckerberg comments, "Live is like having a TV camera in your pocket. Anyone with a phone now has the power to broadcast to anyone in the world. "Celebrities, politicians and athletes are using it to interact with their fans. It is only a small step further for Facebook to stream live sports, music or interviews. Facebook could become a sort of customizable TV. Given its 1.5 billion users worldwide (~3 million in Switzerland) Facebook has reach and the resulting power that classic TV networks can only dream of. Even well-established digital competitors like Periscope (an app that lets users broadcast live videos) might face an insurmountable opponent.

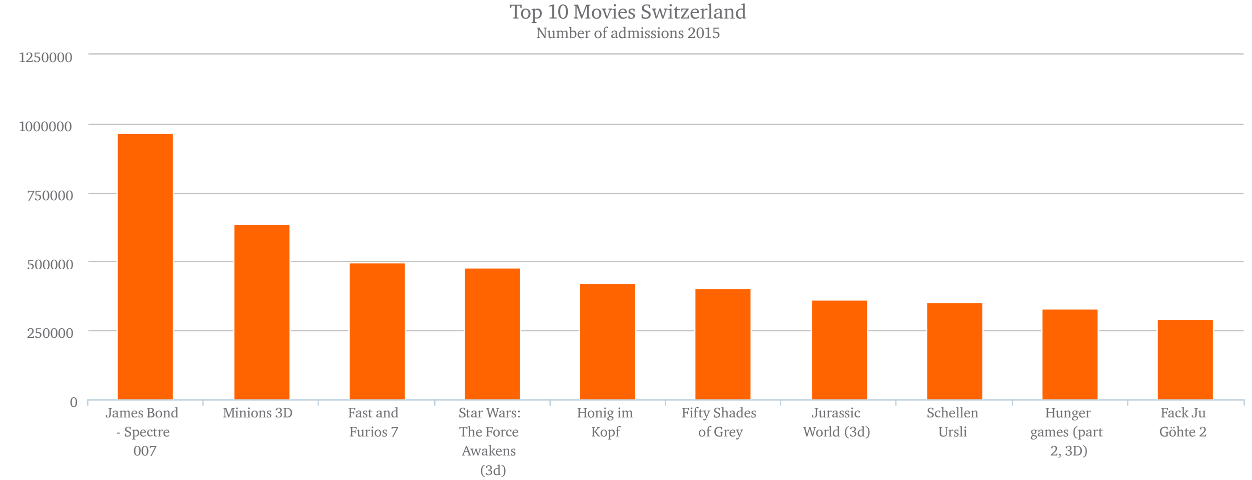
Without doubt, new technology based services such as Facebooks "Live" or Periscope offer great potential for innovations and provide the fundament for never seen before forms of interaction. At the same time, they bring along new challenge. Broadcasts of criminal activities or tragic events are new-media dilemmas yet to be solved.

The rise of streaming does not necessarily mean the fall of cinema revenues. Nonetheless, cinemas will be stretched to preserving 2015 growth rates in coming years. The popularity of particular movies plays a crucial role and can decide whether it is a successful year or not. Thus, Cinemas are strongly dependent on blockbusters being released regularly. Yearly admissions in Swiss cinemas, published by ProCinema, reveal that 2015's ten most popular movies account for roughly a third of all admissions. The other 390 movies share the remaining two-thirds.

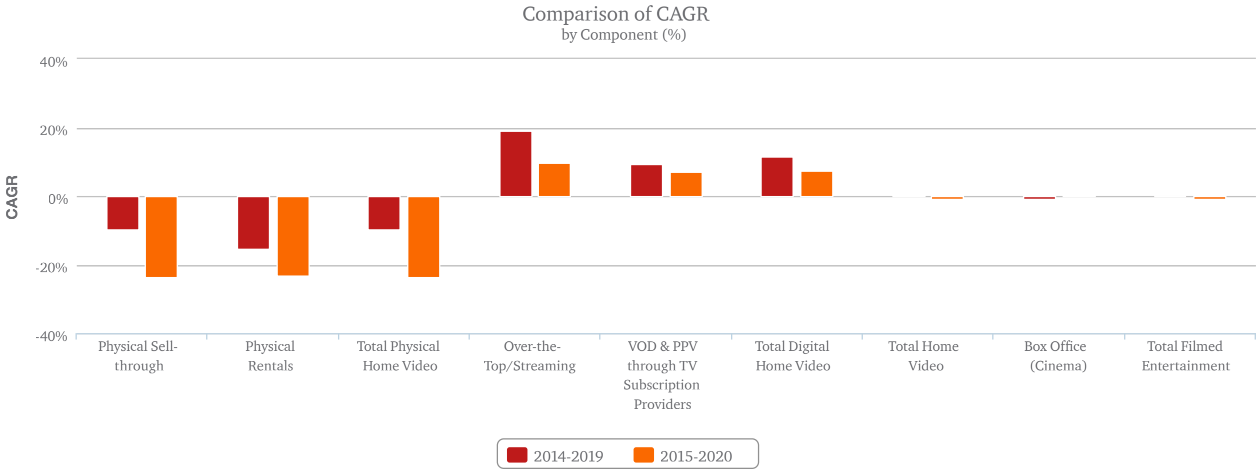
In 2015, Fast & Furious 7, Minions (3D) and Spectre – 007 (James Bond) were the three most popular. We expect another good year in 2017, with releases planned for Star Wars Episode VIII, Fast & Furious 8 and Wonder Woman. The same applies to 2018, with debuts of Avatar 2, Deadpool 2 or Toy Story 4. Despite the growing range of alternatives, 2015 showed that cinemas can add value and sustain visitor numbers.

Market Growth

Sales and rentals of physical content will keep declining. Owning a CD of your favourite band might provide additional value, but it is doubtful that the Blu-ray disc of a movie will convey the same surplus value. Thus, we assume that the retreat of physically distributed filmed entertainment will continue along the entire value chain. At the same time, Digital distribution channels are growing steadily and quickly. Especially OTT/streaming revenues are booming and expected to continue their ascent. TV providers have built a good base for the coming years with digital platforms and offers. Cinema sector is dependent on blockbusters and needs to continue expanding the experience and perceived value of a cinema visit in order to maintain the current growth rates.



Analysis by PwC



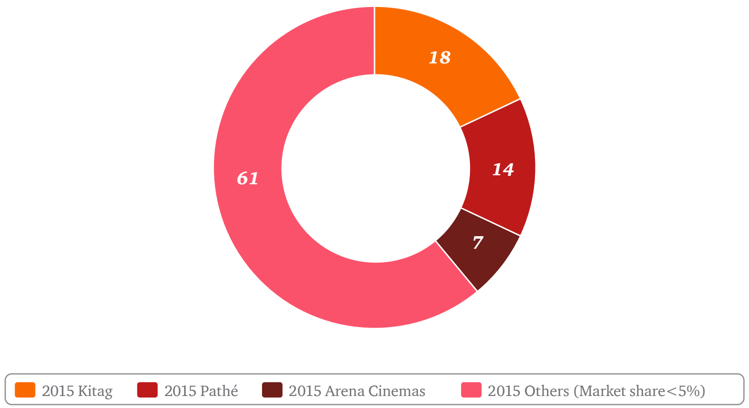
Analysis by PwC

Key Players

Economies of scale are important in cinema. Being able to distribute licensing costs across several cinemas in various cities is a big advantage. In Switzerland, the three biggest cinema networks possess more than a third of the seats. The remaining two-thirds are divided among smaller networks and family-owned companies, all with market shares smaller than 5 per cent. Presumably, this oligopoly will aggravate conditions for small players, and lead to consolidation.

In physical and digital at-home video, profound shifts are taking place. Formerly large, physical distributors will continue to lose significance as OTT/streaming providers attract more users. Established TV networks are being forced to increase their investments in digital. A transformation of the offer into this digital age is inevitable to withstand the competitive pressure of Netflix, Facebook, YouTube and so on in the coming years. A peculiarity of Swiss Filmed Entertainment is the absence of important international players. Neither Amazon Prime nor HBO are available in Switzerland. Entry of one of these big players could have significant impact on the Swiss market.

Largest Cinema Owners by Number of Seats
2015



Analysis by PwC

Principal Drivers

Social interaction is driving of new forms of filmed entertainment

"Facebook Live" shows how social interaction can become filmed entertainment. Not only is it live, it is live interactive – viewers can share emotions directly with the person streaming, in real, immediate time. Thanks to live comments and reactions, the person streaming receives immediate feedback. Passive viewing becomes a dynamic exchange.

Increasing mobility and better mobile broadband networks

Switzerland's fast Internet connectivity will allow video streaming to succeed. The high degree of mobility in combination with well-developed mobile broadband infrastructure and high saturation of mobile devices create high potential for streaming-providers.

Consolidation of the cinemas

Given the strong effect of economies of scale, we expect the Swiss market to keep consolidating resulting in dominance of few large cinema networks. Smaller cinemas will still be able to take niche positions. In general but especially in regards to revenue development, Swiss cinemas are strongly dependent on international blockbuster productions. Thus, also in future popularity of large movies is a key driver. Apart from that, Cinemas will increasingly try to enhance their customer experience. This might be helped by improving technology in movie production and projection/screens.

Streaming might fight piracy

Switzerland lacks adequate protection of intellectual property rights. Many illegal providers have servers or even headquarters in Switzerland, as the strong privacy rules here make it difficult for rightful owners to monitor content distribution. If streaming prices can be kept at modest, streaming might substitute illegal consumption, thereby reducing piracy. If streaming providers are able to be up to date with new contents in their catalogues, the incentives to use illegal streaming sites might disappear further. In North America this has happened, as illegal file-sharing platforms such as BitTorrent see their market shares declining.

Content is king
Companies such as Netflix and Amazon produce original content to make themselves competitive in television. Netflix earned some Emmy nominations for its original series, which is interesting from two perspectives. Making, rather than buying, boosts margins. And time-consuming, expensive licensing agreements are avoided. Moreover, with proprietary content, Netflix enjoys more flexibility in release dates and can benefit the most from the plethora of consumer data when creating own content. Netflix is able to tailor content exactly to preferences of its users. So, Netflix is doubling its self-produced content in 2016 from 16 to 31 films/shows.

Via Internet TV also small shows and productions are affordable. This approach has enabled shows and films to thrive on Netflix that might not have worked on traditional television. To compete with Netflix, other cable channels are starting to invest in their own programming. For instance, YouTube started its first four self-productions for their paid, ad-free channel 'YouTube red'. This channel is not yet available in Switzerland though.

Business Innovation

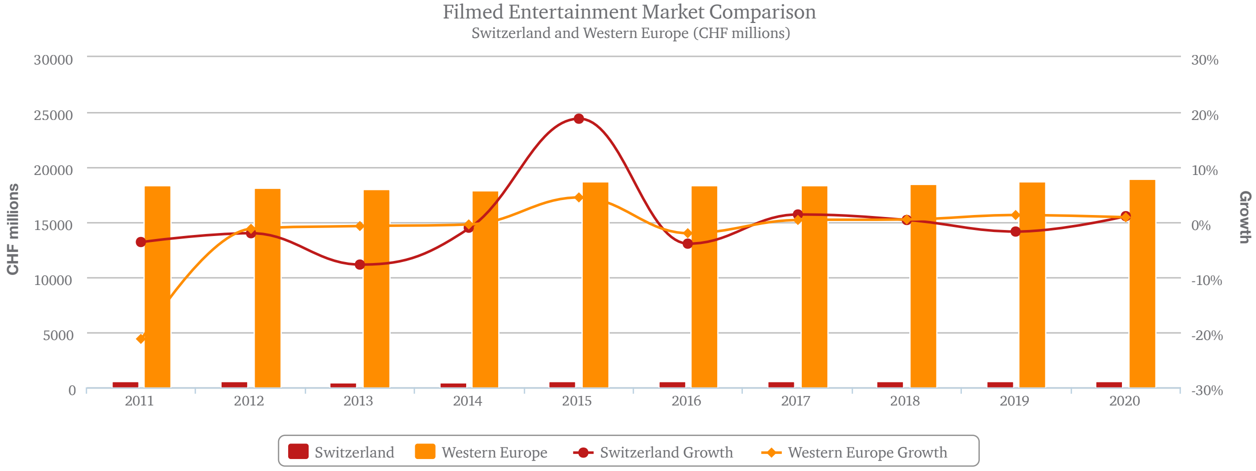
Filmed Entertainment is opening up to interactive niche content. YouTube and Twitch serve as platform for streaming private videos and playing video games with audiences. YouTube will soon launch of an app for users to live stream directly from their phones to their subscribers and to a wider audience. Facebooks "Live" viewers are able to share feedback directly with the person streaming. Meerkat and Periscope are livestreaming services that allow users to broadcast live events with their smartphones. And these services are simple: one click, one broadcast. A tweet automatically notifies followers or the public about the live stream. Anyone can tune in via the app or the web, and they can leave comments visible to the audience. How big the financial impact of these niches will be for the Swiss filmed entertainment market will be seen. We assume that the demand of "passive" watching will persist beside new forms of consuming filmed entertainment with dynamic exchange.

Earlier this year YouTube launched live streaming for 360-degree-videos. The technology is quite new. The combination with live streaming pushed the boundaries of filmed entertainment. Not only visuals are progressing, so are audios. In addition to the live 360-video YouTube also introduced spatial audio for on-demand YouTube videos. YouTube has more than a billion users and reaches more 18-49-year-olds than any cable network in the USA on its mobile app alone. **On average, a mobile viewing session is more than 40 minutes** – an amount that could turn out to be exceedingly precious in coming years.

Differentiation becomes increasingly difficult against international streaming services that are on a content acquisition spree. Algorithms to create relevance and structure in that vast array of content and to deliver meaningful recommendations to customers becomes crucial.
Matthias Schmidt, Senior Manager Strategy, Swisscom

Sport spectating is shifting from traditional broadcasting to online platforms. In May, BT (UK's leading communications company) announced that football's Champions League as well as the Europa League finals would be streamed on YouTube free of charge within the UK. Likewise, Twitter agreed to broadcast the US's National Football League games online and for free. In a season, Twitter will stream 10 games to its 800 million users. Twitter bid against Verizon, Yahoo and Amazon to win these broadcasting rights. According to the BBC, Facebook was part of the bidding, but dropped out before the final round. In-game highlights and pre-game live Periscope broadcasts from players and teams have been introduced. This shows the potential that tech and social media giants have to disrupt Filmed Entertainment. Given the small size of this Swiss market, it is unclear how soon this development will reach Switzerland, but it surely will come. Nevertheless, such a change could have severe impact on the value chain within the Swiss market. Thus, it is an essential potential development to keep in mind.

Virtual reality is another major innovation that will change filmed entertainment. Major studios have started experimenting; the industry is taking it seriously. Virtual reality headset sales are forecast to reach 12.2 million in 2016. Today, gaming is the main outlet for virtual reality, but Filmed Entertainment will bring it to the masses. Especially in the cinema, this might be big. However, the physical experience is different to the traditional cinema. So it might not be competition for cinemas as much as a new medium. There are still technical hurdles: for example, motion sickness induced by some content; common filming techniques that are obsolete in 360-degree-presentation; handling the immense data needed for virtual reality film. Lastly, defining industry-wide standards will take time.



Analysis by PwC

Comparison to Western Europe

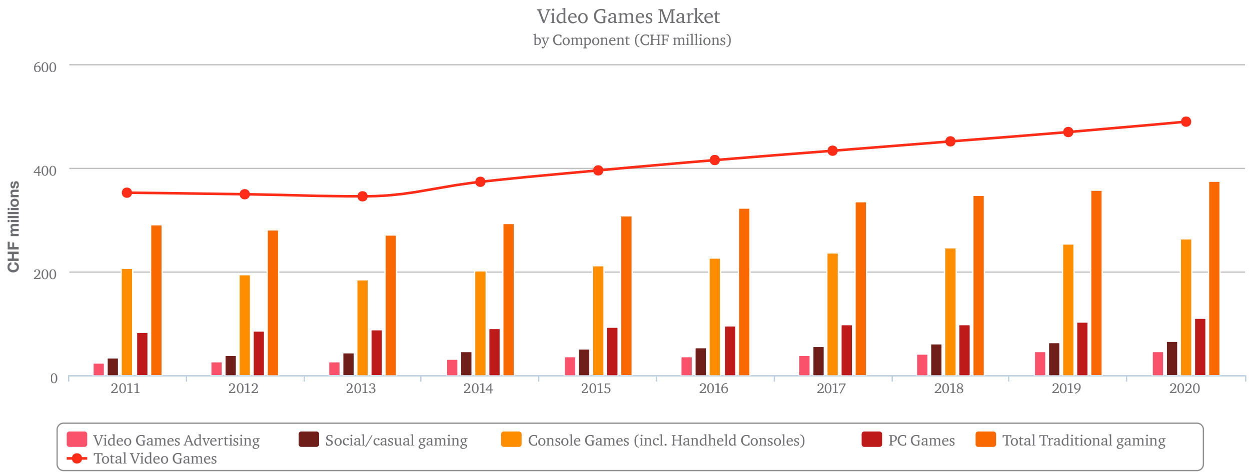
In comparison to Western Europe, Switzerland's 2015 performance was very good, mainly due to Netflix OTT/streaming that was introduced in 2014. Above-average cinema performance helped, too. In contrast, cinema across Western Europe was flat. Looking forward, streaming still holds great potential in Switzerland. Traditional TV distributors seem well prepared for the digital future. Thus, we expect the Swiss Filmed Entertainment to grow slightly faster than in Western Europe.The outlook in Western Europe is flat, because the shrinking physical sector that is not compensated by digital channels – at least not yet.

Video Games

Consumer spending per capita on Video Games in Switzerland is among the highest in Western Europe.

Traditional gaming still dominates the Video Games market but social/casual gaming is growing faster.

Virtual reality will stay core to gaming, while augmented reality will create more spill-over effects in other industries.



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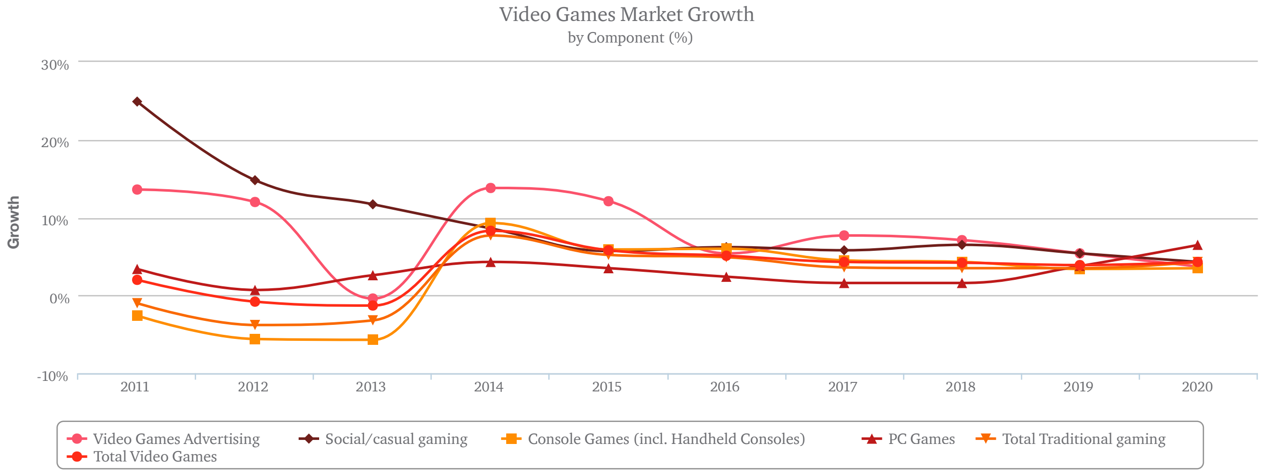


Analysis by PwC

Segment Definition

The video games segment comprises consumer spending on video games software and services (not hardware or devices), including both traditional and social/casual gaming, as well as revenue from advertising via video games. All sub-categories are exclusive of each other.

Traditional gaming includes revenues associated with PCs and games consoles (both TV-connected and portable). This covers physical (disc-based) game sales at retail (both bricks-and-mortar and online retailers), digital game sales (including Steam, Good Old Games and Origin for PCs, and the PlayStation Store and Xbox Games Store for consoles), and additional downloadable content (DLC) and subscription services. Traditional gaming also includes online/microtransaction revenue associated with free to play multiplayer online games but does not include spending on social and casual browser games.

Social/casual gaming includes consumer spending on and in app-based games on tablets and mobile phones, and browser games aimed at casual users. This includes revenues associated with the purchase of social and casual game apps, subscription services for social and casual games, and purchase of virtual items within social and casual games. This also includes revenues associated with "hardcore" mobile games (e.g. Infinity Blade 2).

Video games advertising revenue includes only static advertising in video games. It does not include dynamic advertising inserted into or displayed alongside the game in an app or browser during play.

The Swiss Video Games Market

Market Overview

Penetration of electronic equipment, smartphones and tablets, as well as internet connectivity of households, is important when it comes to video games. In all of these, Switzerland is among the world leaders. PCs and TVs are most everywhere, and smartphone and tablet penetrations have risen to 78 per cent (+9 percentage points since 2014) and 48 per cent (+11 percentage points 2014) respectively. Almost nine of ten households are connected to the WWW, and in households where the primary breadwinner is younger than 54, it's ten out of ten. Switzerland's Internet is being enlarged and improved, as many cities and also rural areas switch to fibre-to-the-home (FTTH) infrastructure to further enhance the internet speed. This creates new possibilities especially for online and browser-based gaming.

All this, combined with a high per capita income, sets a fruitful playground for video gaming in Switzerland. Video Games grew around 2.9 per cent (CAGR) between 2011 and end 2015 reaching total revenue of around CHF 395 million in 2015.

The Swiss Video Games market has experienced rising interest in recent years, and the segment is expected to stay in the spotlight. Not only have sales and customer numbers climbed, Switzerland's politicians, regulators as well as public initiatives target the innovative and tech-based industry. This is about technological progress, and also refers to novel business models.

Gamification is a key trend, describing how other industries connect their services with gaming to attract customers by using games as an enabling and motivating instrument. For example, virtual reality (VR) gaming is incorporated in training machines, to enhance the fun of exercising. Augmented reality (AR) games (e.g. Pokémon GO) are being used to attract tourists: for instance,

The Swiss video game industry receives far too little support to be lucrative for big players or to attract Venture Capitalists so far. Gaming companies in Switzerland depend on intrinsic, motivated talents, because monetary incentives are too small.

Sebastian Tobler
Founder | Ateo

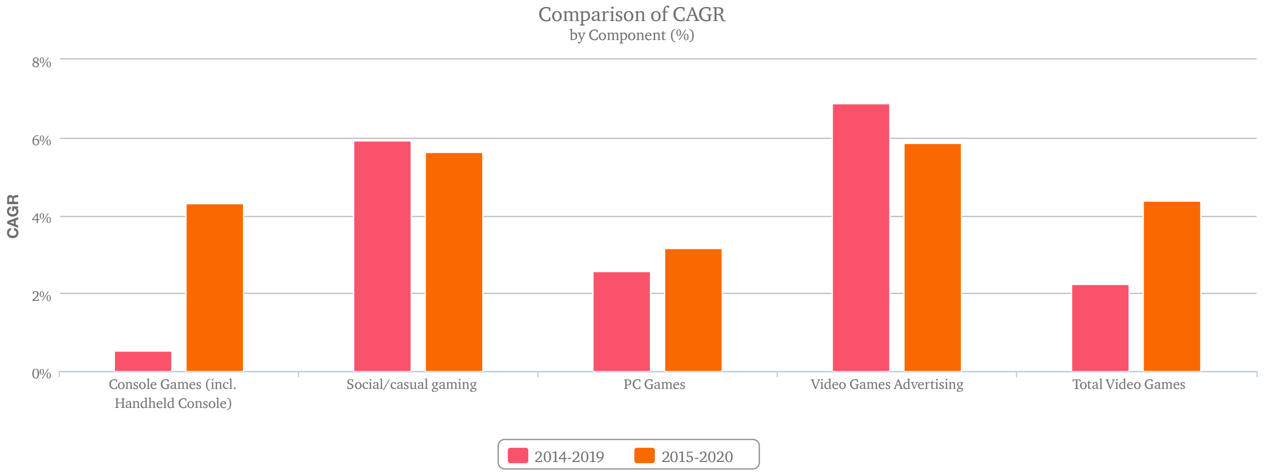
Pokémon are placed on mountain tops. VR and AR are the top trends in the gaming industry; they have the power to change the Video Games segment fundamentally.

Swiss video game makers are "indie" players with a low international profile. Few of their games have achieved global resonance. One of the few is the very successful 'Farming Simulator' of Zurich-based Giants Software, which is ranked among the world's top sellers for several years now. Overall, Switzerland is still a minor player in the global market. Pro Helvetica officially supports game makers, with its programme game-culture.ch. The Swiss game developer/design scene has grown within the last years to almost 60 companies.

Traditional gaming on consoles and PCs still dominates the market in absolute terms. Consumer spending here has increased at 1.4 per cent CAGR between 2011 and end 2015, with a total of CHF 309 million in 2015. Sales of physical games are declining, falling by 8.0 per cent CAGR for PC games between 2011 and 2015 and 5.9 per cent CAGR in the same period for console games. This is no surprise, given similar developments in music and video. There the change to the online retail is even more advanced. The trend will continue over the next 5 years, however at a slower pace.

Traditional gaming is expected to change fundamentally with further progress of VR. Never before has it been possible to experience and dive into another world so completely. VR technology will create totally new experiences and new games. Together with the sales of equipment, this will stimulate traditional gaming.

Social and casual gaming constitutes around 13 per cent of the total video gaming market in 2015 in Switzerland. With 10.1 per cent CAGR, social and casual gaming outperformed the traditional gaming segment between 2011 and 2015 in terms of growth, with app-based games providing to largest contribution. Social/casual gaming revenues are rather small compared to the traditional gaming, but its growth over the next 5 years will outperform other types due to the penetration of technological progress such as augmented reality. VR and AR will allow creation of new business models (in connection with non-video-gaming industries), and this "spill-over" will become monetarized.



Analysis by PwC

Advertising in video games is still relatively modest. With new technologies such as AR advertising will become more interesting, as new customers can be reached by such games.

Large Swiss telecom companies also are entering the market. Swisscom announced in September 2015 to connect a gaming feature to its next generation TV-box. Swisscom's clients would only need an additional controller to play the offered web-based games. UPC supports E-Sport and is supporting the first professional e-sports team in Switzerland. E-Sport is a growing part of gaming, attracting ever more audiences that make it interesting for advertisers.

Globally, Video Games is expected to reach CHF 86 billion in 2020. Growth is pegged at 4.8 per cent CAGR between 2015 and 2020. Advertising and social/casual gaming will dominate the growth, yet traditional gaming still has the largest market share. Physical sales continue to decline: revenues are expected to drop by 5.6 CAGR between 2015 and 2020.

Market Growth

Swiss Video Games are expected to grow just below 4.4 per cent CAGR (2015–2020). Differences between sub-segments are remarkable. Advertising as well as social/casual gaming will outperform traditional gaming segment in terms of growth. Digital sales (of all types) will grow in double digits, physical sales will decline. This development in general is not surprising, since other industries (e.g. music, film, literature) are facing similar trends. Spending on social/casual games is expected to grow more than 5 per cent CAGR from 2015–2020. Online spending in the traditional gaming segment is expected to grow by 13 per cent CAGR in the console segment from 2015–2020. PC games will in general lose market share. Overall consumer spending on video games is expected to reach almost CHF 500 million by 2020 in Switzerland. Even a bigger market can be created by firms that successfully enter and with the right partner strategy and unlock the huge potential of spill-over into other industries.

Key Players

In general, the Swiss video games market is very fragmented. Only a few players have an international profile (bit forge, Giants Software, Miniclip, Nothing agency). The most important players are:

Organisations and Institutions

Pro Helvetica supports the industry with its online platform game-culture.ch, where hot topics in the game industry can be found as well as a directory of active companies. Its content is prepared jointly with Zurich University of the Arts (ZHDK), Zurich University of Applied Sciences (ZHAW), the International Game Developers Association, Swiss Chapter (IGDA) and the Swiss Gamers Network (SGN). Pro Helvetica also organises the Swiss presence at international gaming conferences.

Developers

Game developers and designers in Switzerland have enjoyed increasing government and media attention lately. There are around 60 small to very small companies mostly located around Zurich. They often offer integrated solutions, in which gaming is only a component. Game development is expensive and risky, and competition is aggressive, so Swiss investors are still reluctant to fund video game makers. Their reluctance may recede, as the see some international developers opening offices in Switzerland, and as they realise interesting connections of gaming with other industries.

Telecommunication firms

UPC as well as Swisscom are entering or have already entered the Swiss Video Games Market. UPC has been very active in promoting gaming as an e-sport and supports several professional gaming teams. With a series of reports, UPC also offers insights into the gaming industry. Swisscom has published plans to incorporate a gaming-function in the next generation of TV-boxes. The incorporated game-function enables to play web-based games. To be able to offer these games, Swisscom has entered a partnership with Gamefly, the largest Game-on-Demand Company in the USA.

Multinational Firms

International giants still dominate traditional video gaming, due to the high resources needed for games and consoles development in this segment. The majority share of the video games market is now held by China's Tencent, the world's biggest game development company.

Principal Drivers

Increasing connectivity offers new potential for gaming

As Internet bandwith increases, cloud gaming becomes more attractive and more popular. It is already integrated in many consoles, and it is creating new cloud gaming opportunities, especially for data-driven technologies such as VR.

New business models create spill-over effects

The technological innovations from gaming will generate new business models and monetisation opportunities in corporation with other industries. These "spill-over" effects will help the gaming industry to monetise their technologies and services.

New customer segments will increase demand

Video games are attracting a broader customer base, particularly older generations and women. So-called 'Silver Gamers' are usually not seeking a high-speed action game, but rather a strategic puzzle or a classic board or card game. Their connectivity is rising: most own a computer, and their use of smartphones and tablets is increasing. As opposed to classic (young male) gamers, the Silver Gamer is usually well-to-do, and doesn't mind in-game purchases. The second group on which focus should be placed are female gamers. Most video games very openly address a male audience. Makers and distributors may need to adapt, to avoid scaring away a huge, potential client base.

Local multiplayer sessions stimulate social/casual gaming

The new image of gaming and the perception of gaming as e-sport open new opportunities. Gaming is becoming trendy and even mainstream with a growing number of customers. This is in part due to a Swiss innovation: AirConsole, a web-based platform that connects smartphones as controllers. Games can be played on a screen and each player uses a smartphone to play. AirConsole, under development at the University of Art Zurich (ZHdK) is meant to bridge traditional gaming and social/Casual gaming by bringing app-and web-based local multiplayer games on a TV screen.

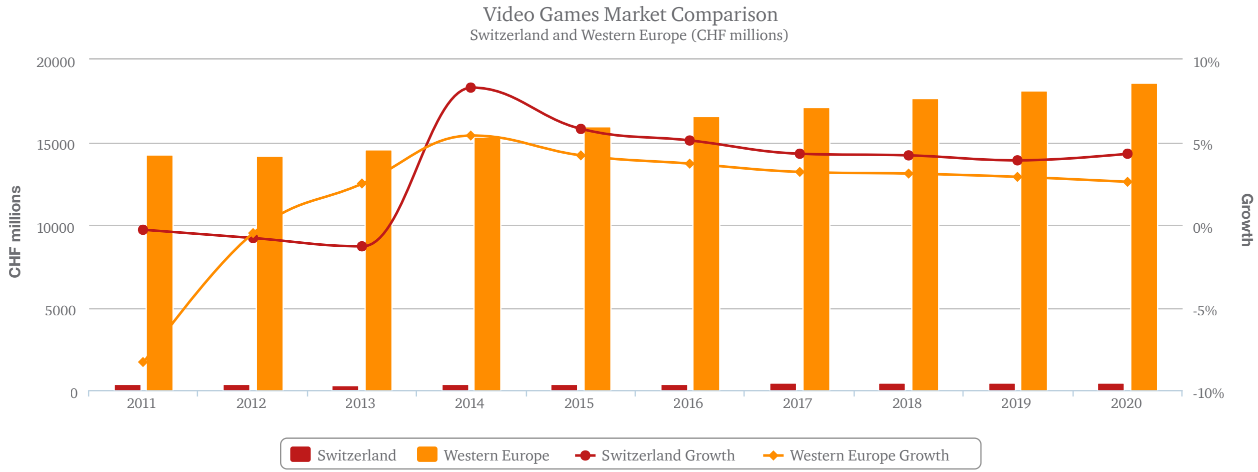
Media and public interest are building a new image of gaming

Media interest contributes to the new optimized image of gaming. This is pushing the industry and raising government interest in the gaming industry – which has resulted in funding for the ZHdK initiative. The gaming industry depends on experts. The further development and funding of university programs (e.g. game design at ZHdK) is the most urgent need of the industry to grow and therefore one of the most important drivers in the next years.

Business Innovation

Video Games is innovative and successful. Not only from a technical, but also from a business view. In terms of technical progress, VR and AR have dominated in the last years. While VR creates a completely new artificial environment, AR expands the existing user environment by integrating digital information in real time.

> *Regarding the gaming segment, VR is the most promising technology. VR provides an unreached way to establish near-perfect immersion and serves the desire for escapism in an inspiring and astonishing way. From a general technological perspective, AR shows even more potential, as you are embedded in the real world where we still spend more time.*
> ***Sebastian Tobler, Founder, Ateo***



Analysis by PwC

VR opens countless new opportunities for gaming and will change the gaming experience fundamentally. Especially in traditional gaming, players often have the intention to dive into a new world. VR creates imaginary worlds that attract gamers of every age. VR also creates spill-over effects to other industries. Gaming in connection with a training machine (e.g. ICAROS) will be followed by other applications. The demand for such games is obvious; however the obstacles of the high equipment prices (e.g. VR glasses) are still too high in order to reach a large consumer group today.

AR has become a key topic in the media, and it will stay there. AR enlarges the real environment with digital objects. This technology is successfully used in games such as Pokémon Go, and it has the advantage of not needing extra equipment (other than a smartphone) to use it.

AR can reach a far bigger group than VR, which makes AR interesting for other industries. Restaurants can enlarge their real environment, with digital-things from AR games. Tourist attractions can place AR game-items at special places in order to attract tourists. Tourism can even use countries as real board-games, potentially influencing the tourist movements within a country. AR also creates an opportunity for in-game advertising thanks to masses it can reach. AR allows new business models that are not limited to gaming, but instead connect different industries. Therefore, gaming has the potential to act as a connector of so far mostly separated industries. This creates opportunities to monetarize products and services (e.g. selling AR components to stores in order to attract customers). The technology for augmented reality will continuously improve and be adapted for other applications

Comparison to Western Europe

Switzerland accounts for around 2.5 per cent of Western Europe's Video Games segment in 2015. This number is not very high, however, when taking into account that the population in Switzerland accounts for around 2 per cent of Western Europe's population, consumer spending in Switzerland is among the highest in Western Europe. Per capita video game spending in Switzerland was CHF 43, comparable to France (CHF 45) and Finland (CHF 43) and in the upper third of all countries. The highest spending per capita is in the UK (CHF 80) and Ireland (CHF 55). Greece (CHF 9) shows by far the lowest spending per capita.

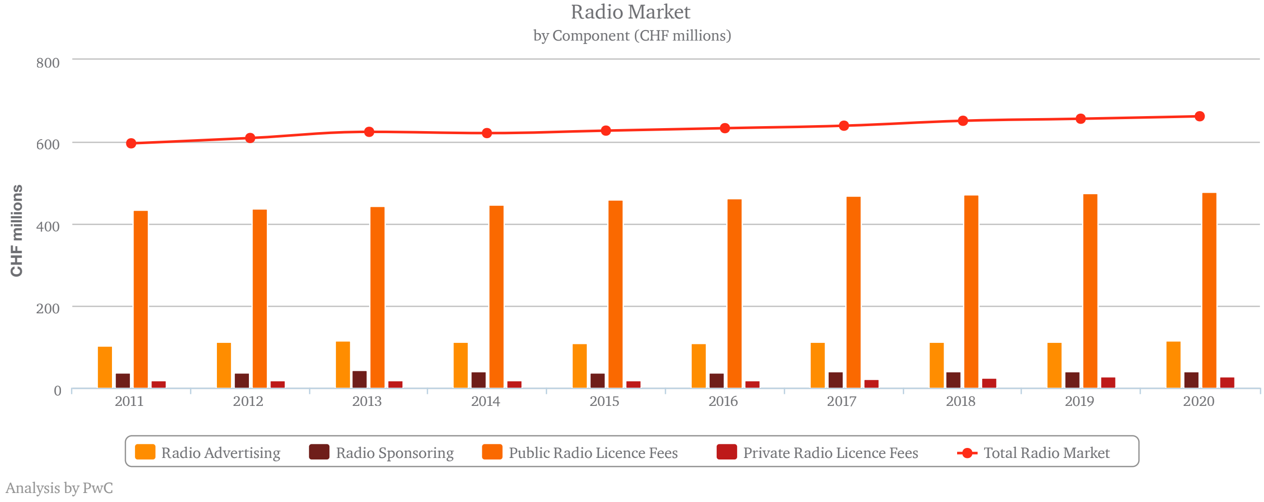
Switzerland's Video Games segment is expected to grow at 4.4 per cent CAGR between 2015 and 2020, well above Western Europe's growth of 3.1 per cent CAGR. Trends in sub-categories, such as physical game sales, have similar patterns in Switzerland as in the rest of Western Europe.

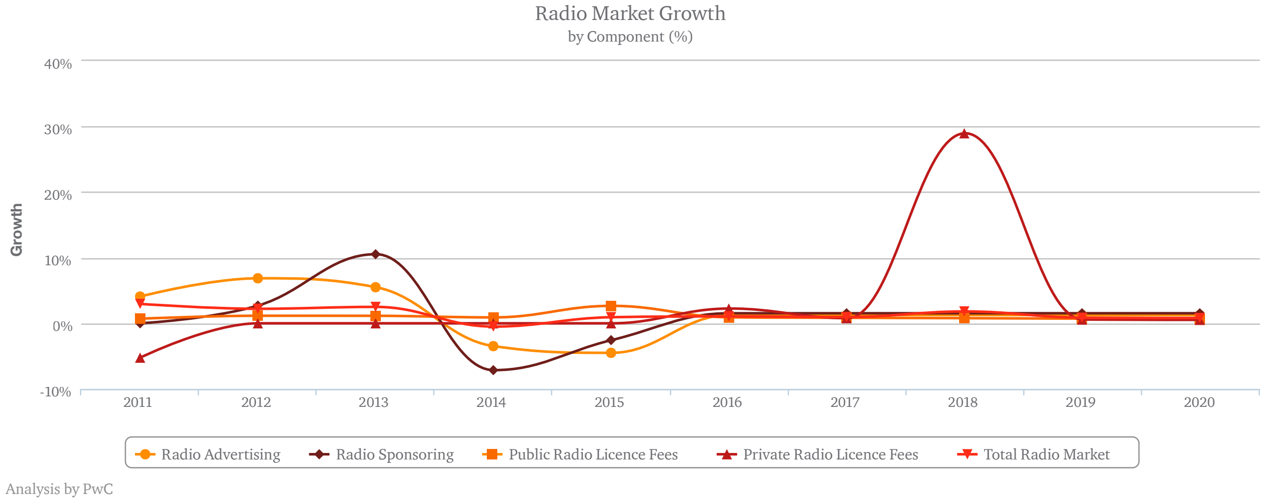
Radio

Almost all Swiss radio channels can be received via smartphone app.

Radio remains relevant in Switzerland.

Brands and community are important to gain a relevant market share.





Segment Definition

The radio market consists of revenues from public and private radio license fees, advertiser spending and sponsoring on radio stations/ networks. All radio advertising figures are shown net, excluding agency commissions and discounts.

Not included are radio programmes offered by online music or music streaming providers, that are financed through subscription models and advertising because no such data are available at the moment.

The Swiss Radio Market

Market Overview

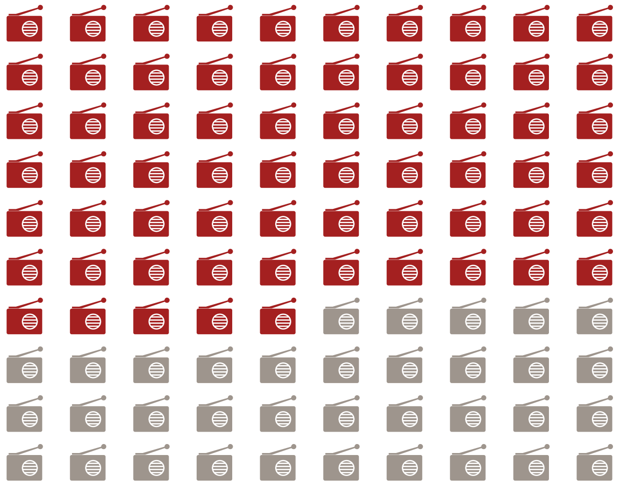
Radio in Switzerland is still popular. According to surveys, about 6.8 million Swiss (out of 8 million population) listen to radio. **Average consumption has been almost constant over the last years, with slight negative tendencies and currently standing at roughly 100 minutes per day.**About three-quarters (76.56 per cent) of radio revenues are generated by license fees. In Switzerland, the number of households, thus the amount of fees paid is continuously growing. Along with 90 per cent of public license fees, public broadcaster SRG SSR takes responsibility to provide all of Switzerland with adequate radio programming. This “public service” includes programs in all four national languages. Unlike the public radio channels, private radio stations get income in addition to license fees from advertising Private radio is therefore especially vulnerable to a possible decrease in advertising spending, whereas such a decrease is not foreseeable due to the unsurpassed and unique local focus of this advertising format. The advertising market is volatile to economic events. However, this is buffered, in that radio advertising is most commonly used if local businesses fear a short term decrease in revenues.

With growth of the Internet and more advanced possibilities for advertising online, especially on mobile devices, traditional media face declines in ad revenues. However it is unlikely that the Internet will supplant traditional radio advertising. Radio advertising reaches a significant number of consumers as it is embedded in the daily routine of most Swiss, be it during breakfast, in the car, at work or in public places. In addition, the format is very localised, so it offers little potential for economies of scale that would increase chances of disruption and attract global players.

Compared to Music, TV or Filmed Entertainment, Radio serves a particular consumer need not replaceable by any other broadcast format: first, it is (hyper-) local. Local news and local advertising address a narrow geographic audience, and they allow advertising at affordable prices. Second, radio allows listeners to hear music passively, without forcing the consumer to make a dedicated choice. Although streaming services such as Spotify or Apple are headed in this direction, passive listening remains a USP of radio. This, plus the fact that most radio income comes from regulated license fees, means that Swiss Radio will remain stable. Radio advertising is difficult to forecast precisely, but in any case will remain relatively insignificant.

Radio reception in Switzerland is of three types: conventional FM transmission; digital transmission; and internet radio. As communicated August 25th 2016 at the Swiss Radio Day, for the first time in history in Switzerland more radio is consumed by digital submission modes than via analogue channels (53 per cent via Internet or DAB+). FM radio comes to a level of 47 per cent of minutes listened via analogue technologies, whereas Internet and DAB+ stand at roughly the same level of 27 per cent each. All Swiss radio stations stream their broadcasts online, and most offer their own apps that allow users to listen via Internet-connected devices. Switzerland was one of the first countries to implement the digital radio standard DAB. In December 2014, the Digital Migration Working Group (DigiMig) formed by representatives of all major stakeholders proposed a measurement programme that should result in a shutoff of all radio transmission via FM by 2024. Ahead of Switzerland, only Norway announced an earlier shutoff for the year 2017. Strategically the working group decided that first of all it was important to have a great market share of digital reception and secondly shutdown the FM submission when it is not necessary anymore. The last step would be a transformation to mostly broadcasting radio, since IP-Radio is not yet of the same audio quality as DAB+ (and won't be, until 5G technology covers Switzerland by 2025–2030). So FM radio will be followed by several technologies, not just one (as was the case with the change from medium wave to FM). Huge marketing campaigns for DAB+, financed by federal funds, are planned in 2017/2018 to assure market share. State funding of the migration to digital will peaks then, declining to nil by 2024. Only one country will shut down FM earlier than Switzerland: Norway will close its FM in 2017.

Swiss listeners owned 2.4 million DAB and DAB+ compatible radio receivers at the end of 2015; they can receive 96 programmes broadcast by 61 stations Swiss-wide. Outdoor reception of DAB+ reaches to 99 per cent in Switzerland including streets and all the important highway tunnels. Digital radio took off slowly, probably a result of two factors. The obvious advantages of digital radio were few (unlike digital TV, which introduced on-demand viewing, mobile TV, HDTV and interactive functions). Also, the automobile remains one of the bastions of conventional FM.



65 per cent of new cars in Switzerland offer the DAB+ as standard.

Radio is the advertising medium for short-term results. If you have a truck full of berries and you need to sell them soon, then you should advertise them on the radio. Radio helps also to support branding messages.

Jürg Bachmann
President of the Association for Swiss Private Radios and Head of Communication and Marketing/Public Affairs | Goldbach Group

Increased use of digital radio in the last year can be explained with technological improvements of home radio equipment and also by sale of 150,000 new cars equipped with digital radio technologies. About 65 per cent of new cars in Switzerland offer the DAB+ as standard, and an upgrade to DAB+ costs only CHF 160-500. Today, about 30 per cent of the radio received in cars is digital whereas there is no indication of sources in terms of DAB+ via Internet. And the smartphone is gaining ground. Until recently, cars were the last remaining smartphone-free zone, but now the car, has also been impacted by new technological possibilities to include smartphones as the new multimedia solutions'. With more Internet streaming, less DAB+ and FM might be used in future. If this trend continues, the success story of digital radio might be interrupted harshly.

With the acceptance of the new radio and television law (RTVG) in June 2015, not paying for received radio services will be a thing of the past. With additional radio fees, the state plans to expend distribution of digital radio. Especially private radio stations are struggling with the extra costs associated with simulcasting. The new law will be effective as of January 1st 2018.

Market Growth

Advertisers are becoming more aware of the Internet. Still, over the mid to long term, radio advertising and sponsoring spending are expected to remain steady, thanks to its unique proposition of the (hyper-) local format. In licence fee revenues, we expect to see a modest increase as the amount of registered households continuously grows. License fee income after 2018 is likely to differ significantly from our forecasted revenues, as the new RTVG has not been published yet , whereas it is foreseeable that in 2018 the private license fees will increase with the new law.

Radio Market Comparison
Switzerland and Western Europe (CHF millions)

Analysis by PwC

Performance contracts are key for private radio, since they are the best way to stay on the political agenda. This was not articulated enough in the euphoria over new technological possibilities with DAB+, but we noticed early enough.
Jürg Bachmann, President of the Association for Swiss Private Radios and Head of Communication and Marketing/Public Affairs, Goldbach Group

Key Players

Most-listened-to are public radio stations. SRF 1 leads the field, with a Swiss-wide market share of 24.6 per cent. Its French counterpart, La Premiere, represents with 13.6 per cent the third-most listened-to.

The most successful private station is Energy Zurich, which together with other Energy stations in Bern and Basel, is part of Ringier, the largest private publishing company in Switzerland for the first time in their 13-year history. Radio 24 is second most-listened private radio. It belongs as Radio Argovia to Radio Medien AG. Radio BNJ FM and 3i are popular private stations in the French respectively Italian parts of Switzerland. Foreign stations hold a Swiss-wide market share of about 2 per cent. The private radios have two associations whereof one represents the German and Italian speaking radios and one the French speaking radios. This is based on different market forces since in the French speaking Switzerland SRG doesn't have regional programs whereas in the German speaking Switzerland SRG directly competes with the private radios in that area. This leads partially to inefficiencies in the market. Moreover, the market entrance of Admeira holds potential for significant changes to the competitive landscape regarding radio advertising.

Principal Drivers

Local focus and listeners

Traditional radio has a huge advantage over global radio and streaming services. Broadcasters can customise the information they send based on the location of their listeners and thereby gain relevance. By combining social media, live events, trendy music and appealing and significant content, radio will remain strong. Listening to music has become a private experience; radio can differentiate itself from that tendency by actively supporting a personal relationship with and among their listeners, as well as by satisfying their individual needs. People are longing for individualism, so tuning into the same sound as everyone else is not appealing. Instead, radio might need to further engage with its community of listeners to profit from the social and local networking dimension.

Hyper-local advertising in other media formats

Private radio stations that rely on advertising revenues are particularly vulnerable to decreasing advertising spending or price erosion. Although the advertising inventory still serves a particular group of local advertisers, new advertising formats may put that inventory under pressure. An increasing number of apps and mobile services are capturing users: new advertising offerings that are even more local and combine different formats (e.g. text-over–voice, video, etc.) can be observed in the online and mobile segment. Although these offerings are still in their infancy, private radio stations should catch up with this trend and innovate themselves, which will be possible in new ways with DAB+. Ever more adverts will be multi-channelled (broadcast, online, streamed).

> *I am not greatly concerned about the classical business model of radio stations, if we do our homework and keep adapting to the state of the art. It is clear that radio needs an online presence, that we need to implement videos and that we have to develop new ideas, but so far, the mix of the business model is working.*
>
> ***Jürg Bachmann, President of the Association for Swiss Private Radios and Head of Communication and Marketing/Public Affairs, Goldbach Group***

Mandatory license fees

The lion's share of consumer spending in Swiss radio is originated by license fees. These are mandated by the state to guarantee adequate public service not predominantly driven by business considerations. This ensures public stations predictable and safe sources of revenue. With the change of the law (RTVG), private radio stations will probably receive more public licence fees in the future (details are yet to be defined). The SRG must contribute to the cohesion and exchange of all language regions. Private radio must broadcast relevant news from the regions (as part of its 'public service'). Some of licence fee revenues are available to support technical changes.

Online radio stations and 'Big Data'

Apple Music last year launched its own radio station, Beats 1, which unlike other "radio" services offered by streaming providers, is hosted by three DJs and includes special features such as interviews with musicians. Like most music services, it uses the information from the web to arrange playlists, report on news and gather feedback. Traditional radio needs to recognise the Internet as source of inspiration and valuable consumer data, not as a threat. The digitization of radio might continue, but local radio will remain a unique offer for regional advertising.

Technological changes

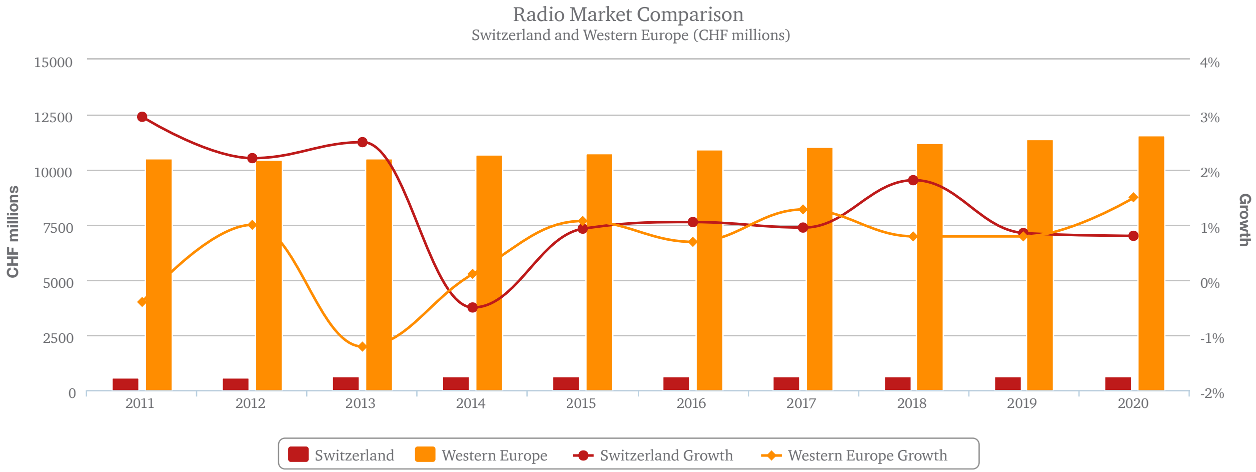
Due to the change to DAB+ and the possibility of online streaming even in cars, radio is facing heavy changes. Simulcasting will put even higher pressure on cost structures of private radio stations. On the other hand, private radio will profit from better reception throughout the country, which will allow market share increases. The big change of upcoming IP-radio is the end of the independent business model. Whereas radio broadcasting is a well-functioning business model, internet radio gives network suppliers the power to interfere in radio stations operations with additional radio fees – as Vodafone does in Germany. Radio is in danger of a paywall, with a change of the entire market and business models.

Business Innovation

Traditional radio stations are confronted with new competitors in the form of online streaming – companies such as Apple Music, Spotify or Pandora. These global streaming radios are implementing podcasts, live DJs, live moderation and targeting the core functions of news, weather, sport and traffic.

SRG and especially local radio stations can no longer assert themselves only through news and music. Radio stations are enhanced by interaction with the audience through social media, professional online presence, promotions and events. Popular examples are the live broadcasting of Radio SRF 3 on the television channel SRF 2, including video broadcasting of the studio, or live streaming of studios on the Internet. Another example is Energy Zurich, the no. 1 among the local radio stations, which has become a radio community, organizing annual fashion shows, film events and the concerts "Energy Stars for free". Tickets to these can't be purchased but only won on airtime, including that of Energy TV or 2nd and 3rd music channels.

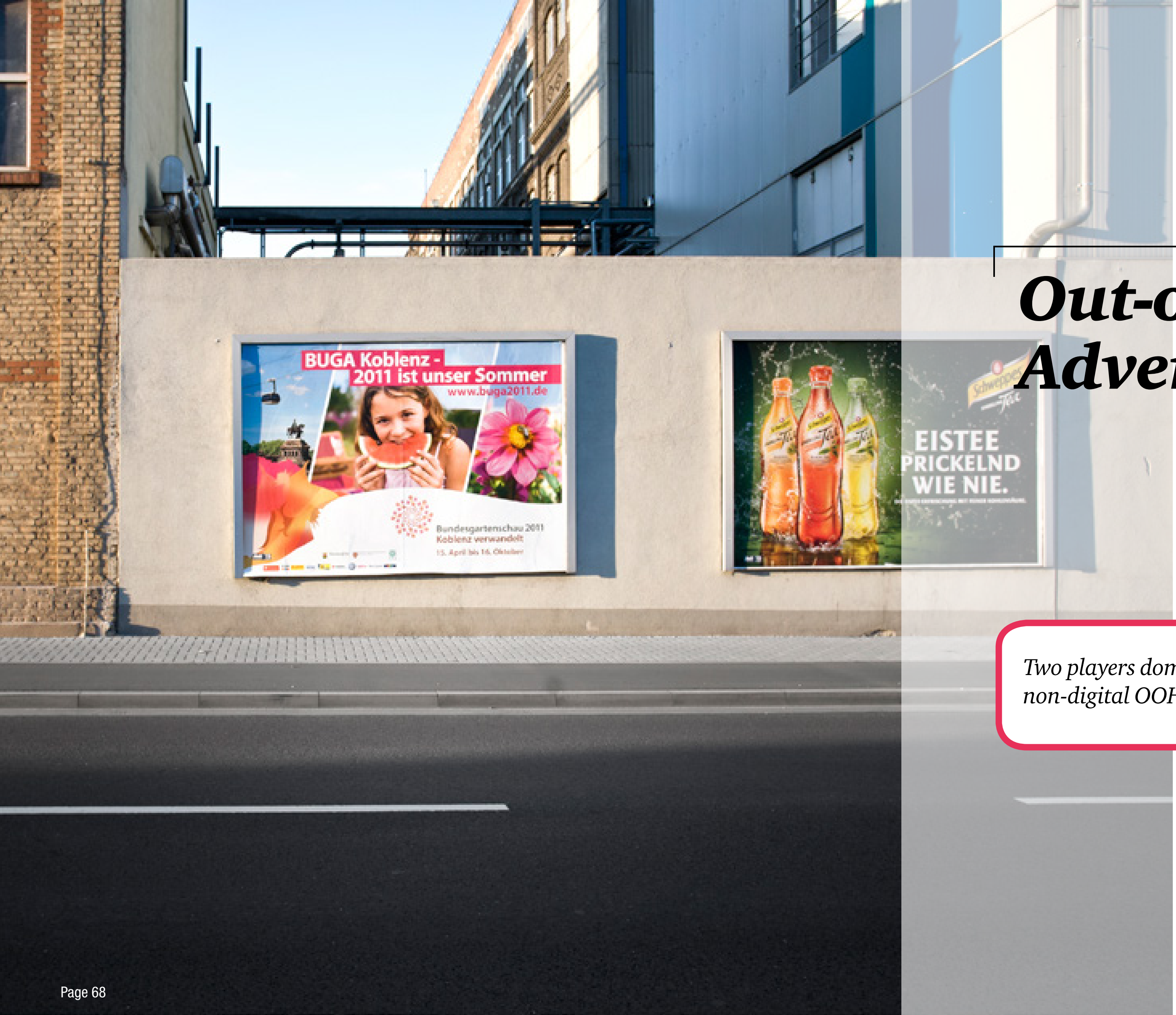
Radio is more and more reliant to adapted business models. The target audience will change from listeners only to a community of similarly-oriented people. The financing is then more attractive to bigger companies, who want to be associated with the brand. With the advent of digital broadcasting, these brands can be used in larger geographic regions. Whereas FM transmission was licensed by the Federal Office of Communication, DAB+ does not need concessions. So, well-known brands can penetrate an entire language region while still maintaining the regional character of radio (as SRG does with its regional journals). The rise of strong brands is highlighted in the latest brand awareness study of publicom.



Analysis by PwC

Comparison to Western Europe

Swiss public perception of radio is similar to that of all Western Europe. Radio is part of one's daily routine. Stations are usually chosen to fit a certain taste in music, but also to receive news updates. Switzerland is among the first Western European countries, along with Norway and the UK, to implement DAB/DAB+ technology. After Norway, Switzerland was the second country to announce the shutdown of FM broadcasting. Still, by far the biggest radio market is Germany, mostly as a consequence of its high license fee revenues: Germany accounts for 34.9 per cent of the Western European radio market.

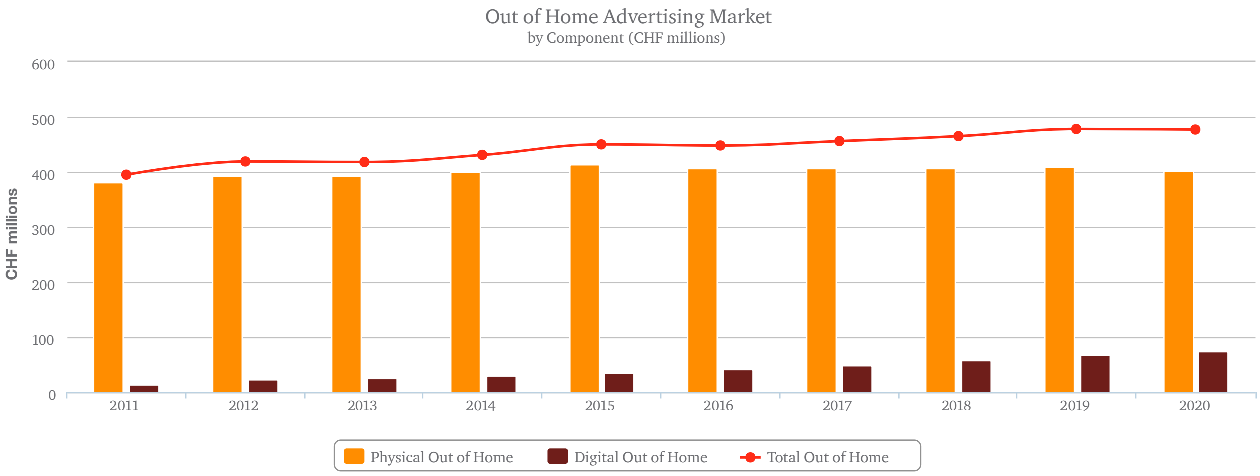


Out-of-Home Advertising

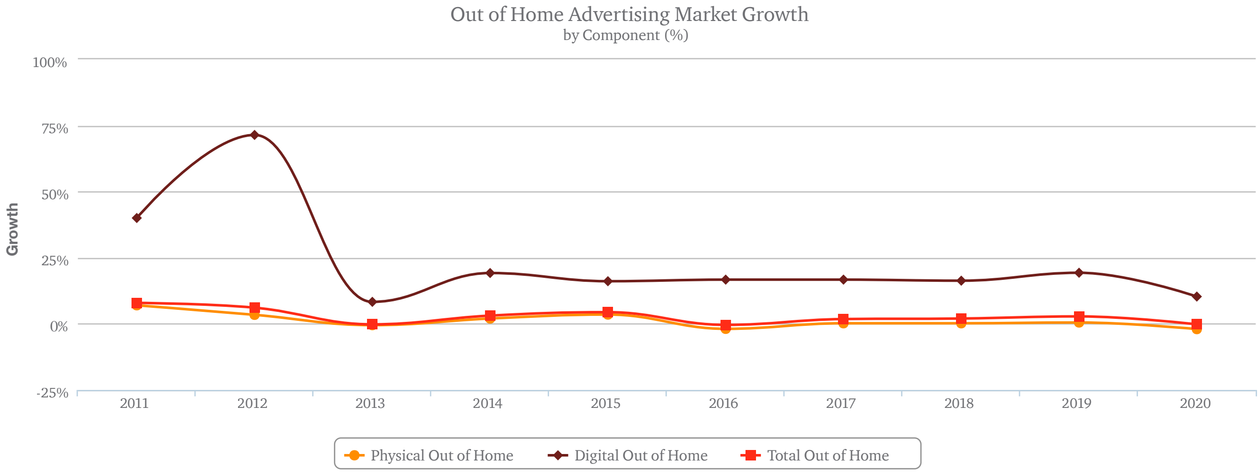
Growth of OOH Advertising revenue in 2010–15 averaged 3.9 per cent per year.

Two players dominate Switzerland's non-digital OOH market.

Digital OOH has immense potential, but will not exceed non-digital OOH in the next 5–10 years.



Analysis by PwC



Analysis by PwC

Segment Definition

Out-of-home (OOH) Advertising comprises the net advertising spend (excluding agency and production costs) for non-digital OOH media, such as posters (billboards, paper placards of various formats), public transport (leaflet holders, lettering and painting of rolling stock, banners, etc.), sports and stadiums, and digital OOH (DOOH) such as ad screens, beamers and electronic billboards.

The Swiss Out-of-Home Advertising Market

Market Overview

Switzerland's OOH is dominated by APG and Clear Channel Outdoor. There are a number of smaller players in the market, especially in the digital out-of-home market (DOOH) segment, of which Neo Advertising, Goldbach and passengertv are the most significant.

The entry barrier to the OOH market is high, due to high investments and time needed to establish a meaningful network. Nonetheless, Neo Advertising and passengertv have demonstrated impressive growth in niche markets. Future developments are heavily dependent on market leaders' investment capabilities and small player's abilities to identify and establish new markets.

In Switzerland and around the world, the OOH market is transforming from conventional poster advertising to digital billboards. Many conventional billboards are being augmented with backlit displays and, later, replaced by digital screens. Price declines in large plasma and LCD screens support the growth. However, due to regulatory restrictions in public areas and the associated sizeable investments, conversion is going slower than expected. Meanwhile, non-digital OOH remains lively and presents innovative settings.

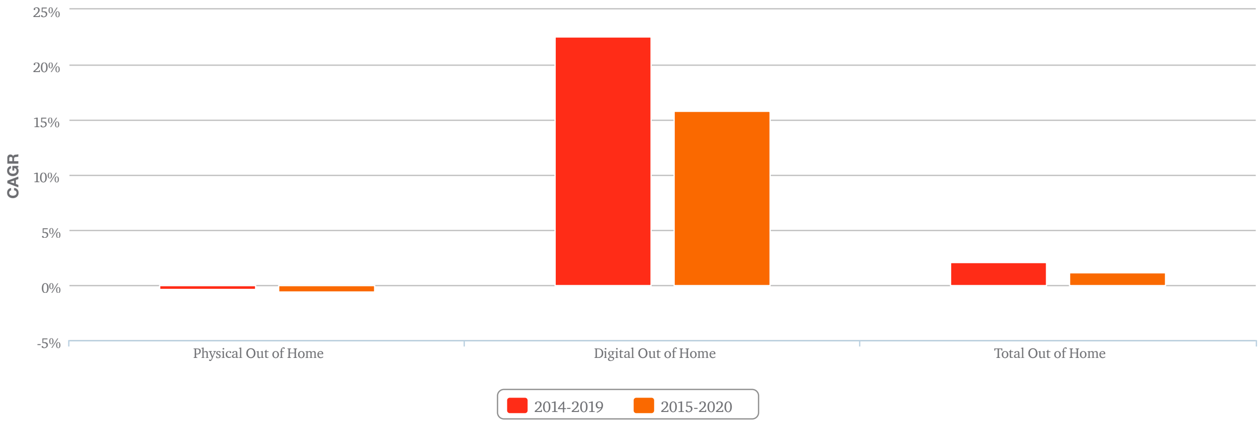
DOOH is more eye-catching, and it meets demands for better targeting and feedback. Each advert can be displayed at a time best suited to reaching its target audience, for example at airports, in public transport vehicles or train stations (narrowcasting). DOOH billboards can change with the weather, e.g. from showing umbrellas and gloves to sunglasses or ice cream. Or they can enhance interactivity with the viewer through the use of **QR Codes**, **NFC** (Near Field Communication), beacons or live screening of viewer content.

DOOH benefits location owners and advertisers alike in being able to engage customers and/or audiences and extend the reach and effectiveness of marketing messages. The advertising industry is convinced that the broadcasting environment is becoming increasingly important, because it can affect customer perception positively.

Advertisers prefer to book campaigns with certain coverage across regions. Current DOOH-networks allow this only to a limited, but growing, extent (e.g. at airports, train stations, bus stops or shopping malls). Display boards at 17 Swiss train stations are digitized – the largest boards are the eBoards of APG | SGA Rail, which are largest electronic, indoor advertising spaces in Europe. They display a mixture of animated adverts – so-called “PosterSpots” – as well as news, business, sports and culture.

At the end of 2014, the first LED board was installed and tested at the Neuchâtel Station. Tests included the playing of commercial DOOH content. Since then, Rail eBoards have gone up in major stations in Switzerland, offering up to 60-m2 display, with high image quality and high color intensity. DOOH’s attractiveness is increasing thanks to its ability to make use of **streaming** video as an alternative to television (and there are online and cinema advertising formats). Its only constraint is that DOOH usually cannot make use of sound, a disadvantage compared to TV or cinema. Current DOOH screens are used with limitations to stream video broadcasts rather than to allow more frequent board rotations and “light animated” images. Light animation, such as a certain amount of motion in a picture, appears less disturbing to the public and therefore might face lower regulatory restrictions.

Comparison of CAGR
by Component (%)



Analysis by PwC

Market Growth

Switzerland’s non-digital OOH is saturated. Outdoor advertising instruments (poster panels, poster stands, advertising towers, mega posters on buildings or other suitable public surfaces) are fully exploited, and governed by regulations. OOH advertising companies are therefore very keen to acquire further space from private individuals or investors (e.g. on buildings, malls, business centres, ski areas, privately owned car parks and public transportation), and focus on efficient, profitable contracts. Swaps of locations, such as cities, transportation networks, airports or malls, between the advertising companies are frequently seen.

We do not expect long-term growth in non-digital OOH. Downward price pressure due to high capacities, changes in the market mix and replacements to digital products is the main influencing factor. Certain effects, such as federal elections or votes (e.g. parliament in 2019), will occasionally result in higher spending. The transportation market will remain stable, supported by increasing passenger volumes and lengthening commute times.

We expect DOOH advertising to show annual growth rates of more than 10 per cent. Regulatory restrictions, cost-intensive trial periods and related investments resulted in slower growth than originally expected. However, the development of interesting networks (e.g. bus stops) and declining costs support the transformation from non-digital to DOOH.

Principal Drivers

Transformation to digital billboards
The OOH market is being transformed by the deployment of digital billboards, other digital screens, as well as the expansion of captive video networks such as in buses, stores or railway stations. As well as being more eye-catching, DOOH enables each advertisement to be displayed at a time best suited to reaching its target audience and will thereby enhance the cost-effectiveness for the advertiser.

Declining costs of DOOH infrastructure and technology
The cost of enlarging DOOH infrastructure continues to decrease, and larger DOOH networks stretch the reach of campaigns. This is why DOOH is growing, also because digital signage offers flexibility in displaying sequential ads, part-day bookings, pricing schemes based on effective audience, interactivity and the enhanced measurability of advertising impact.

OOH is high-value advertising
Advertisers are aware of the value of OOH advertising and improved measurement techniques provide accurate reach and frequency data comparable to other media. So, advertisers can measure the cost-effectiveness of OOH versus other media and integrate it into their media plans. Improved audience measurement usually increases spending, both in total and as a way of justifying price premiums. Not only due to the enhanced measurement possibilities, but also due to the growth in DOOH, the cost-effectiveness of OOH is increasing.

Interactions within OOH media
OOH media in combination with the wide distribution of smartphones and technologies like Beacons, NFC or QR codes are leading to enhanced interaction possibilities with the audience. This will ultimately result in more engagement and more effectively stimulate people to purchase products. Furthermore, this will provide valuable feedback to advertisers on consumer behaviour. Typical interactions are calls to action via votes, polls, sweepstakes and promotions, call-back requests and text-for-info, as well as mobile coupons and games via mobile devices.

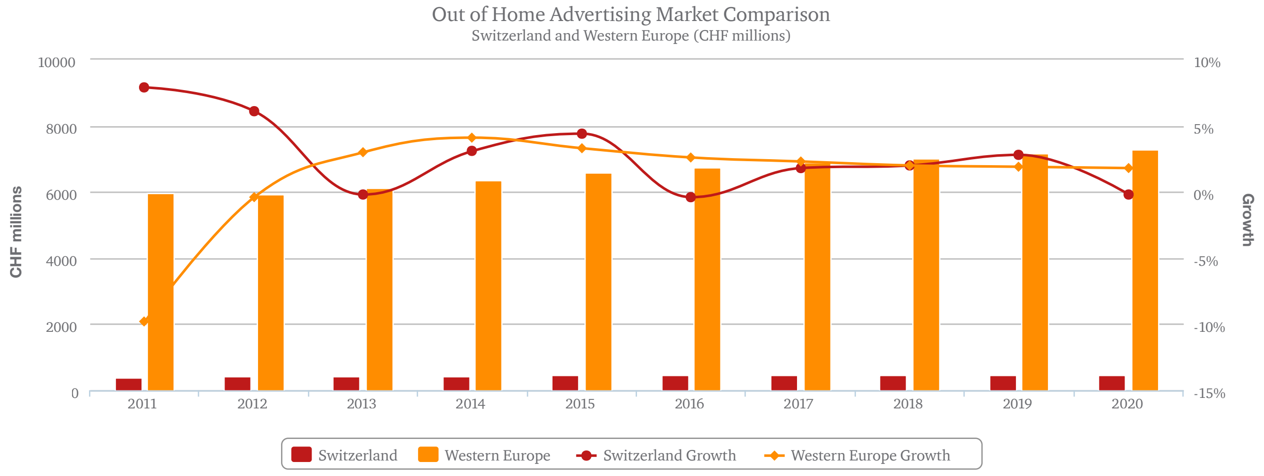
Innovative advertising channel with wide possibilities
Compared to other media like TV, radio, newspapers and magazines, both digital and non-digital OOH advertising offer a range of possibilities to create inspiring, head-turning campaigns. In a world with an overabundance of information and amenities, it becomes ever more difficult to get attention, be eye-catching and standing out from the crowd. Advertisers' creativity is inspiring, what has been realised is tremendous, and it includes: full station branding, integration of billboards in surroundings, 3-D billboards, 4-D billboards with sound or smell, live-screening of viewer content and interacting billboards.

Business Innovation

New technology and its anchoring in society drive innovation in the OOH industry. Such technologies are Beacons, NFC or QR codes.

Placed in a strategic area, Beacons send out simple messages to any smart device in the surrounding area without depending on an internet connection. NFC or QR codes work similarly, by either touching or taking a picture of the code. These technologies allow brands to transmit tailored information and match the target audience with the right message at the right place and time. Possible applications would be for restaurants to promote their daily menu, for shops to give away vouchers to passers-by or to show departures and delays to people waiting at a bus stop. Ultimately, they lead to an enhanced interaction with the target audience and provide valuable feedback to advertisers on consumer behaviour. After various trial phases across the world, Beacons and NFC have been employed in various projects, also in Switzerland.

Another development to target key audiences better (narrowcasting) are programmatic platforms. This approach aims to dynamically sell and display the most appropriate ads, in the style of Internet advertising. A key challenge for such dynamic applications of DOOH is gathering the real-time information needed to target viewers accurately. For example, two recent tests were made of feeding data such as flight arrival times into its displays, and placing cameras on the billboards to attempt to analyse the gender and age of viewers.



Analysis by PwC

Comparison to Western Europe

The highly developed Swiss OOH market is the fourth largest in Western Europe. It is expected that Switzerland will show lower annual growth rates, compared to Western Europe.

The UK is the largest OOH market in Western Europe, with revenues of CHF 1.8 billion, followed by France with CHF 1.4 billion. The UK also leads in DOOH advertising (ca. 30 per cent of OOH spending). We expect continuing strong growth in DOOH; it should surpass physical OOH by 2020.

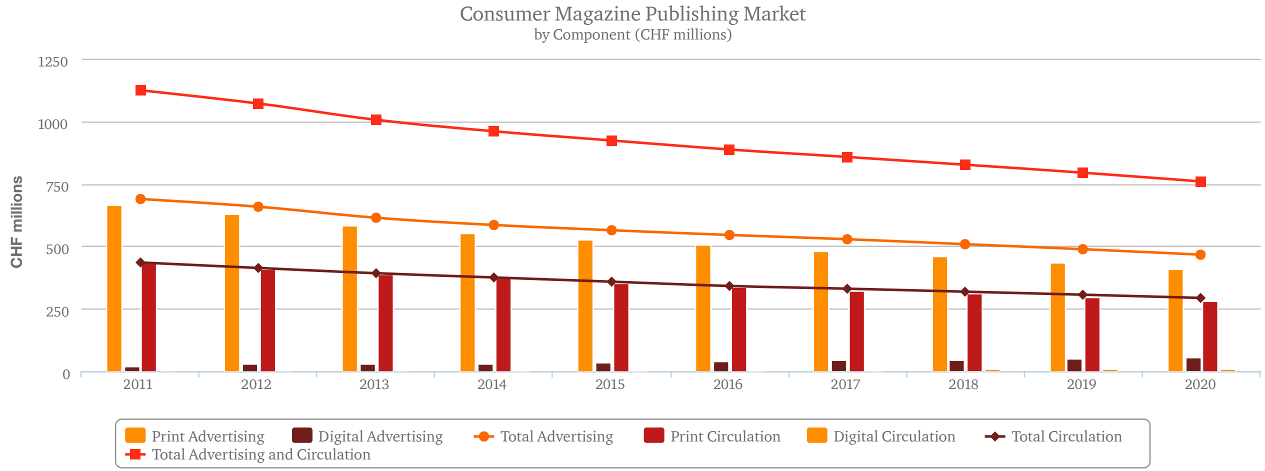
Germany, the third-largest market in Western Europe, is expected to grow more than 2 per cent per year and to reach CHF 1.2 billion by 2020. Compared to Switzerland, the German market is quite decentralised and focuses on the big cities and the Rhine-Ruhr region. Ströer, the market leader, is continuing to expand its network across the country to provide more comprehensive coverage.

Consumer Magazines

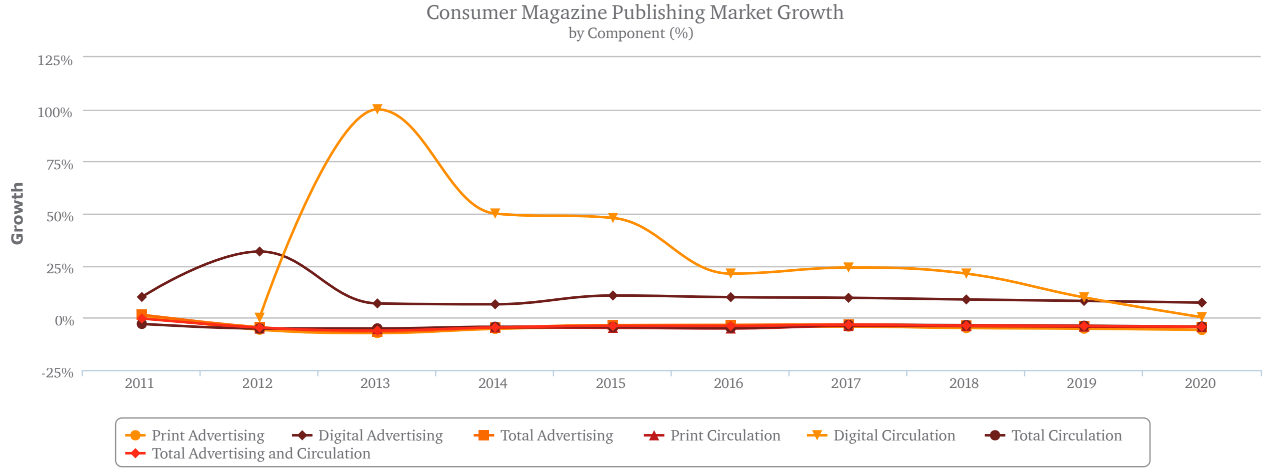
Print revenues are still predominant in Consumer Magazines, yet declining.

Monetisation of digital content is progressing slowly; its volume growth will not compensate the print decline.

Younger audiences are attracted by new sources of entertainment available on the consumer's preferred specific platforms.



Analysis by PwC



Analysis by PwC

Segment Definition

The Swiss Consumer Magazines publishing market comprises spending by advertisers on consumer print magazines, magazine websites and magazine mobile sites, including applications for smart devices. Consumer magazine publishing also reflects spending by readers to purchase magazines via subscriptions or at retail outlets and kiosks, as well as paid online and mobile subscriptions for portable devices. Magazines published under contract, known as customer magazines or custom publishing, are also included in the print advertising component.

Figures do not include licencing or other ancillary revenues. Trade magazines are not included.

The Swiss Consumer Magazine Market

Market Overview

Consumer magazine publishing draws on two major revenue streams: advertising, and circulation; with a 60/40 revenue split between the two. These can each be split into print and digital. Digital spending represents only four per cent of the market, print for the remainder.

Even though digital circulation is carrying on its very positive trend seen in the past 2 years and digital advertising is growing fast as well, they account for a minor part of the market. This limits their impact for the development of the consumer magazine market at large. Given these proportions, development of the print sector is the key to the overall consumer magazine market. And print has for the past four years been in decline.

Analogue to previous years, the broad and extensive supply of digital news causes a further decrease in readership for traditional print magazines. Smartphone saturation, digital news sources, blogs, Internet platforms and many other substitutes are pressing traditional consumer magazines. Like newspapers, they have to rethink their business models and focus on monetisation to survive.

As its positive trends in digital divisions indicate, investment of established players in digitalisation has an impact. However, due to the marginal role these revenues still play, such efforts are not able to compensate the substantial losses in print. Market entrances of new players in this area further complicate compensating losses through digital channels.

It is not likely that print will be completely replaced by digital counterpart or that the losses in print revenues can be compensated with digital income. Correspondingly, publishers are not focused solely on the digital sector; they take care of print as well, because print still generates most magazine revenue.

In circulation, the major challenge publishers face lies in monetisation. Consumers are reluctant to spend on digital magazines. Ad-blocking software and the ready availability of free online alternatives also hinder revenue. Still, print circulation is shrinking only slowly. Growing digital activities are impairing print revenues only slightly. And there is still a considerable share of readers that value physical media, who prefer to read printed magazines.

With advertising revenues, we observe a similar development. Revenue from digital advertising is growing steadily; printed advertising is shrinking rapidly. The result is an overall declining consumer magazine market. The announced joint venture between Swisscom, Ringier and SRG has no market in 2015. It will be interesting to see however, how well this joint marketing company will cope with the challenges faced in an increasingly digitalized consumer magazine market. Ideally, it will be able to monetize the potential lying in digital magazines.

Tamedia has announced new, centralised departments to start business as of January 1, 2017. With the department “Advertising & Commuter Media”, Tamedia will merge its sales teams into a centralised advertising market unit. The aim of the new structure is to simplify planning and booking cross-media and cross-platform campaigns. Considering the changing consumer behaviour and the growing demand for multimedia, cross-platform advertising, we assume to see similar moves of other major players.

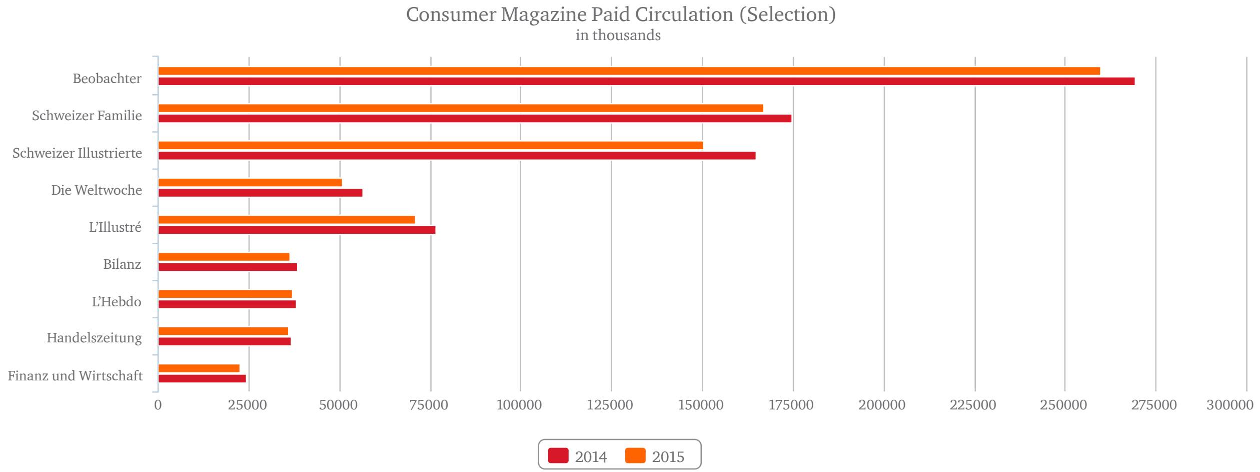
Underlying this is a rapidly changing competitive landscape. Magazine publishers now have to compete not only against traditional, well-established publishers but also entirely new players like video bloggers on YouTube, digital-first publishers and even against consumers themselves, who produce content on their own and distribute it using social networks.

> *"The competitive landscape for publishers is changing dramatically. It is not only classic players anymore, but also YouTube, Facebook and so forth."*
> ***Marco Gasser, Head of National Advertising, 20 Minuten, Tamedia AG***

Most magazines have digital editions and websites, but these are difficult to monetise for two main reasons: first, the diffusion of free content online and the rise of ad-blocking software. Studies report that worldwide nearly 200 million people use some form of ad blocker which costs publishers 22$ billion in lost ad revenue in 2015. Even though these are international numbers, the problem is relevant to publishers in Switzerland. Due to the rather small willingness to pay for digital magazines, advertising revenue is essential to driving digital revenue. Publishers like Forbes and Axel Springer have begun to block users of ad-blocking software from accessing content on their websites. Whether this means that consumers will turn off their ad blockers, or simply look elsewhere for content, is not yet apparent.

Market Growth

Magazine publishers face a dilemma when thinking about growth: how do they drive digital revenue without pushing consumers away from print, which is still their main source of revenue?



Analysis by PwC

Print advertising and circulation continue down. Rates of descent are slightly flatter, but especially print advertising is expected to shrink steadily. The structural downturn in the consumer magazine advertising remains at the same level.

While digitalisation threatens revenues in classic print sectors of the consumer magazine market, the new technological possibilities create potential for revenue growth. We expect spending in digital advertising to grow considerably, as advertisers will exploit the unused potential in these new fields. At the same time, digital circulation is expected to grow strongly by absorbing demand from print circulation.

Still, digital accounts for a minor share of overall consumer magazine revenues which limits its influence on the consumer magazine market at large. Furthermore, Swiss readers of consumer magazines remain rather print-oriented. Printed magazines are still perceived as valuable, worthwhile.

> *As long as publishers have enough (advertising) inventory ad blocking is not really a problem. But publishers are definitely concerned with it. There are two options: One, you deny access if an ad blocker is enabled or two, you charge the reader.*
>
> ***Marco Gasser***
> Head of National Advertising | 20 Minuten | Tamedia AG

Overall, this will result in a regressive Swiss consumer magazine market. Consumer magazine publishers have to make digital more attractive without competing against their own print. For instance, they could offer digital news for specific audiences or provide deeper information on specific topics that are already mentioned in the printed magazine. Then, readers could access the digital news with a QR reader and potentially pay for it. In summary, the key to success seems to lie in a co-existence of digital and print rather than the replacement of one with the other. By seamlessly integrating digital and print, publishers should be able to enhance the customer experience in a way that helps to raise revenues of Consumer Magazines at large.

Key Players

Few publishers dominate Consumer Magazines in Switzerland. The main publishers are Ringier (Schweizer Illustrierte, SI Style, Schweizer LandLiebe, etc.), Tamedia (Schweizer Familie, Annabelle, 20 Minuten Friday, etc.) and Axel Springer Schweiz (Beobachter, Bilanz, etc.). In 2016 this competitive landscape experienced a fundamental change, foundation of the Ringer Axel Springer Schweiz AG: This company is a joint enterprise founded by Ringer and the Axel Springer SE, now the largest magazine publisher in Switzerland. It produces 30 titles with over 500 issues per year and employs roughly 600 employees. The new portfolio includes all magazine titles of Ringier and the entire Swiss portfolio of Axel Springer with title such as Beobachter or Handelszeitung.

Principal Drivers

Shift of advertising to digital

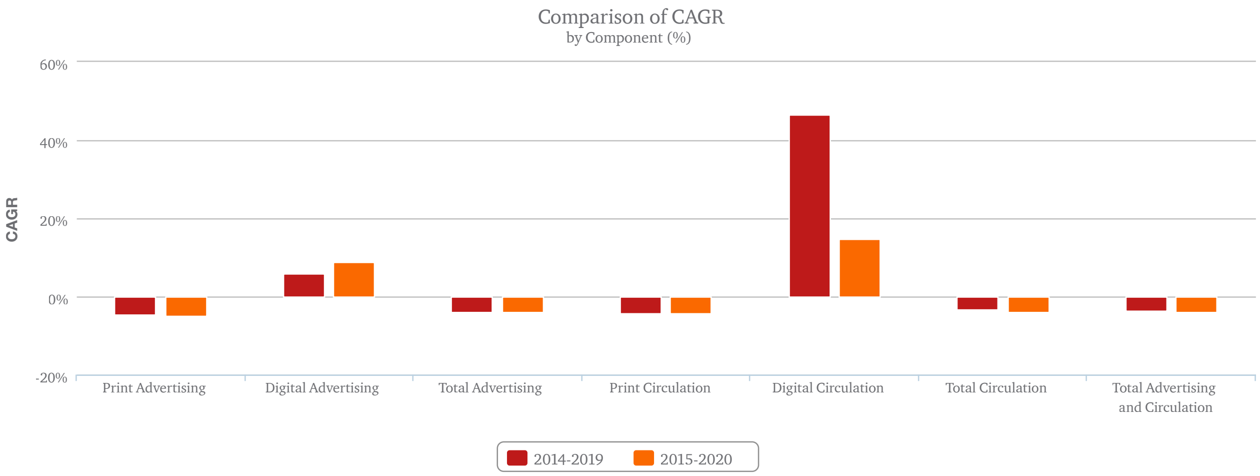
There is a universal shift of advertising away from classic forms into digital. This transformation is not only a threat, but also a chance. Publishers will have to face this challenge on many levels, in order to persist.

Ad-blocking is a crucial challenge

Ad-blocking and free content mean that publishers are not only struggling to get consumers to pay for magazine content online, they are also seeing advertising revenue problems. Digital growth will be increasingly hard for publishers over the next few years.

The importance of digital advertising will rise, but print advertising will remain the major source of income for consumer magazines

Digital advertising is on the rise, because: first, as digital content is attracting an ever-increasing readership, it makes it possible to reach a wider range of potential customers. Second, advertisers have the opportunity to enhance traditional ads with links to social networks or online shops that encourage interactive activities. And third, it is possible to place video ads which have a stronger impact on people than display ads. Put into context however, we see that the effect of this driver will remain confined for the forecast period due to its negligible absolute value in the overall market.



Analysis by PwC

Facebook and similar platforms are an important entry to news and entertainment

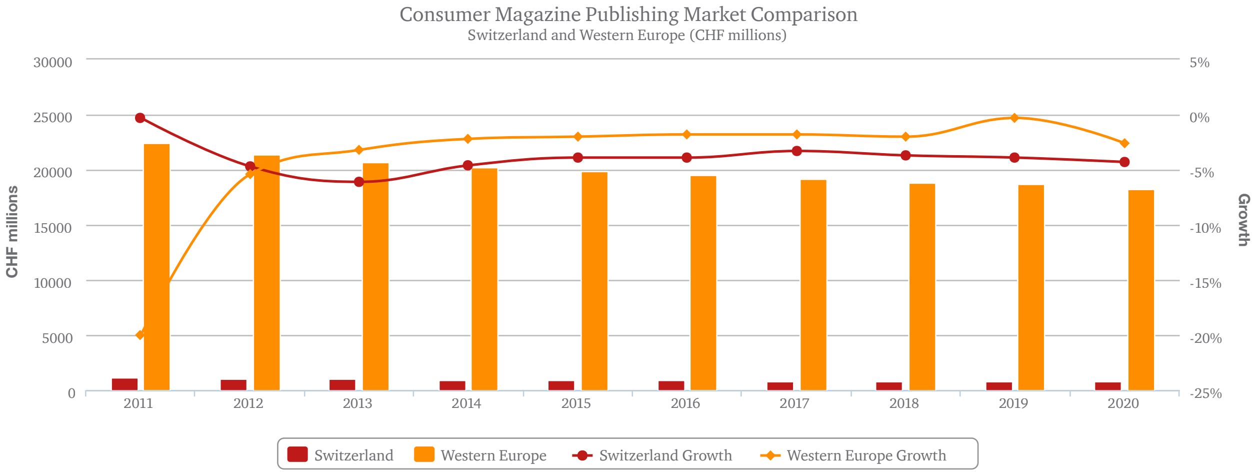
Within Consumer Magazines, the role of social media platforms is becoming increasingly important. More and more people find their way to news and written entertainment via social networks.

Business Innovation

Innovation in the consumer magazine publishing market is happening almost exclusively in digital channels. Magazine publishers now have to compete against video bloggers on YouTube, digital-first publishers like BuzzFeed and even consumers themselves.

Digital-first publishers differentiate themselves from traditional publishers mainly through the way they interact with consumers. An example is TheLADbible, which claims its brands have a monthly readership of over 34 million, with over 11 million followers on Facebook, 61,000 subscribers on YouTube and 1.7 million followers on Twitter. It also interacts with people on Instagram, Snapchat, Vine and Apple TV. According to its owners, TheLADbible is followed by half of all 18–24-year-old men in the UK and one-fifth of all women in the same age bracket.

The success of TheLADbible shows that there is still room for titles centred on a particular demographic, and that engaging with consumers on the right platform matters. Print has less relevance with younger consumers, and brands have to be available on multiple platforms to interact with consumers on that particular consumer's preferred platform. We expect this development to be relevant for Switzerland, although the effect might be weaker, due to affection for print, and slightly delayed, due to the less advanced digital shift.



Analysis by PwC

Video bloggers and other entertainment sources are attracting young consumers away from general-interest magazines. They have attracted much of the young audience that would have previously been the domain of hobbyist or general-interest magazines. The number of video bloggers (vloggers) is increasing daily. Internationally, many of the most popular vloggers are members of a multichannel network (MCN) that gives assistance with promotion, monetisation, funding and product development, allowing them to compete more effectively.

Comparison to Western Europe

Consumer Magazines in Western Europe showed a comparably negative tendency to the Swiss market until 2013. Since then the trend is less accentuated; forecasts are less negative for Western Europa than Switzerland.

A closer look at the development in the revenue streams within the consumer magazine publishing market reveals that Switzerland and Europe follow the same trends, just on varying absolute levels. Some countries within Western Europe show quite different pictures, depending on how far they are on the digitalisation journey. For example, Switzerland posted one of highest growth rates in digital circulation for 2015, while Norway displayed less growth – presumably because it further developed its digital shift. In digital advertising, Switzerland lies in the middle. Germany indicated less growth, in this area while in Austria, France and Italy digital advertising grew faster.

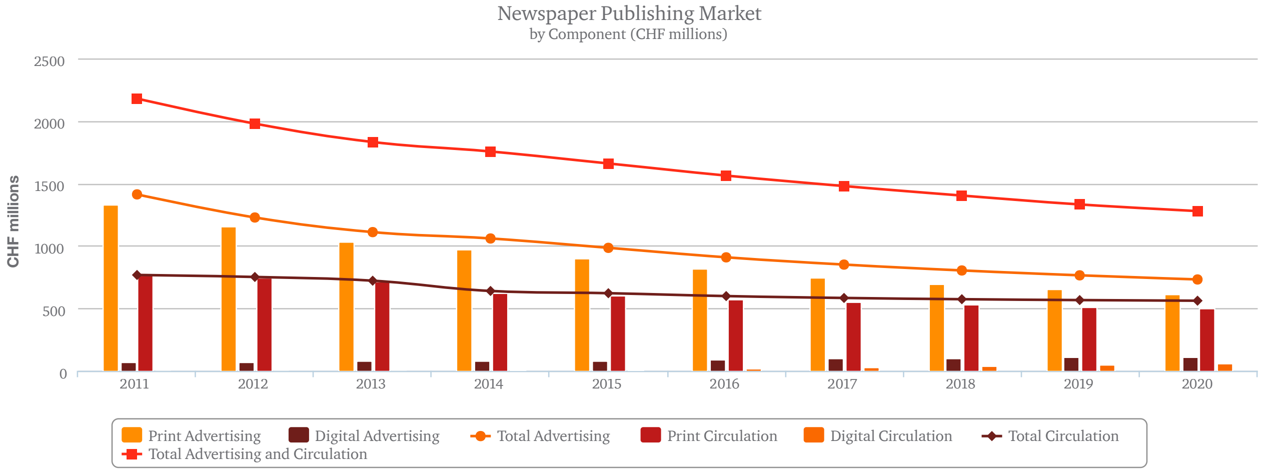
In print advertising, Switzerland holds up well, similarly to the rest of Western Europe. In print circulation, only Spain and Italy had stronger decreases in 2015.

Newspaper

Digital subscriptions and advertising mitigate losses in print.

Print advertising continues a remarkably sharp decline, yet forecasts are slightly less negative.

Social media, new technology and changing reader-behaviour challenge publishers.



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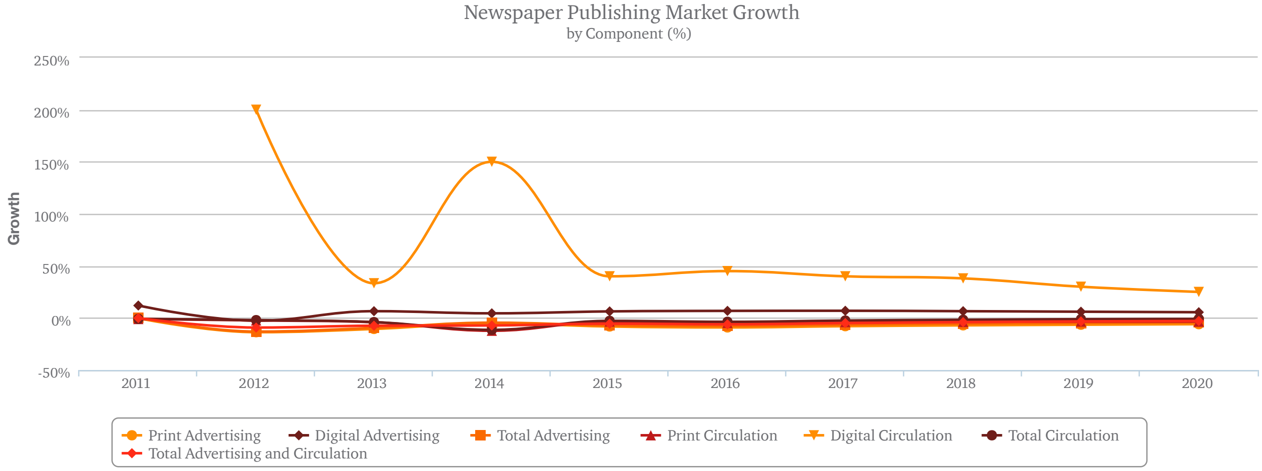

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Segment Definition

Newspaper publishing comprises spending on daily, weekly and Sunday print newspapers by advertisers and readers, as well as digital advertising on newspaper websites and mobile applications. Spending by readers includes newsstand purchases, subscriptions, payments for newspapers delivered to mobile devices and fees for accessing online content.

The Swiss Newspaper Market

Market Overview

For decades, newspapers have been an essential medium in Switzerland. Printed newspapers and newspaper publishing were well established. In the past five years, however, newspaper publishing has declined. This is common throughout the world, with a single exception. Latin America is the only region where newspaper spending continues to grow, thanks to economic growth and successful digital-charging schemes.

In Western Europe at large, the old era of newsprint is gradually disappearing, as consumers increasingly use new information sources. This has pushed down circulation. Between 2011 and 2015, publishers have reduced their average print run by almost 15 per cent and thus diminished circulation revenue. In Switzerland the decline has been less steep, 3 per cent overall and approximately 4 per cent for free-newspapers. Free-newspapers are also contracting across Western Europe, after growing for several years previously. Digital circulation and advertising revenues are growing, but still, they are not compensating the ongoing decline in print. The digital sector is able to lessen the diminution of the overall newspaper publishing market though.

Industry fortunes are still closely linked to national economic performance, as well as structural change. Greece and Ireland have seen the strongest reductions in newspaper revenues, while, for example, German publishers managed to hold revenues steady. Switzerland's newspapers were between those extremes.

Growth in digital circulation has been strong in past years, and it still is in 2016. Nonetheless, growth today is weaker, and we expect it to slow further, as publishers begin to approach their maximum of possible subscribers. Additionally, publishers are still struggling to monetise their online channels. Here, the introduction of new pricing models might be worthwhile. Because of the prevailing "free-content culture", publishers will need strong arguments to convince customers to pay. Introducing so-called "paywalls" is one option some publishers have chosen. Most paywalls in place are "soft", i.e. non-paying users are not blocked entirely. This "metered" approach allows consumers to read a certain number of certain articles for free, before payment is required.

Switzerland's newspapers are not entirely comparable to those in other countries, because of language diversity. The linguistically fragmented Swiss market depicts a challenging market situation for Swiss publishers. But this is likely one of the reasons why local newspapers remain or even gain importance in Switzerland.

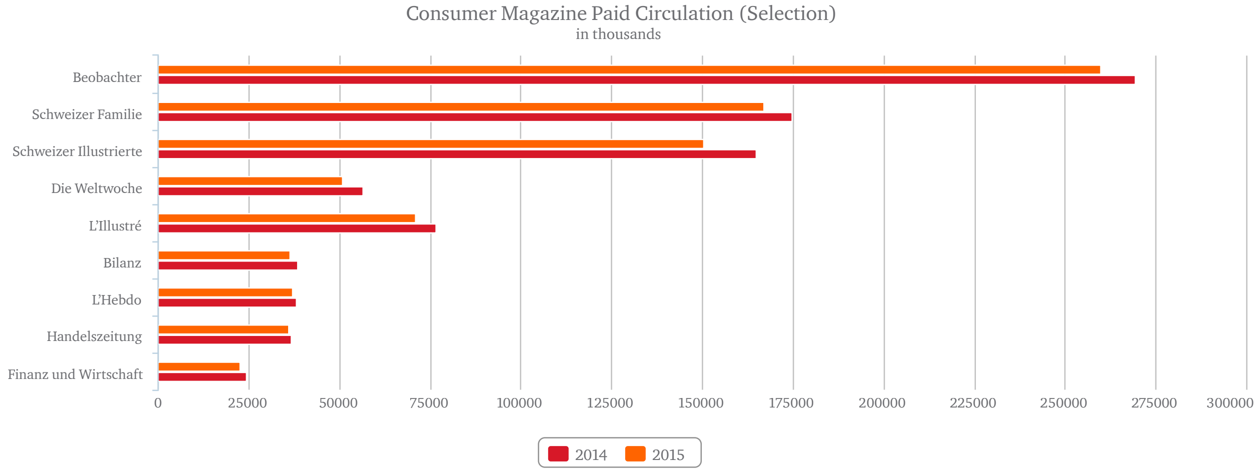
As advertising revenues decline, and reader revenues become more important, so too does the importance of satisfying content. In today's globalised world, it is nearly impossible for comparatively small Swiss publishers to keep up with the flood of instant, international news. National newspapers are, therefore, increasingly focusing on reporting background news. A good example is the Neue Zürcher Zeitung, which was revamped earlier this year.

Like print circulation, print advertising is continuing a downward spiral that started in 2012. Although revenues from digital advertising are growing, total newspaper advertising is falling, because growth in digital advertising is not yet strong enough to compensate the losses in print advertising. True, print advertising was expected to shrink, but the scale has been startling. Its decline continues in 2016 at a surprisingly high rate. Especially the Sunday papers are suffering heavily under a collapsing print advertising market.

As seen in 2015, advertisers are crossing over from traditional formats like print to new digital media offers. This shift causes a decline for the entire Swiss newspaper advertising market since the revenue in digital are not yet able to compensate the loss in physical print. Although many publishers have built large online audiences to offer display marketers, advertisers still crave the kind of returns and efficiencies guaranteed by pay-per-click platforms.

The competitive landscape for publishers is changing dramatically. It is not only classic players anymore, but also YouTube, Facebook and so forth.

Marco Gasser
Head of National Advertising | 20 Minuten | Tamedia AG

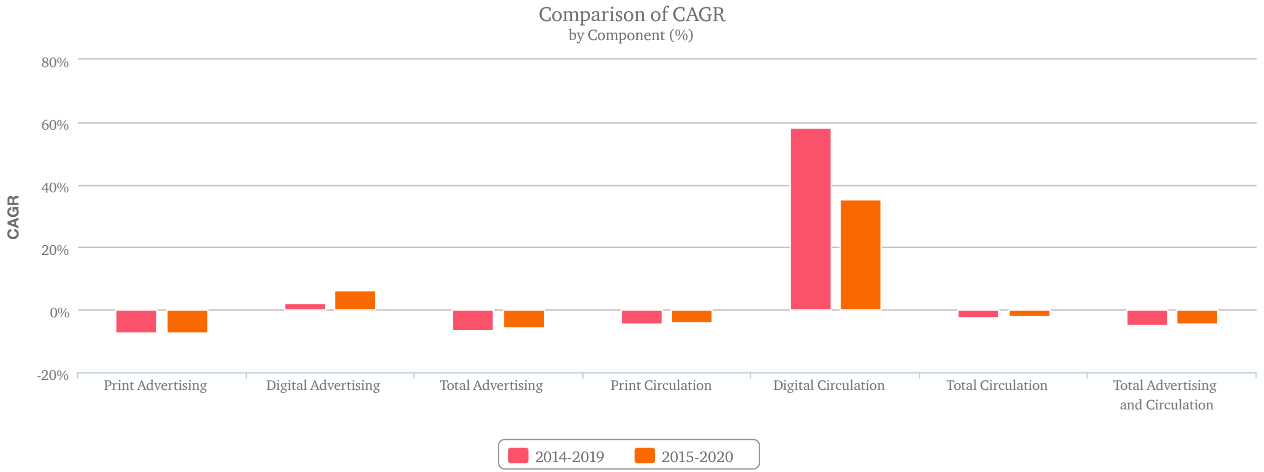


Analysis by PwC

In digital advertising, ad blocking has become a revenue blocker. Worldwide, nearly 200 million people use some form of ad blocker: in 2015 this cost publishers $22 billion in lost ad revenue. The problem is as real in Switzerland as it is elsewhere.

Historically, circulation revenues at Swiss newspapers have been less than those from advertising. This is still true, but there is an ongoing, strong shift to circulation revenue. We expect this change to continue in the coming years. Globally, the economics of newspaper publishing already have passed a tipping-point: circulation revenues now exceed those of advertising. Meanwhile, more news is moving online, and emerging markets' demand for news is growing. Thus, global circulation will increase, while revenues will decline, which will lead to a decrease in overall newspaper revenues. Given Switzerland's slow shift to digital, we expect overall newspaper revenues to decrease faster than the global average. This trend should slow, when Swiss publishers improve monetization in digital channels and circulation revenues finally compensate print losses.

Swiss newspaper publishing remains special, not only because of its distinct geographic and linguistic boundaries, but also thanks to its influence on politics. In Switzerland's direct democracy, most decisions are taken at local or regional levels, which makes local and regional news particularly important in the political discourse. Thus, as in the past, local businesses advertising in local newspapers is the most significant source of advertising revenue. Local newspapers are this sector's winners – they might be the way for print newspapers to withstand the digital transformation.



Analysis by PwC

Market Growth

Compared to 2015's estimates, the 2016 prognosis for compound annual growth is slightly more positive. However, there are still several trends that lead to a rather pessimistic outlook. Most notably, publishing suffered severely from the strong Swiss Franc in 2014. When the euro/franc exchange-rate floor was eliminated in early 2015, especially print advertising was expected to decline sharply. Even though this effect is vanishing now, the print advertising sector is still suffering remarkable losses. The fact that this negative development remains strong in early 2016 dampens the optimism of forecasts. In the long run we still expect the print advertising to shrink, however at a pace that slows down.

Although print advertising revenues continue to fall, they will remain the primary source of income over the forecast period. Reader spending, although declining as well, will become ever more important. As print advertising and circulation revenues are falling, revenues from digital offerings are expected to continue rising.

We do not assume that, in the near future, digital business will supplant print entirely. True, print is struggling, but it has potential for innovation that could renew interest from particular consumer groups. While national papers have grown their digital revenues, many regional and local papers have actually had problems fostering interest in their digital offerings. Regional and local audiences remain print oriented.

Key Players

Similar to 2015, only a handful of publishers put out most of Switzerland's newspapers. The market is dominated by four players: Tamedia, NZZ Mediengruppe, Ringier, Somedia (previously Südostschweiz Medien) and AZ Medien AG. With its free-newspaper 20 minutes, available in all Swiss regions and languages, plus a variety of important newspapers such as Tages-Anzeiger, Tamedia is the highest-circulation publishing house in Switzerland. It is followed by NZZ Mediengruppe with titles like Neue Zürcher Zeitung, St. Galler Tagblatt and Neue Luzerner Zeitung, and then Ringier which offers Blick as its flagship newspaper.

Moreover, the market entrance of Admeira holds potential for changes to the competitive landscape regarding newspaper advertising.

Principal Drivers

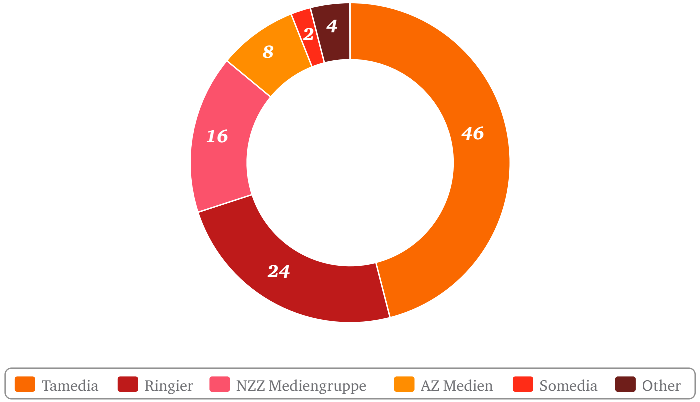
Daily newspapers adapt the style of weekly papers

In contrast to fast-paced newsfeeds and instant, internet-based news, a growing number of daily print newspapers are adapting the style of weekly papers. Articles are growing longer, more background is provided, and more exclusive-stories from the region or locality are included. Nonetheless, this distinction – putting long background in print, and putting fast, short news online –is not applicable since platforms such as Spiegel.de offer their best background online, at no charge. Publishers will need to find other ways to increase readers' willingness to pay.

Digitalisation and disappearing platform/media barriers foster multimedia stories

Several big newspapers are pioneering multimedia stories. The biggest underlying trend is news on smartphones, which boosts the reach of newspapers and increases the importance of mobile advertising.

Market Share: Newspaper
im per cent



Analysis by PwC

"Looking at mobile versus desktop, traffic is split 80/20 while revenues are divided 40/60. Growth comes mostly from mobile."
Marco Gasser, Head of National Advertising, 20 Minuten, Tamedia AG

Facebook and similar platforms are important entry points to news
Social media is becoming increasingly important. More and more people are finding their way to the news platforms and the specific news that they are interested in via social networks. Real-time journalism – from on-the-scene, not necessarily professional reporters – is becoming self-evident and ever more influential.

Monetisation remains an essential success factor that has not yet been optimised
Established publishers are still struggling to create value through digital channels as they did with printed newspapers before. Several price models and payment methods have been introduced and tested, but an ideal solution has not yet emerged.

Business Innovation

Switzerland's newspapers face fundamental changes. First, advertising money is moving away from classic media into new digital channels and advertising campaigns. Moreover, advertising revenues are losing importance compared to circulation revenues. Newspaper publishers everywhere, and especially Swiss ones, must innovate to survive.

A key trend here is the radical change of reading behaviour among the young. Unlike older people, who continue to read the news on paper. This clientele will continue to exist and generate significant revenues. On the other side, the younger generations get its news from other sources – say, their Facebook feed, or Snapchat. Thanks to its 1.5 billion worldwide users, Facebook has become an essential distribution platform for publishers. They have little choice but to try to reach its vast audience. Facebook's dominant role in the entire media cosmos is forcing publishers to follow Facebook's dictates – from new forms of articles to videos and livestreams.

Video is becoming a quintessential news format. Given the increasing popularity of watching videos rather than reading articles, YouTube also holds great potential to become a noteworthy player in news – or rather to capture market share from classic newspapers. Additionally, completely new players like Snapchat are entering the realm of news providers as well.

This development is not straightforward. Social media and YouTube are not simply replacing classic media such as newspapers – they are an addition to them. Readers might consult several news sources, depending on the topic, time available and interest.

In autumn of 2015, Apple launched its news reader "Apple News". First, this collaborated mainly with major print and digital publishers. Recently, Apple News announced that any creator can create stories that provide a tailored news experience. Smaller, independent publishers are now able to publish their stories on Apple News alongside bigger publishers. Although this development

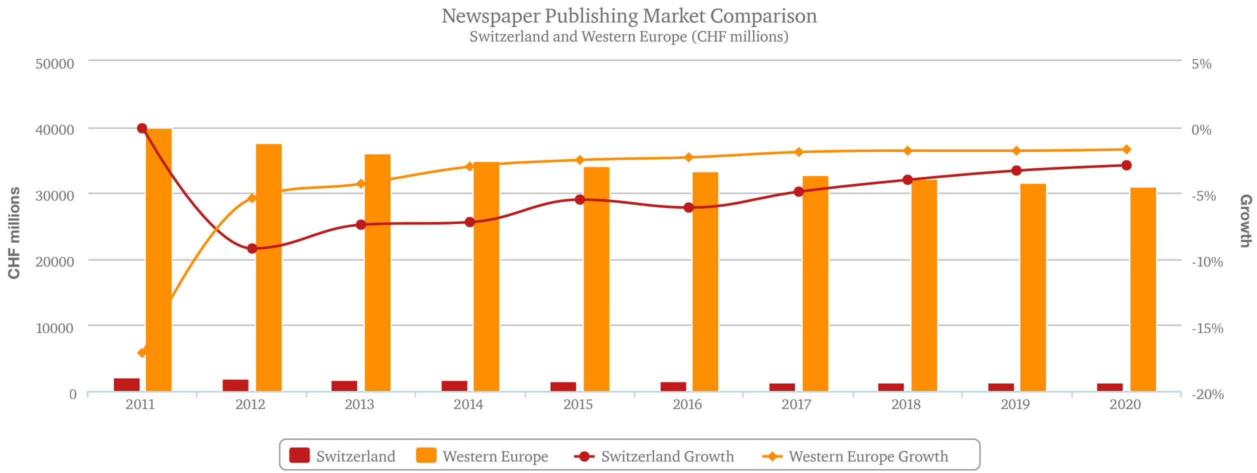
is still in its infancy and limited to the English-speaking areas, it illustrates how the newspaper market in Switzerland could become more diverse and open to smaller publishers.

Auto-journalism – software that automates writing of news, is another remarkable technological advance. One example is "Wordsmith" from Automated Insights. The software generates natural language, human-sounding narratives, from data. Wordsmith turns the data into variables that serve as building blocks for text templates. Users can create text templates for their specific needs.

Imagine the following: the tool is provided with structured data, such as a spreadsheet with quarterly revenues. Based on the rules defined by the template, Wordsmith would then create the sentence: "revenues have declined in fourth quarter." Accordingly, the data are transformed into a narrative. The template could be used every three months, to generate a standardised quarterly report. The potential for this is huge.

Comparison to Western Europe

Switzerland accounts for 4.5 per cent of the Western European newspapers market. Due to the above average declines in circulation and advertising revenues, we expect the Swiss market to shrink faster than the Western Europe average.



Analysis by PwC

Glossary

Affiliate Affiliate Internet advertising encompasses Internet ads which are placed on a high number of Web sites which are typically linked to an affiliate network. Affiliate Internet advertising typically is settled on a performance basis (i.e. cost per click or cost per acquisition).

ARPU Average revenue per user

Bandwidth Bandwidth is a variable in signal processing which gives information on the total information flow over a given time.

Banner/ Display Display Internet advertising appears on Web pages in many forms, including web banners. These banners can consist of static or animated images, as well as interactive media that may include audio and video elements (these audio and video elements are typically referred to as Rich Media). Adobe Systems Flash or.gif are the preferred presentation formats for such interactive advertisements.

Big data Big Data is a generic term used to describe the mining of vast amounts of unstructured data. Produced on a daily basis, this data is forwarded to a relational database for analysis. One of the primary objectives in terms of Big Data is to discover repetitive, reproducible business patterns.

Broadcast advertising The term broadcast advertising applies to commercials aired on either television or radio, which are typical called spots.

Bundle A bundle is an offer of several products for sale as one combined product. Product bundling is a common feature in imperfectly competitive product markets. Especially firms in telecommunications, financial services, health care, and information industries frequently offer products in bundles.

Classified Classified (Internet) advertising differs from standard advertising in that it allows private individuals (not simply companies or corporate entities) to solicit sales for products and services. Classified (Internet) advertising is usually text-only and can consist of as little as the type of item being sold and a telephone number to call for more information. Classified (Internet) advertising is called such because it is generally grouped within the publication under headings classifying the product or service being offered. Typical classes are cars, real estate or job offerings.

Classified ads Online databases where products, services and companies for specific markets are listed.

DAB Digital Audio Broadcasting (DAB) is a digital radio technology for broadcasting radio stations, used in several countries, particularly in Europe. As of 2006, approximately 1,000 stations worldwide broadcast in the DAB format. An upgraded version of the system was released in February 2007, which is called DAB+. DAB is not forward compatible with DAB+, which means that DAB-only receivers will not be able to receive DAB+ broadcasts. DAB+ is approximately twice as efficient as DAB due to the adoption of the AAC+ audio codec, and DAB+ can provide high quality audio with as low as 64kbit/s.

DAB+ DAB+ is the advancement of the DAB standard. Thanks to improved audio codecs (AAC) it becomes possible to transmit more programms with the same capacity.

Data analytics Data analytics describes a field of various processes in connection to data such as inspecting, cleaning, transforming and modeling data with the goal of discovering valuable information, suggestion conclusions and supporting decision-making.

DOOH Digital Out-of-Home refers to dynamic media distributed across placed-based networks and digital signage. DOOH networks typically feature independently addressable screens, kiosks, jukeboxes or jumbotrons. DOOH media benefits location owners and advertisers alike in being able to engage with customers and extend the reach and effectiveness of marketing messages.

freemium Freemium describes a payment model that offers a cost-free basic and a charged premium model. Paid accounts often unlock features like unlimited access, advertisement-free content or exclusive services.

Gamification Gamification describes the use of typical game elements in everyday environments that aim at triggering a person's intrinsic motivation to "play". An (usually unpleasant) activity should be made more enjoyable and so engaging that it is done voluntarily.

HDTV High-definition (HD) TV is a digital TV broadcasting format that enables the transmission of widescreen pictures with more detail and higher quality than traditional analogue TV or other digital TV formats. HDTV has up to two million pixels per frame, roughly five times the previous standard. Today HDTV is digitally broadcast using video compression and is considered to be the best quality digital TV (DTV) format available.

IPTV Internet Protocol television is a system through which television services are delivered using the Internet protocol suite over a packet-switched network such as a LAN or the Internet, instead of being delivered through traditional terrestrial, satellite signal, and cable television formats. Unlike downloaded media, IPTV offers the ability to stream the media in smaller batches, directly from the source. As a result, a client media player can begin playing the data (such as a movie) before the entire file has been transmitted. This is known as streaming media.

ISP An Internet service provider offers the services, content and technology that are needed to access and use the Internet.

LTE	Long Term Evolution is a 4G wireless broadband technology developed by the Third Generation Partnership Project (3GPP), an industry trade group. 3GPP engineers named the technology “Long Term Evolution” because it represents the next step (4G) in a progression from GSM, a 2G standard, to UMTS, the 3G technologies based upon GSM. LTE provides significantly increased peak data rates, with the potential for 100 Mbit/s downstream and 30 Mbit/s upstream, reduced latency, scalable bandwidth capacity, and backwards compatibility with existing GSM and UMTS technology. Future developments could yield peak throughput on the order of 300 Mbit/s.
Mbit/s	Megabits per second stands for millions of bits per second and is a measure of bandwidth (the total information flow over a given time) on a telecommunications medium. Depending on the medium and the transmission method, bandwidth is also sometimes measured in the Kbit/s (thousands of bits or kilobits per second) range or in the Gbit/s (billions of bits or gigabits per second) range.
Mobile advertising	Mobile Internet advertising comprises all advertising delivered to mobile devices via formats designed for the specific device.
Mobile TV	Mobile TV usually means TV content watched on a small handheld device. One can distinguish between subscription-based broadcasts in mobile phone networks or received FTA services via terrestrial television stations. Some devices can also download contents from the Internet (e.g. recorded TV programmes and podcasts) for later viewing.
Native advertising	Native advertising is a type of concealed advertising that matches the form and function of the platform it uses. Native advertising it is primarily seen online
NFC	NFC (Near Field Communication) chips start sending small packets of data whenever they’re within a very short range of another NFC chip.
OTT	Over-the-top is a system for the delivery of audio or video services using unmanaged, open internet. There is no multiple system operator involved which owns control over published content. OTT services are always provided by third parties such as Zattoo, Wilmaa or Teleboy.
PPV	PPV is a service by which a consumer can purchase certain TV content (e.g. movies or sports events) to view in their homes. The service provider broadcasts these events at the same time to all consumers who ordered them.
QR Codes	Quick response (QR) codes are two-dimensional barcodes that can be read by smartphones with the help of a QR code reader app. Once your cell phone reads the code, some sort of information, such as text, poll, coupon for a local business or a hyperlink to a movie trailer is shared with you. The codes appear in a variety of places, such as magazine and newspaper ads.
RTVG	Swiss federal law on radio and television.
Satellite TV	Satellite TV services are delivered by the provider through communications satellite and received by the consumer through a satellite dish and set-top box. In many areas of the world a wide range of TV channels are provided, often to remote areas that are not serviced by terrestrial or cable providers.
Simulcasting	Simulcasting describes the state in which a radio station is broadcasting its shows over more than one channel. In this report, simulcasting refers mostly to operating both analogue and digital radio at the same time.However, simulcasting can also refer to, e.g. analogue and IP-based broadcasting.
Streaming	Streaming refers to the simultaneous transmission and reproduction of video and audio data over a network. Contrary to downloading, the user will not receive a copy of the consumed media. The media is sent in a continuous stream of data packets and is played as it arrives. The data is discarded directly after reception by the user.
Streamripping	Streamripping software is the digital equivalent to the analogue cassette recorder. The app or software records audio or video streams and creates a digital copy of the streamed media. The resulting file can be saved on various digital devices such as smartphones. These digital copies of the streamed media can then be played without internet connection.
subscription TV	Subscription-based TV, also called pay TV, refers to services usually provided by either analogue and digital cable or satellite, but also increasingly by digital terrestrial methods. Today, most subscription television services offer multiplex packages, where several channels of programming are offered rather than just one.
SVOD	SVOD services (such as Netflix) are also delivered over the open Internet, but require a subscription.
TVOD	TVOD services (such as iTunes) deliver filmed entertainment content via the open Internet and do not require a subscription.
Vinyl trend	Only a few years ago, vinyl was expected to die out soon. In recent years however, vinyl experiences a comeback as sales for records on vinyl are on the rise again. The absolute volume of this market is still marginal.
VoD	Video-on-demand allows consumers to select and watch video content on demand. VoD systems either stream content through a set-top box for real time viewing or download and store content for viewing at any time.
VoLTE	Voice over LTE (VoLTE) is a technology that enables smartphone users to make and receive calls via 4G networks. Because of its higher data capacity, VoLTE can offer better voice quality than calls over 3G or 2G networks.
Web-TV	Web-TV provides generally available content and distributes it via the Internet. Unlike IPTV (Internet Protocol TV), which is distributed over proprietary networks, Internet TV is available wherever a broadband connection exists.
xDSL	xDSL describes all kinds of digital subscriber lines. Digital subscriber lines (DSL) transport data via copper wire. They cover the connection of telephone switching stations with homes or offices. By combining the low transfer frequencies, higher bandwidth speed can be generated. The two main DSL categories are asymmetric DSL (ADSL) and symmetric DSL (SDSL).

About

The Swiss Entertainment and Media Outlook presents 5-year annual historical data and forecasts for the next five years across eleven industry segments, plus an annually adapted deep-dive into a hot topic and a special focus report on current media trends. In each segment of the outlook we share our point of view on the Swiss entertainment and media market and offer detailed commentaries on the major developments in the coming years.

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About this Publication

This sixth Swiss Entertainment and Media Outlook was produced by our Swiss team of entertainment and media experts from across all PwC Assurance and Advisory service lines and located in various offices throughout Switzerland.

Your Key Contacs

Patrick Balkanyi

Partner, Assurance
Leader Technology, Communications, Entertainment and Media Industries

+41 58 792 26 76
patrick.balkanyi@ch.pwc.com

Bogdan Sutter

Director, Advisory
Leader Telecommunication, Media and Technology Consulting

+41 58 792 77 51
bogdan.sutter@ch.pwc.com

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Hannes Banzhaf
Assurance

Cueneyt Budakoglu
Assurance

Kaspar Domeisen
Assurance

Nadia Eberle
Advisory

Nathalie Fahrni
Advisory

Pascal Friedrich
Advisory

Philipp Gnädinger
Assurance

Barbara Mebold
Assurance

Dominik Zurbuchen
Advisory

Paul Sailer
Advisory