

Swiss Entertainment & Media Outlook

2023-2027



Al generating new opportunities in the E&M industry

Introduction

With revenues up 3.6% to CHF17.5bn, Switzerland's entertainment and media (E&M) industry recorded its second-strongest year of growth in 2022. This was in part due to the fact that certain segments continued to rebound from COVID-related restrictions, particularly those requiring in-person interaction such as live music and trade shows – a similar story explained the 7.2% year-on-year growth rate achieved in 2021. Nevertheless, while 2021's growth was inflated by this market correction, there were broader reasons for the deceleration in 2022, namely economic concerns and wider uncertainty ignited by Russia's invasion of Ukraine early that year. Looking ahead to the ensuing five years, E&M providers are set to face a more challenging operating environment. A compound annual growth rate (CAGR) of 1.7% is predicted, translating into revenue of CHF19.0bn in 2027.

This report goes into more detail about the outlook for the E&M market in Switzerland until 2027. We summarise the most important findings in each segment and explore the current use cases and future opportunities for harnessing generative artificial intelligence (AI) in the E&M market.

PwC Switzerland has conducted a survey amongst executives and employees from the E&M industry on the application and prospects of dealing with generative AI. The findings of our survey are supplemented with the expertise and experience of three influential personalities from SRG, Tamedia and Admeira. In their interviews, they explain current fields of application of generative AI and where the opportunities and risks for the future lie.

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Generative artificial intelligence

Generative artificial intelligence (AI) refers to the use of neural networks, advanced deep learning models and other AI technologies to produce (i.e. generate) novel synthetic outputs from existing data inputs.

What can I help you with? 4 Swiss Entertainment & Media Outlook 2023-2027

Generative AI: an introduction

Generative AI is having a rapidly growing impact on various aspects of society. Recently, the E&M industry has made significant strides in the application of generative AI, enabling machines to independently create new content such as music, texts and videos. The technology is based on advanced deeplearning models that learn from existing data and generate novel content based on this. The vast media attention being paid to generative AI since the launch of tools like ChatGPT by OpenAI in November 2022 suggests that it is a completely new technology, but this is not in fact the case. Much of the underlying technology has been in place, or in development, for several years. What has changed, however, are the capabilities, performance and nature of the underlying models powering generative AI, which are more accessible than ever before via easy-to-use platforms and tools. This is driving the productisation of generative AI at scale.



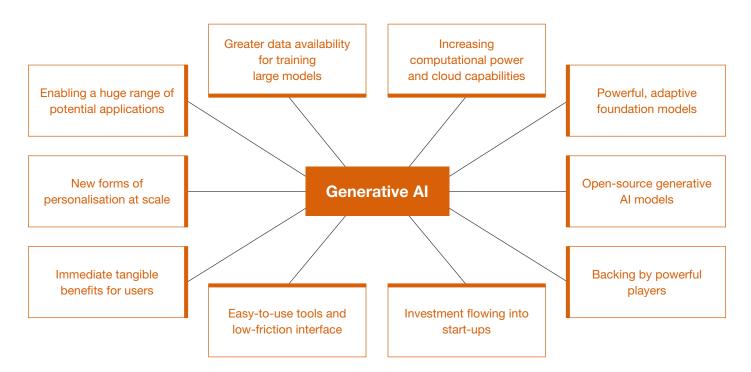
Drivers

There is a conflux of factors driving generative Al. For instance, generative AI foundation models need to be trained on huge troves of data, and the amount available has grown dramatically. Online data has exploded, partly owing to social platforms and user-generated content. This has benefited generative AI models that draw on unstructured data scrapped from the web. Generative models, and indeed Al in general, are benefiting from increasingly powerful graphics processing units (GPUs) and tensor processing units (TPUs) and the rise of high-speed, high-capacity central processing units (CPUs) along with more capable, flexible cloud-hosting and deployment environments.

The most powerful companies in big tech are heavily invested in generative AI and playing a pivotal role in taking it mainstream. The charge is being led by Microsoft and Google, but others, including Baidu, IBM and Nvidia, are close behind. Generative AI start-ups and projects have also captured capital investor attention and funding in a way not seen in the tech sector for several years. Investors are attracted by the impressive capabilities of generative AI models, the huge range of potential use cases and the enthusiastic response from developers and end users to early release tools. Indeed, June 2023 saw a virtual conference from Swiss Cognitive, a community of executives and AI experts helping to expedite the use of AI in the country, describing generative AI as "a new frontier" for venture capital.

Fig. 1: Data, computing power and investment among key drivers of generative AI

Core drivers of generative AI



Usage of generative AI in the E&M industry

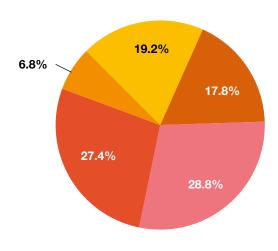
In June 2023, PwC Switzerland conducted a survey and several interviews on the application and prospects of dealing with generative AI in the E&M industry. A total of 73 executives and employees from the E&M industry submitted a questionnaire that was evaluated for the SEMO study. They give a realistic picture of the E&M industry in terms of the E&M segment, organisational size and age of the participants. The survey shows that generative AI is already being used in the E&M industry. Three-quarters of respondents say they use generative AI; 46.6% of respondents even use it at least once a week. A lack of understanding (e.g. a lack of technical know-how) is the main reason why certain participants in the survey have not used generative AI yet.



Fig. 2: Three-quarters of respondents are already using generative AI

Use of generative AI in the E&M industry

- I use generative AI at least once per day
- I use generative AI at least once per week
- I use generative AI, but only occasionally when needed
- I don't use generative AI and don't plan to try it any time soon
- I don't use generative AI, but would like to try it out sometime soon



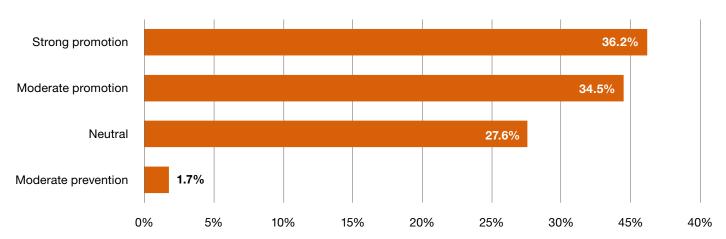
Source: Switzerland Entertainment and Media Outlook, PwC

One factor behind people's usage behaviour with regard to generative AI is how much it is promoted by their employer. Of the organisations surveyed, 70.7% are therefore promoting the use of generative AI either moderately or strongly. Advertising and PR agencies are also strongly promoting the use of

generative AI, which is consistent with its widespread use in these sectors. It is also noteworthy that smaller organisations with up to 250 employees in particular are frequent users of the technology, which is congruent with strong support coming from the employer.

Fig. 3: 70.7% of organisations are promoting the use of generative AI

Promotion of generative AI in the E&M industry





Interview with Bakel Walden, SRG

"When used under controlled conditions, we mainly see benefits from generative AI."

Bakel Walden is Director of Development and Offering at SRG. Together with his team, he focuses on SRG's interregional activities, like digital transformation and research, in its core business. In the interview, he explains how generative AI can optimise work processes and the impact that this technology will have on how we work.

Mr Walden, where do you generally see the future potential of generative Al in the Swiss media industry?

There are very diverse potential areas where generative AI can be used in the media. Provided that AI is transparent and can be managed or verified by humans - which we believe is necessary - these could include all areas where texts are generated and processed. It can also be used in conjunction with audio, video and images where the task involves finding and processing content. What's more, Al should prove to be interesting when it comes to music as well as all other processes that can be automated, especially in media production. Generative Al and other types of machine learning can support us in this respect too.

Is SRG already promoting the use of generative AI?

The use of generative AI is possible in principle. The first internal tests are being carried out to explore the various opportunities available for using generative Al. But the potential use of it in everyday life must be subject to clear framework conditions that are currently being developed at the company. Transparency and human impact or control are just some of the key requirements for the credible use of AI in public service media. We're in the process of drawing up appropriate guidelines for the handling and use of Al at SRG as a public service media company. Copyright and, as I mentioned before, transparency towards the audience also play a part here.

What advantages and disadvantages do you see in the use of generative AI?

Generally speaking, we expect that internal workflows will be simplified. The range of content produced might also be expanded. When thinking about search engine optimisation, one possible goal could be to make our content easier to find. When used under controlled conditions, we mainly see benefits from generative Al. Our most important asset though is our credibility. This means that we have to be responsible and transparent towards the general public in the way that we handle AI so that we don't jeopardise our credibility. In this context, a coordinated approach within the media industry is possible and something that we consider to be extremely positive.

How does SRG handle potentially dubious or false sources of information that generative AI could either draw on or generate itself?

We can in fact assume that generative Al has been trained using sources that are factually incorrect and has a tendency to occasionally hallucinate - in other words make things up even based on training data that is completely correct. This is why the education and training of employees is a top priority when it comes to AI, so they can anticipate such inaccuracies whenever possible, assess the consequences and react accordingly. At the same time, we're working with ETH on a tool to better detect these kinds of errors, especially when it comes to text.

What about the workplace? Will generative Al replace jobs in journalism in the future and change the way we work?

In our view, jobs are evolving rather than being replaced. It may well be true that certain jobs are eliminated because they're done faster and more extensively by AI than by humans. But at the same time, new skills are required to develop AI further, as well as to adapt and optimise it. In this sense, there'll definitely be a change to certain job profiles, as new skills will be added and some traditional tasks will become less important.

How do you think generative AI will change journalism in the next few months and years?

It could go in many directions. Journalism is likely to become a mixture of traditional research and Al-assisted content production - wherever it makes sense and is done responsibly. The amount of content published and tailored to special interests might increase further, which could result in a shift towards increased personalisation. High-quality journalism, however, will continue to live off its credibility, even if AI is used to create it. A transparent discussion of this topic across the industry is essential, although the focus should remain on creative human performance.

Applications

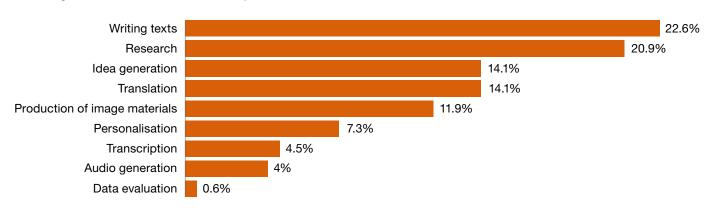
Our survey shows that the E&M industry wants to exploit the advantages that generative AI has to offer: 86.7% of participants believe that the increasing use of generative AI brings more advantages than disadvantages. This is also confirmed by Bakel Walden (Director of Development and Offering at SRG): "When used under controlled conditions, we mainly see benefits from generative Al." These benefits include enhancing the audience experience and increased creativity. Lars Holtschmit (Director Marketing & Product Management at Admeira), for example, believes that "the drive to optimise and perfect advertising campaigns using generative Al should, by its very nature, have a positive effect on the efficiency and effectiveness of advertising campaigns." This technology can be used to create advertising material more quickly and the campaign flow can be optimised in a way that is data-driven. In addition, companies are increasingly harnessing the power of generative AI to enable productivity by automating tasks and workflows, particularly for more mundane or labour-intensive routines, giving people more time to spend on higher-value activity. Of those surveyed, 93% say that generative AI makes everyday work easier and more efficient. Timo Grossenbacher (Head of Newsroom Automation at Tamedia) is also quoted as saying that "we see Al technologies as an opportunity to improve our journalistic processes and make them more efficient without compromising on the quality of our reporting."

The fact that generative AI is already being used is a testament to the attributes and capabilities that make it appealing across a wide range of scenarios and use cases. These include writing, transcription and translation, photography, video, design and audio as well as enhanced expressive abilities for those that currently face challenges in this area. The prompt-style interface thus provides an easyto-use, familiar tool that puts generative Al in the hands of the many, not just developers and those with technical expertise. Additionally, generative AI can help in product/service ideation, concept testing and prototyping across a large number of verticals. The first wave of generative AI models and tools on public release are focused on text outputs and image outputs, notably GPT-3 for text, and DALL-E 2 and Stable Diffusion for images. But there is a new wave of generative models waiting in the wings focused on text-tovideo and text-to-3D objects.

Despite the wide range of possible applications, the survey results show that generative AI is currently mostly being used for writing texts, research, translation and generating ideas. This is also reflected in the applications used. The top three applications are ChatGPT, DALL-E-2 and AI-driven chatbots, which together make up 66.4% of responses. The media companies interviewed are also currently testing possible areas of application for generative AI. These include, for example, generating briefings or press releases, translating texts and generating teaser proposals. In Switzerland itself, 20 Minuten's app uses generative AI to automatically translate content into nine different languages.

Fig. 4: Generative AI is mainly used for writing texts and carrying out research

Uses of generative AI in the E&M industry



Source: Switzerland Entertainment and Media Outlook, PwC

The wide range of uses therefore shows that generative AI is still in its infancy and is currently mainly used for simpler tasks and as a support. This reflects the view of 81.7% of respondents who believe that AI-created content is not of a higher quality than human-created content. As a result, the future employees will focus more on tasks that are based on human intelligence and use generative AI to support them. Of those surveyed, 76.6% would therefore like to see the use of generative AI increase in the future. This shows that this

technology has potential in the E&M industry going forward. Generative AI can be particularly powerful when combined with other technologies and devices. The "Create with Alexa" children's personalised storytelling experience is a good example, combining different generative AI outputs (story narrative, illustrations/images and music) curated by Amazon's Alexa voice assistant and delivered on an Amazon Echo smart home display.

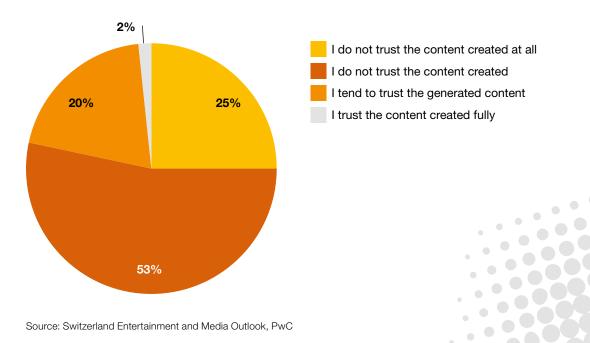
Challenges and risks

Generative AI is a powerful, disruptive technology that is already coming up against some serious challenges and risks, with more on the horizon. The issues facing generative AI are complex and overlapping, such as data privacy concerns, environmental harm and ethical matters relating to bias and discrimination. For example, 71.7% of respondents said that they see the protection of sensitive data as being jeopardised by Al. Moreover, over three-quarters of respondents distrust generative Al and the content it creates. Among other things, 90% of respondents were concerned that generative Al draws on non-serious sources of information and cannot differentiate between information which is true and false. To deal with these risks, Bakel Walden (Director of Development and Offering at SRG) says that "the education and training of employees is our main priority, so that they can anticipate such mistakes whenever possible, assess the consequences and react accordingly. At the same time, we are working with ETH on a tool to better detect these kinds of errors, especially when it comes to text."



Fig. 5: More than three-quarters of respondents distrust content created by generative AI

Trust in content created by generative AI



Source: Switzerland Entertainment and Media Outlook, PwC

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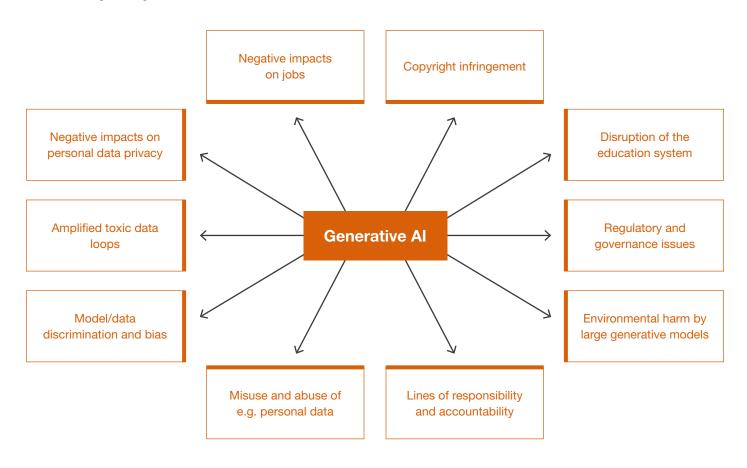
What is of particular concern is the way that generative Al risks exacerbating existing problems, while creating new challenges that will take time to play out and untangle, such as impacts on copyright. Most generative AI foundation models use training data sourced from the internet: articles, blogs, videos, images, photos, sketches and pictures. The outputs produced by generative AI are novel, but it taps into existing, original content, which is where generative AI risks copyright infringement. Many creative artists have voiced concern and dismay that their material is being used without permission for generative AI outputs, and that the market is being flooded with lookalike material that mirrors their style. This could undermine their status as original creative artists and damage their commercial prospects. Class-action lawsuits have followed to test this novel situation. The application of Swiss copyright law itself to models like ChatGPT is uncertain. Fundamental questions regarding the level of originality

of the model's output – and, correspondingly, the level of identifiability of the sources used – need to be examined, seemingly on a case-by-case basis, to determine who is ultimately the copyright owner.

Untangling generative AI copyright issues will take time and could arise in an ever-expanding range of scenarios. For example, what happens when generative AI produces a novel product design concept, sparks the idea for a new drug or writes a novel? To address the issues around copyright and authorship, both SRG and Tamedia are currently developing guidelines regarding the handling and use of generative AI. Other companies have not yet developed guidelines, though they emphasise the importance of handling this new technology responsibly and transparently to ensure the credibility of the E&M industry.

Fig. 6: Generative Al faces a host of challenges

Core challenges for generative AI







Interview with Timo Grossenbacher, Tamedia

"Companies must ensure that the reporting quality and the ethical standards of journalism are maintained at all times."

Timo Grossenbacher is Head of Newsroom Automation and leads a team at Tamedia that is focused on automation in journalism. In this interview, he explains how generative AI will change the role of journalism within society and the tasks carried out by journalists.

Mr Grossenbacher, does Tamedia already use generative AI?

Generative AI is used in the field of machine translation. We've also recently developed an internal tool for summarising news stories, which can be used to generate teaser suggestions for the headline, title and lead. This tool is currently being rolled out to our editorial teams and is constantly being improved.

Why aren't you using generative Al in certain areas yet?

At Tamedia, we're closely monitoring the progress of generative AI and, generally speaking, we believe that all journalistic disciplines and departments could be supported by it to some degree. It would be wrong to rule areas out per se today. But making sure AI is used responsibly and transparently is a top priority.

What opportunities and challenges does the use of generative Al present for Tamedia?

Using generative AI can improve the efficiency of our editorial and noneditorial processes and expand our capacities. Although generative Al brings a lot of benefits, it also brings challenges. These include ethical issues relating to the use of AI, the risk of errors or misinformation that could be generated by AI, and the need to ensure that employees have the necessary knowledge and skills to deal with these technologies. This is why it's so important that AI is used responsibly.

How do you deal with the risk of errors and misinformation?

We have journalistic guidelines and established procedures in place for dealing with all kinds of sources of information, whether they originate from AI or not. As a rule, all content is reviewed by our editors before it's published to make sure it meets our standards for accuracy and reliability.

As a company, have you also developed policies to prevent Al-generated content from being passed off as a person's own work?

Like other media companies, Tamedia is currently busy developing rules for this kind of situation. We're keeping a

close eye on the discussions around copyright and authorship, and we believe that a lot will happen in this area at both a legal and a societal level in the next few months.

What impact will this technology have on how we work?

Generative AI can change the way we do journalism. New roles may be created that replace previous ones. Al can help journalists do their jobs better by automating routine tasks and freeing up time for creative and investigative work.

What role will generative AI play in journalism in the next few months and years?

Generative AI will play a growing role in journalism in the years to come. It can help journalists work more efficiently, deliver personalised content and develop new journalistic formats and services. In the process, companies must ensure that the reporting quality and the ethical standards of journalism are maintained at all times. It's also very possible that the actual task of journalism - in other words, the communication of information that is explicitly verified and true - will become even more relevant to society and more important, as it will become easier to generate misinformation.





Outlook

Against the backdrop of the areas of application and the challenges described, Philipp Rosenauer (Partner and AI expert at PwC Switzerland) describes three possible scenarios for generative AI: "Generative AI could take the role of a collaborator and be a valuable tool and partner for human creativity. Or it could increasingly be a competitor where generative AI is seen as a rival and a threat to human creativity. The third scenario would be one where generative AI serves as a catalyst and a facilitator for human creativity to enable, empower and educate humans."

Which one of these scenarios actually transpires will have major implications, because generative AI has already had a significant impact on the workplace and will continue to do so. Of those surveyed, 59.3% believe that generative Al will change the world of work and may even replace jobs in the E&M industry. However, because generative AI can only take over certain jobs so far, in particular standardised tasks, no entire roles will become obsolete in the short to medium term. Bakel Walden (Director of Development and Offering at SRG) says the following: "In our view, jobs are not so much being replaced as evolving, as new skills are added and some traditional parts of the job become less important." Generative Al frees up time for creative and high-quality tasks because routine tasks can be automated. For Timo Grossenbacher (Head of Newsroom Automation at Tamedia) it is "also quite conceivable that the actual task of journalism - meaning communicating information which is explicitly verified and true - will become even more relevant to society and more important, since it is now so easy to generate misinformation." In this respect, individual job profiles may also change, as Lars Holtschmit (Director Marketing & Product Management at Admeira) affirms: "There's no doubt that the nature of certain jobs will change over time."

The impact that generative AI will have on prices in the E&M industry remains a hot topic. However, it is too early to discern any kind of clear trend. On the one hand, price pressure could increase because tasks can be made easier. Alternatively, generative AI may improve quality and performance in particular. For example, February 2023 saw Microsoft integrate OpenAI's GPT-4 model into its Bing search engine, allowing new, conversational search experiences. This move coincided with Google's announcement of its own consumerfacing conversational Al competitor, Bard. Hence, although such conversational engines have the potential to massively disrupt the core internet search experience - and, by way of extension, the paid search advertising revenue stream - early results have been mixed. Indeed, Al's short- to mediumterm role in the paid search segment is likely to improve the contextual relevance, accuracy and usefulness of search results, rather than replace search entirely.



Interview with Lars Holtschmit, Admeira

"Using AI helps us to review supply and pricing models and optimise the supply mix."

Lars Holtschmit is Director Marketing and Product Management SRG at Admeira, a partner of SRG and other private media companies in TV marketing. In the interview, he explains how generative Al could change the Swiss media industry, from creating optimised services to new marketing opportunities. He also discusses the challenges resulting from this technological transformation.

Mr Holtschmit, what are your thoughts on the potential of generative AI in the Swiss media industry?

The technology's developing quickly and the Swiss media industry can also benefit from this if it skilfully and efficiently harnesses the new opportunities offered by Al. There are many different potential applications, from traditional marketing communication to new findings that are relevant to the creation of media offerings and optimisation of scarce resources.

How do you use generative Al at Admeira?

At Admeira, we first looked at AI in 2022 in relation to creating TV advertising slots. In doing so, we gained some interesting insights into booking TV advertising slots as well as into pricing mechanisms. These insights are helpful for optimising our offer creation and pricing.

What are the benefits of using generative AI?

Basically, the benefits should come from combining efficiency with new perspectives, which - by using machine learning based on existing data – gives rise to new opportunities for marketing. As a result, our offerings are being rolled out to customers faster, in an optimised form and a transparent manner.

What are the disadvantages of using this technology?

First of all, even when Al creates new data from existing data, it's always based on something that already exists. Al doesn't (yet) create something completely new. And secondly, it always needs to be supervised by a human being. These are certainly some of the key aspects that are being discussed.

Have you developed policies regarding the use of generative Al to counter these risks?

No, not yet. But consideration needs to be given to making sure we use it in a way that's both sustainable and ethically responsible.

Will generative AI change the way we work in the future?

As with any technical change - and this appears to be a big one - we'll have to adapt our existing structures. But it isn't yet possible to estimate how big an impact this technology will have in the short term. There's no doubt though that the nature of certain jobs will change over time.

Do you think that using generative AI will affect prices in TV marketing?

The use of AI doesn't necessarily increase or decrease prices in a general sense. But using AI helps us to review supply and pricing models and optimise the supply mix.

Are there any specific performance indicators or case studies proving that generative AI makes advertising campaigns more efficient or effective?

It's still too early to say. But the push to optimise and perfect advertising campaigns using Al should, by its very nature, have a positive effect. It remains to be seen to what extent this will happen.

How do you think generative AI will change the advertising industry in the coming months and years?

We'll go through an intensive period of getting to know it and trying it out, which - over the next few months will hopefully give us a lot of insights into how Al should be used. We can then optimise our offer designs. This also requires being in constant contact with clients, agencies and other market participants.





2

Virtual and augmented reality and the metaverse

This segment comprises consumer spending on paid downloads and in-app purchases relating to mobile augmented reality (AR) apps, from the publishing of advertisements within mobile AR apps to consumer spending on virtual reality (VR) video and VR games.



Segment definitions

AR refers to a technology that superimposes a digital image on a user's view of the world. Mobile AR apps are those that make use of the AR capabilities of mobile devices, either as a core factor of their functionality or simply as a feature.

Mobile AR consumer revenues are generated directly from end users from paid downloads and in-app purchases relating to mobile AR apps. This revenue is digital and comes from consumer spending. Mobile AR advertising revenues are generated from the publishing of advertisements within mobile AR apps. This equates to the full value paid by advertisers to place those ads. This revenue is digital and comes from advertiser spending.

VR refers to a head-mounted system that immerses a wearer in a stereoscopic, wholly virtual environment or scene where they can look around, and optionally move and interact. This segment comprises consumer spending on VR video and VR games.

VR video revenue comprises revenue from subscription top-ups, streaming fees, electronic sell-through (EST) and physical purchases.

VR gaming comprises revenue from free-to-play/microtransactions, subscription top-ups, digital transactions and physical purchases.

The metaverse can be seen as a virtual shared space where users can do everything they would also do in the real world.

AR

Total mobile AR revenue in Switzerland has risen from CHF12m in 2018 to CHF106m in 2022, with last year in particular a seismic one for growth. Soaring TikTok revenue derived from "tipping" (sending money to favoured TikTok creators through the app's "Gift" button) has been a major contributor to mobile AR revenue rising very sharply in Switzerland, alongside most other Western European markets. Factored into future growth is the assumption that tipping or gifting will also grow as a phenomenon on other social or short-video platforms with strong AR or face-filter usage, such as Instagram and Snapchat, which have recently introduced similar tipping systems.

Mobile screens have leapfrogged smart glasses and extended reality (XR) headsets in the race to bring AR to the mass market, even if Apple's new Vision Pro may ultimately change the balance. AR has a long history in mobile, but it is only in the last few years that conditions have become propitious enough for the take-off of mobile AR – the big platforms are betting on it, mobile devices are being kitted out for it, and networks are moving to low-latency 5G.

Some AR-enabled apps have already hit the big time (e.g. Pokémon Go and Instagram), and a multitude of new uses are emerging for the technology. However, technical issues still dog the delivery of reliable AR experiences to smartphone and tablet users and truly immersive AR experiences will not be possible without dedicated eye devices. Additionally, some of the market's leading services – for example, Niantic's Pokémon Go and ByteDance's Douyin/TikTok – are particularly prone to regulatory crackdowns.

Fig. 7: TikTok explosion has a transformative effect on AR revenue Switzerland, VR and AR revenue, 2018-2027 (CHFm)

		His	storical dat	а			CAGR %				
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022–27
VR video revenue	0	0	1	1	1	2	3	5	7	8	42.8%
VR gaming revenue	4	4	5	7	11	15	22	30	38	44	31.6%
Total VR revenue	4	4	6	8	13	17	25	35	45	52	33.0%
Mobile AR advertising revenue	4	10	18	24	54	66	76	84	90	93	11.5%
Mobile AR consumer revenue	8	8	11	16	52	107	130	152	170	182	28.7%
Total mobile AR revenue	12	19	29	39	106	173	206	236	259	275	21.1%
Total VR and mobile AR revenue	16	23	34	48	118	191	231	271	304	328	22.6%
Year-on-year growth (%)		42.0%	49.9%	38.2%	148.2%	61.4%	21.3%	16.9%	12.4%	7.8%	



VR

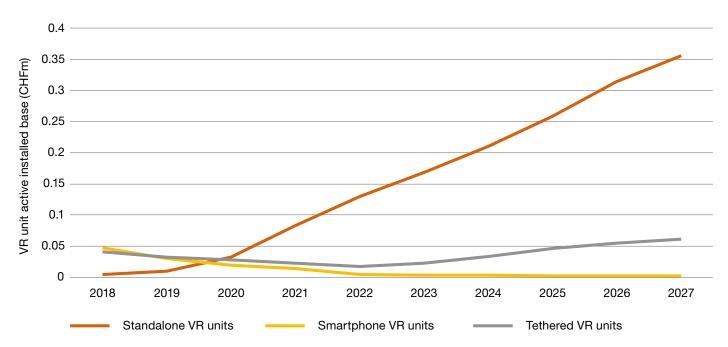
Total VR revenue in Switzerland in 2022 increased significantly to CHF13m, 51.3% higher than 2021. Revenue is forecast to reach CHF52m by 2027 at a 33.0% CAGR. VR games revenue has been the key driver of this, as VR gaming revenue accounted for almost 90% of total VR revenue in 2022. Meta's Quest in particular concentrates on making immersive gaming experiences available: Nexus, an entry in the Assassin's Creed series, released this summer.

VR continues to grow and take small steps toward becoming a mass-market proposition. Significant improvements in VR hardware, software and content over the past few years have broadened the appeal of VR beyond enthusiasts. In particular, Meta's heavy investment has led to VR becoming more accessible and affordable than ever before. The shift to capable standalone and tethered headsets has been a hugely positive development, which is greatly increasing engagement and spending on VR content.

Several recent or forthcoming product launches paint an optimistic picture for VR: the Meta Quest 3 is due in autumn 2023; the much-anticipated PlayStation VR arrived in February 2023; TikTok owner ByteDance will be investing more into VR via its Pico brand; and Apple's eventual entry in the AR/VR head-worn device category will certainly boost the entire market.

Having surmounted core hardware issues, VR is faced with the much bigger challenge of content. Engagement with existing headsets is patchy due to the limited flow of truly compelling VR experiences, hindering the vision for a selfsustaining VR ecosystem.

Fig. 8: Standalone VR set to dominate Switzerland, VR unit active installed base, 2018-2027 (CHFm)



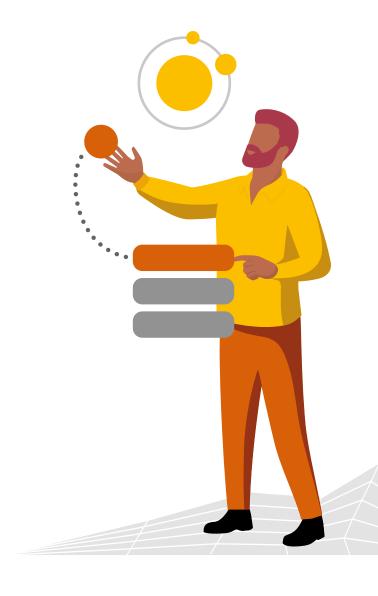
Apple

On 5 June 2023, Apple unveiled its much-anticipated Vision Pro AR/VR headset. Although this puts to bed years' worth of rumours, attention will now turn to how Apple decides to proceed into the world of extended reality (XR), having made this important first step. Given its eye-watering price of USD3,499 (CHF3,331), the headset is firmly aimed at developers and prosumers. It is set to go on sale in early 2024 via Apple's retail channels, initially just in the US.

Apple has positioned the Vision Pro as a premium device that appeals to both consumers and professionals. It has demonstrated a wide range of use cases, including productivity, education, entertainment and gaming. It has also revealed novel user interface features, such as the ability to gradually switch between AR and VR using a dedicated digital crown, and even a function to let others around the user see their digital version "through" the headset.

However, these alone will not be enough to shift millions of units: more compelling use cases and unique content will have to be created, not to mention lowering the price to make it attainable for more people. Apple is well-positioned to easily forge partnerships with the likes of Walt Disney to build up its new ecosystem. Additionally, Apple will lean on its army of dedicated app developers, who will now begin to invest resources and expand on the uses for the headset.

The design of the Vision Pro headset is expectedly very distinctive, but it remains to be seen how it performs in reallife scenarios in terms of comfort, ease of use and battery life (which is limited to just two hours). If Apple effectively marries its appealing design with useful apps and functions, the Vision Pro will serve as an aspirational product not only for consumers, but also for Apple's competitors.



As a platform technology, the metaverse has the potential to be as disruptive as the internet and have a transformative impact across most industries.

The metaverse

The metaverse can be conceptualised as a virtual, immersive shared space where users can digitally perform many of the activities they would also expect to do in the real world. While the fully matured Metaverse is envisioned as a universal and persistent virtual world, it is currently developing in various forms with differing use cases and applications. A widespread view of its valuable use cases is to make experiences available to the broader public that in the real world would be either extremely rare, unaffordable or dangerous. As a

platform technology, the metaverse has the potential to be as disruptive as the internet and have a transformative impact across most industries. In the early 90s, who could have envisioned mobile apps being a dominant sales and marketing channel? However, developments in the past year indicate that this vision may remain a decade away. Although big tech players like Apple, Meta and Microsoft remain committed to the metaverse, big tech is applying more restraint in terms of their strategy and investments.



Challenges

The metaverse faces challenges on many fronts. Today's emerging metaverse is a series of siloed, closed-garden platforms that will remain fragmented unless interoperability is addressed. Interoperability, in turn, presupposes industry standards from a technology perspective, and from a corporate usage lens, a clear regulatory framework. Furthermore, the availability and maturity of the technology stack are not yet fully ready for mass adoption. Even with 5G, networks still cannot provide the speed at latency needed to support the metaverse at a broadly adopted scale. Devices supporting the metaverse are in their pilot and early stages and still costly, as economies of scale cannot be leveraged yet. Furthermore, metaverse hardware still faces usability challenges such as with its weight and size, and because prolonged use can make people feel disoriented and/or nauseous.

The metaverse and games

While big consumer tech firms have perhaps the most prominent association with the metaverse, it is the leading games platforms that have done the most to shape the experience for consumers and to make the metaverse a commercial reality. Certain game developers are positioning leading game titles as horizontal platforms with a growing range of immersive metaverse features, notably Roblox and Fortnite.

Games already provide the kind of immersivity and engagement that is part of the metaverse remit. Games are by nature interactive and can be highly engaging. Premium "AAA" video games can be incredibly innovative and immersive, using 3D graphics, AI and other technologies to achieve high-quality production values and special effects, while certain titles already offer AR, VR or mixed reality (MR) experiences.

Games platforms supporting commerce and user-generated content have become social hubs in their own right. They offer an expanding range of in-game events, brand experiences and entertainment. A games platform like Roblox has a far more native understanding of and affinity with the metaverse than a traditional social network.

Immersive experiences and games are inextricably linked. Gaming and gamification as concepts cover more than traditional standalone games. Uses of gamification are already present in training and education for students and professionals, as an element in marketing and advertising campaigns, and to improve customer loyalty. One example of such an engagement platform is the digital fan zone provided by the Swiss e-sports organisation AEX-1, where puzzles can be solved to unlock discounts on merchandise.

The metaverse and enterprise

For industry verticals like manufacturing, the metaverse presents some clear, tangible benefits. For example, digital twin and simulation capabilities in the metaverse could be used for product prototyping, testing and troubleshooting. But outside these verticals, the metaverse does not currently present business users with game-changing applications directly impacting day to day operations. However, there is potential in terms of branding and marketing, advertising, recruiting and employee experience, especially when considering the increased familiarity with technology and the metaverse experiences from gaming of younger generations such as Gen Z.

The typical enterprise pitch is that the metaverse provides a more effective platform and enhanced experience for business communications, collaboration and productivity.

While outside 3D design situations, this assertion may not always be convincing, it is important to consider the evolving capabilities of the metaverse. For instance, virtual offices in the metaverse have shown potential in providing a better sense of presence compared to regular screen-based remote working via video conferencing. The metaverse experience, though not fully sophisticated, has already enabled participants to engage in conferences remotely and interact with others using emoji-type expressions. It also offers real-time speech transcription and translation, tailored to individual preferences. With unique interactivity, the metaverse presents opportunities for an experience upgrade rather than pure productivity. Still, as these platforms are still in their early stages, there is significant room for advancements and improvements.

Blockchain

Blockchain has strong links with the metaverse and can enable a range of important metaverse functions and services. The ultimate vision for the metaverse is of a continuous, interoperable environment that is not controlled by a single entity or organisation. This aligns with the decentralised nature of blockchain that could serve as the underlying infrastructure for the metaverse, connecting environments built on top of the blockchain and allowing users to take data assets (including digital identities) and cryptocurrencies with them, while providing authentication and security as well as payment currencies.

However, it still has limitations and vulnerabilities. Transaction rates are limited, and costs can be high owing to fees imposed for validating transactions. Depending on the blockchain type, the cost to prioritise or complete transactions can increase significantly when networks are busy, and speed of transactions may slow down due to the limited processing capacity per block. Furthermore, there is still some uncertainty around the legal and regulatory dimensions in areas such as the classification of tokens as utility or security, who carries liabilities, e.g. for damages occurring in case of a network breakdown or the like.

Local developments

March 2023 saw the announcement of the creation of the Swiss Metaverse Association, a cross-sector initiative intended to ensure Switzerland takes a significant place in the metaverse. A total of 47 partners across industries are involved in the public-private partnership, which was set up by communications agency Furrerhugi and venture capital firm SNGLR Group. Early priorities include tax and regulation, research and education, and a swathe of enterprise-focused topics. The association's first official event took place in May 2023 at the University of St. Gallen.

Also in March 2023, Swiss company Ostloong Innovations gave a first look at its LYRA AR smart glasses, slated for shipping by the end of 2023. The glasses contain features such as an inbuilt translator, GPS and music player, and build on Ostloong's announcement of SIRIUS smart ski goggles at the 2023 Consumer Electronics Show.

In June 2023, the Swiss Federal Institute of Technology revealed the project "metasuit" that engineers of the electrical and mechanical engineering supported by the Soft Robotics Lab and the Sensory-Motor Systems Lab are developing. It is a suit for MR and medical application, integrating haptic feedback, real-time movement tracking and novel artificial muscles. The team is using hydraulically amplified self-healing electrostatic (HASEL) actuators to create the suit, which is also able to provide haptic feedback.

Conclusion

The metaverse has the potential to offer genuine benefits and opportunities. It can support immersive experiences and new forms of engagement, with the potential to enhance accessibility to experiences that are rare, unaffordable, or dangerous in the real world. It can build upon the early adopters among gaming communities, enable a wide range of consumer and business applications and open up new channels for advertising, communication and commerce. For corporate and business metaverse use cases, collaboration and communications services must be further refined to differentiate from what is already available. For interoperability, standards need to evolve or be defined, and to generate traction in the corporate world, legal and regulatory frameworks must be established to provide clarity.

The user experience must continue to improve, as well as the technological infrastructure from a network capacity and in the case of interoperable metaverse, performance and security as well. Open questions and uncertainties remain that are to be tackled by industry associations, lawmakers, regulators, tech companies and entrepreneurs. Yet the enormous scale of its potential cannot be denied.



3

Business-to-business (B2B)

This segment covers business-to-business media, comprising business information, trade magazines, professional books and trade shows.



Segment definitions

Business information includes spending on business-focused data and intelligence such as financial data, including securities and economic credit data; marketing, including sales and survey research, mailing lists and demographic databases; and industry, including data and content covering market share information and competitor intelligence.

Professional books are those targeted at professional users (e.g. legal publishing). This segment covers sales revenue generated by both print (including audio) and digital media.

The revenues of the trade magazine segment comprise both advertising and circulation revenues from magazines aimed at a professional audience. Advertising revenue represents spending on advertising both in traditional print and through digital online magazines - either direct through a magazine website or via discrete digital editions of magazines distributed directly to a connected device such as a PC or tablet. Circulation revenue represents spending by readers on printed trade magazines, including single copies direct from retail outlets or via subscriptions, as well as spending on downloads of individual digital copies or subscriptions delivered digitally direct to a connected device such as a PC or tablet.

The trade shows segment comprises revenue from businesses exhibiting at trade shows. It does not include sponsorship of events.

B₂B

Switzerland's B2B market has been relatively stable, notwithstanding the impact of the COVID-19 pandemic on the trade show industry. Total B2B revenue rose by 13.5% in 2022 to CHF1.0bn, the highest level to date. A 3.2% CAGR will see revenue rise to CHF1.2bn by 2027.

Business information accounts for by far the largest part of total B2B revenue. The business information sector's growth accelerated from just 0.6% in 2021 to 11.2% in 2022. This will settle back down in a mean reversion. A 2.8% CAGR is forecast, taking revenue from CHF667m in 2022 to CHF765m in 2027.

Fig. 9: Trade show returns boost 2022 growth Switzerland, B2B revenue, 2018-2027 (CHFm)

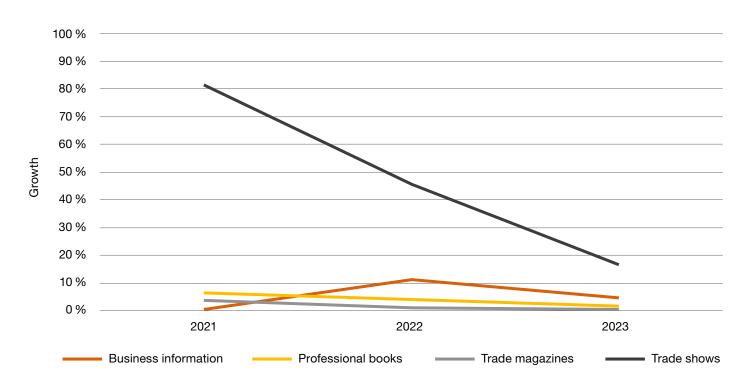
		Hi	storical dat	a			CAGR %				
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022–27
Business information	582	606	596	599	667	698	724	742	755	765	2.8%
Professional books	64	64	60	64	66	67	68	69	69	69	0.9%
Print	44	43	39	41	41	41	41	40	40	39	-1.2%
Digital	19	20	21	23	25	26	28	29	30	31	4.1%
Trade magazine advertising	104	104	100	103	103	104	104	103	103	103	0.0%
Print	63	59	54	51	46	43	39	36	34	32	-6.9%
Digital	41	45	46	51	57	61	65	67	69	71	4.5%
Trade magazine circulation	25	25	22	25	26	26	26	25	25	25	-0.7%
Print	21	21	17	19	19	19	18	17	17	17	-2.7%
Digital	4	5	5	6	7	7	8	8	8	8	4.1%
Trade shows	197	206	61	110	160	186	206	219	229	236	8.1%
Total	972	1,005	839	900	1,022	1,081	1,128	1,160	1,181	1,199	3.2%
Year-on-year (%)		3.4%	-16.6%	7.4%	13.5%	5.8%	4.4%	2.8%	1.8%	1.5%	

Trade shows

Following growth of 45.7% in 2022, revenues from trade shows are expected to increase at a CAGR of 8.1% to CHF236m by 2027. In 2024, the market will recover to its pre-COVID-19 baseline. The country's largest B2B events company, MCH Group, continues to face financial challenges as a result of the pandemic. Two anchor shareholders, the canton of Basel-Stadt and Lupa Systems, each injected around CHF34m into the business in 2022 to provide liquidity for a refinancing of the group's bonds. In January 2023, MCH Group cancelled a planned art and antiques fair in London, citing rising costs and a fall in exhibitor numbers. The company's full-year 2022 results revealed a rise in revenue to CHF390.9m - this was up 105% on the COVID-affected 2021. In June 2023, MCH Group published a sustainability report committing to meeting international climate targets.



Fig. 10: Trade shows and business information set to lead growth Switzerland, annual B2B revenue growth by sub-segment, 2021-2023 (%)



Business information

Although the business information segment's market share of total B2B revenue will decline marginally from 65.2% in 2022 to 63.9% by 2027, revenue will increase from CHF667m to CHF765m over the forecast period.

The segment spans market and consumer research, the largest providers of which on a global basis include Nielsen, Kantar, Gartner, GfK and Ipsos; industry research provided by the likes of Geo Strategy Partners, OvationMR and SIS International Research; and financial information, the biggest providers of which are Bloomberg and Thomson Reuters.

It is becoming increasingly difficult to clearly define what constitutes a business information provider as advanced data analytics become integral to insights, expanding the market's ambit into the software-as-a-service (SaaS) space. Business information is rapidly moving into predictive modelling and analytics using machine learning to forecast consumer behaviour, which is being pushed by new entrants in the technology space, causing disruption to traditional business information models. One recent entrant is ChatGPT, which has been shown to be capable of effectively modelling and analysing business information.

An emerging area is revenue growth management (RGM), a type of data analytics that business information companies use to help clients improve sales growth. RGM uses analytics and machine learning to optimise product availability, pricing and customer behaviour. Information providers are shifting their focus to analytics and real-time business intelligence rather than static research products.

In 2022, Kantar and software private equity specialist SilverTree Equity acquired StepUp RGM, which is being merged with Kantar's existing XTEL trade promotion management offering. The combined business, which will be branded Kantar XTEL and operate as an independent entity within the wider group, helps clients analyse commercial levers including price, assortment, promotions and trade terms to take a holistic view of sales and profit growth. The company estimates that the fast-moving consumer goods RGM software market space will be worth USD2.6bn (CHF2.5bn) globally by 2025. The deal very much fits the business information SaaS mould.

Trade magazines and professional books

Trade magazines will be more or less flat over the next five years. Demand for print products will continue to fall, with both circulation and advertising revenue shrinking again as soon as 2023, as the digital format becomes the preferred option in the long term. But publishers are finding success in the digital realm by serving specialist niches with newsletter products and "brand creative", which blends advertising with editorial. This advertorial approach is considered to be an attractive, value-added way to reach customers that is more engaging and effective than passive traditional display advertisements, but the digital approach is not the easiest to monetise.

Professional books have coped slightly better in recent years than trade magazines, with 2022 revenue up 11% on 2020. The sector has held up reasonably well since the pandemic, supported by predictable demand for digital academic literature and related tools. E-books revenue is closing in on printed books revenue and will comprise 44.3% of total professional books revenue in 2027.



Business information is rapidly moving into predictive modelling and analytics using machine learning to forecast consumer behaviour.



Segment definitions

Cinema revenue covers consumer spending at the box office for theatrical motion pictures and advertising spending at the cinema, including on-screen advertisements prior to movies. It does not include revenue from merchandise or concessions. This revenue is non-digital and results from both consumer and advertising spending.

Cinema

Switzerland is one of Europe's smaller film markets and has some of the highest cinema ticket prices in the world (the average admission cost was CHF15.90 in 2022). The industry is divided along linguistic lines, with films in certain regions released in French or Italian, and in others in German. This fragmentation arguably prevents box office revenue from reaching its full potential. Box office revenue was CHF138m in 2022, well short of the CHF193m achieved in 2019. It is not until 2025 that the pre-pandemic 2019 figure is expected to be surpassed, with box office revenue forecast to reach CHF214m by 2027. The CAGR of 9.2% remains inflated by a COVID-19-affected 2022 base year.

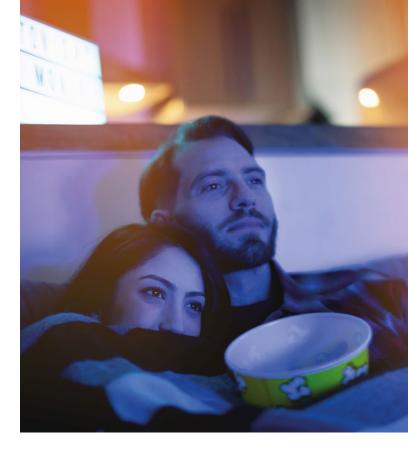


Fig. 11: Box office revenues set to surpass 2019 levels in 2025 Switzerland, cinema revenue, 2018-2027 (CHFm)

		Hi	istorical dat	а			CAGR %				
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022–27
Box office	179	193	67	85	138	165	184	199	208	214	9.2%
Advertising	32	34	9	14	24	27	28	29	29	39	4.4%
Total	211	227	76	99	162	191	212	227	237	244	8.5%
Year-on-year (%)		7.7%	-66.4%	30.5%	63.5%	17.8%	10.9%	7.2%	4.4%	2.8%	

Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

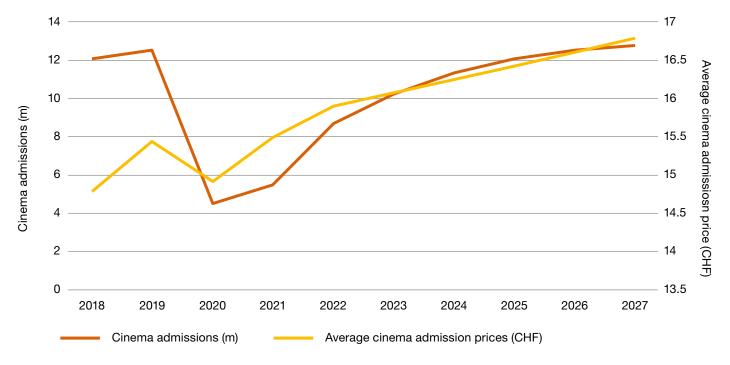
The country has generous distribution support for international companies that acquire Swiss films. There were two Swiss-backed features, Margarethe von Trotta's "Ingeborg Bachmann - Journey into the Desert" and Philippe Garrel's "The Plough", in the 2023 Berlin International Film Festival's main competition, a sign of how active the Swiss are as co-production partners. Nevertheless, Hollywood fare continues to dominate at the box office - in 2022, Americanmade films accounted for 25% of releases but 69% of viewings. European films, by contrast, accounted for 50% of releases but 23% of viewings, while the corresponding figures were 12% and 5% for Swiss-made films.

In May 2022, Swiss voters approved new legislation requiring providers of film content streaming platforms to invest in Swiss film production. Although the legislation had become known as "Lex Netflix", not only streaming platforms are affected, but also other audio-visual services providers of film content, including private broadcasters, foreign broadcasters with publicity windows and telecommunication services. Platforms are obliged to invest four per cent of their annual gross income generated in Switzerland. With the entry into force of the legislation on 1 January 2024, more funds will be available for the production of Swiss films.

Dutch film-maker Anton Corbijn's next film will be entitled "Switzerland", and is due to shoot this year. Based on a play by Joanna Murray-Smith, it follows the latter years of American novelist Patricia Highsmith, who died in Locarno in 1995. This year will also see the continuation of a prominent theme of Indian cinema being filmed in Switzerland. The country's mountainous scenery has often proved suitable for the favoured settings of Indian cinema - upcoming Telugu-language title "Bhola Shankar" will also make use of Switzerland as a backdrop.

Admissions will lag box office in terms of surpassing 2019 levels. Standing at 8.7m in 2022, they will rise to 12.8m in 2027, moving a shade ahead of the 12.5m 2019 admissions in 2026. Steady increases in admission prices will account for box office's better performance.

Fig. 12: Admissions will not surpass 2019 figures until 2026 Switzerland, cinema admissions (million) and average admission prices (CHF), 2018-2027



Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

One way to enable rises in admissions price is to invest in state-of-the-art cinemas.

One way to enable rises in admissions price is to invest in state-of-the-art cinemas. In October 2022, Cine-Project celebrated the opening of a new multiplex in the city of Chur. This was billed as a "multitainment house", diversifying its options to include indoor entertainment other than cinema, such as a bowling alley. The halls at the multiplex also include an IMAX, a premium-resolution screen with larger images. The project was managed by blue Cinema, a subsidiary of Swisscom. Relatedly, two cinemas located in Zurich and Geneva installed the CINITY system in December 2022. CINITY, which won the Technical Achievement Award at the international convention CineEurope 2022, is a high-end system for sound and images. The installation was complete in time for screenings of the blockbuster Avatar: The Way of Water.

Despite only being released in mid-December, Avatar: The Way of Water was the highest-grossing film of 2022 in Switzerland, according to Box Office Mojo. The CHF10.7m made by the film in the calendar year was more than double that of second-placed Minions: The Rise of Gru (CHF5.0m). Avatar: The Way of Water saw a total gross of CHF21.5m; it is rare for films to make more than CHF10m at the Swiss box office, with only the two movies No Time To Die and Despicable Me 3 doing so in recent years. The James-Cameron-directed film also exceeded one million ticket sales in total, according to Pro Cinema. Black Panther: Wakanda Forever rounded out the top three of 2022. Moving into 2023 releases, The Super Mario Bros. Movie has performed strongly, grossing over CHF10m.



5

Consumer books

This segment comprises revenue generated from the sale of consumer books (i.e. bought by consumers for personal use), including both print and electronic editions.



While digital books will continue to see growth at a CAGR of 4.1%, this is not enough to offset the 2.8% fall in CAGR anticipated for print.

Segment definitions

Revenues are assigned to the format of the book sold rather than the means of distribution; in other words, print editions bought from online retailers contribute to print revenues. Hard-copy audio books (on CD or another physical medium) are included within the print category. This revenue is both digital and non-digital and comes from consumer spending.

Consumer books

Total book market revenue in Switzerland will fall from CHF541m to CHF495m over the next five years to 2027, decreasing at a negative 1.8% CAGR. While digital books – incorporating both e-book sales and audiobook subscriptions – will continue to see growth at a CAGR of 4.1%, this is not enough to offset the 2.8% fall in CAGR anticipated for print as it continues its slow decline.

Fig. 13: Print continues downward story Switzerland, consumer book revenue, 2018-2027 (CHFm)

		Hi	istorical dat	a			CAGR %				
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022–27
Print	521	506	494	484	471	461	452	440	426	410	-2.8%
Digital	51	57	65	67	70	73	76	79	82	85	4.1%
Total	573	564	559	551	541	534	528	519	508	495	-1.8%
Year-on-year (%)		-1.6%	-0.9%	-1.4%	-1.9%	-1.2%	-1.2%	-1.6%	-2.1%	-2.7%	

Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

A GfK survey featuring Switzerland revealed some key trends in the country in 2022. Notably, sales of travel guides were reported as being up 73% in the year after travel restrictions were eased post-COVID. A normalisation of the trend can be expected in the coming years. Another sector to perform strongly was manga: already extremely popular in parts of Europe such as France, sales of manga rose a reported 13% in Switzerland in 2022.

The Jan Michalski Prize is a Swiss award given to literature from anywhere in the world, with the winner receiving CHF50,000. The 2022 winner was Taina Tervonen with her book "Les fossoyeuses". Another prestigious award, the Swiss Book Prize, was awarded in November 2022 to Kim de l'Horizon for their novel "Blutbuch". De L'Horizon received a CHF30,000 prize.

E-books and audiobooks

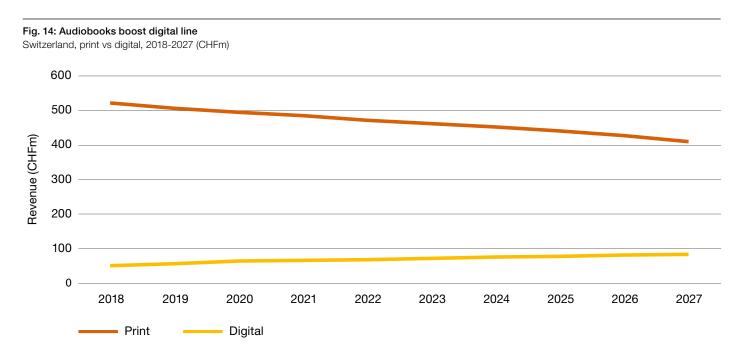
A 4.0% rise in digital books was the bright spot in 2022, with global services such as Apple Books and Audible proving popular in Switzerland. These platforms continue to innovate, with Apple rolling out Al-narrated audiobooks at the start of 2023. However, more local services have also attained a significant foothold: Beam E-books, a service with a strong fiction genre offering based in Bielefeld, Germany, is another well-used facility.

In September 2022, Spotify launched its first audiobook service, making 300,000 titles available to its US customers. In November, more English-speaking markets saw this service's launch, and in line with the company's global presence, this service can be expected to be rolled out in many more markets over the coming 12 months. The move will also help to forefront audiobooks in more people's minds, since consumer awareness remains relatively low beyond the biggest services. Nevertheless, obstacles remain to Spotify's quest to become a major player in audiobooks. On iOS, for example, navigating Apple's rules around in-app purchases has led to workarounds that are imperfect, such as prices of individual titles being hidden and payment links having to be sent by email. Spotify will certainly be hoping that legislators will move to adjust this situation. Nevertheless, the company's name recognition and the renown of its recommendation algorithm will help to improve audiobooks' user base over the coming years.

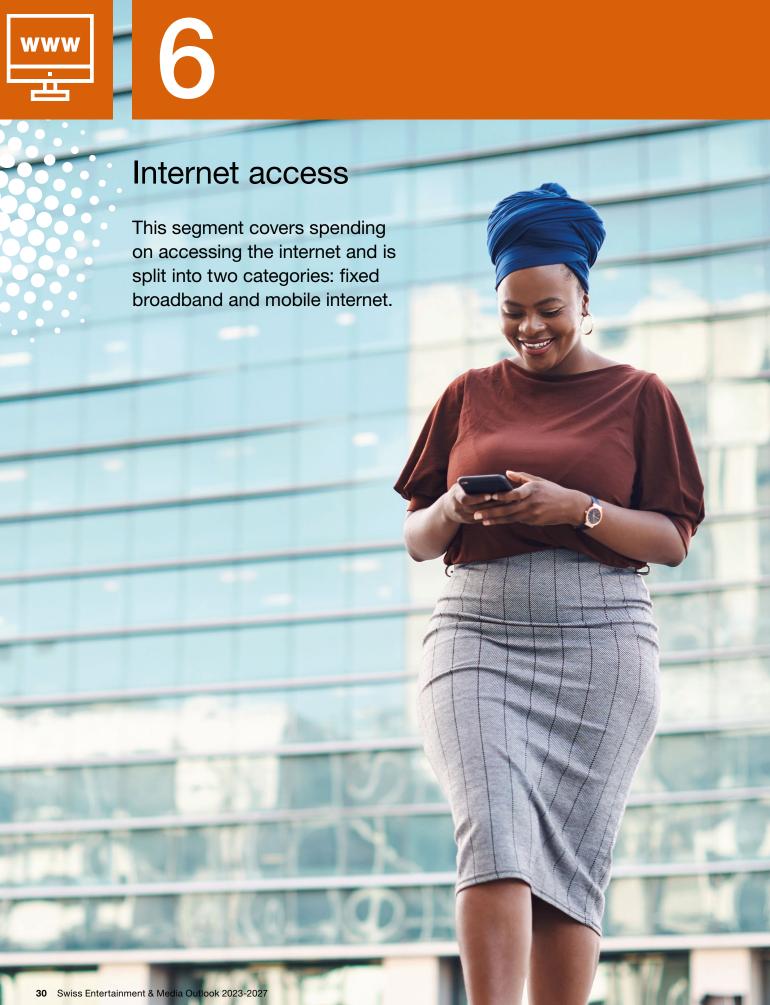
Book fairs

Book fairs are firmly back and in good health after the inevitable disruption caused by the pandemic, helping publishers to trade information on upcoming books they expect strong performance from. The Salon du Livre book fair, focused on the French-speaking part of Switzerland, took place in March 2023 at the Palexpo centre in Geneva. An annual award given at the event is the Ahmadou Kourouma prize, which was won in 2022 by Osvalde Lewat with her book Les Aquatiques. Polymanga is a successful yearly convention held in Montreux and focusing on pop culture, video games and manga. Its 2022 edition saw more than 50,000 visitors.

The annual Antiquarian Book Fair Zurich 2022 also took place between 4 and 6 November 2022, offering attendees the chance to buy antique and rare books, photographs and prints.







Segment definitions

Fixed broadband includes both wired and wireless connections and consists of a subscription to residential or business internet access services delivered to a home, office or other fixed location provided by cable, MMDS modem, xDSL, FTTx, WiMAX, proprietary wireless broadband, Ethernet, power line communications or satellite broadband technologies.

Mobile internet comprises internet access over the medium of cellular air interfaces generally via a 2.5G network or higher. This covers internet access via mobile devices and for connected devices that use embedded modems, dongles or data cards.

Internet access

With a population of 8.8 million, Switzerland punches above its weight in the internet access market, making more revenues than some of its larger European neighbours such as the Netherlands, which has twice the population. Total internet access revenues will grow at a CAGR of 2.5% from CHF5.6bn to CHF6.4bn between 2022 and 2027.

The Swiss market is slightly unusual in that fixed broadband access revenues will remain the main source of internet access revenues throughout the forecast period: consumer demand for fast and stable home broadband will spur subscription growth in the next few years and a growing share of customers will switch to fibre technology. While mobile access revenues will grow much faster - at a CAGR of 4.9% compared with just 0.7% for broadband - it is broadband that will account for 54.5% of total revenues in 2027. However, mobile's faster paced growth will see it close the revenue gap significantly, moving from 40.5% of revenues in 2022 to 45.5% in 2027.

Fig. 15: Swiss internet access revenues set to surpass CHF6bn by 2025

Switzerland, internet access revenue, 2018-2027 (CHFm)

		His	torical dat	а		Forecast data						
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022–27	
Fixed broadband access revenue	3,260	3,237	3,290	3,316	3,359	3,389	3,415	3,442	3,465	3,484	0.7%	
Year-on-year (%)		-0.7%	1.6%	0.8%	1.3%	0.9%	0.8%	0.8%	0.7%	0.6%		
Mobile internet access revenue	1,880	2,084	2,113	2,161	2,288	2,412	2,535	2,662	2,788	2,909	4.9%	
Year-on-year (%)		10.9%	1.4%	2.3%	5.9%	5.4%	5.1%	5.0%	4.7%	4.3%		
Total internet access revenue	5,140	5,321	5,403	5,476	5,647	5,800	5,949	6,103	6,252	6,393	2.5%	
Year-on-year (%)		3.5%	1.5%	1.4%	3.1%	2.7%	2.6%	2.6%	2.4%	2.2%		

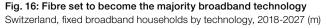


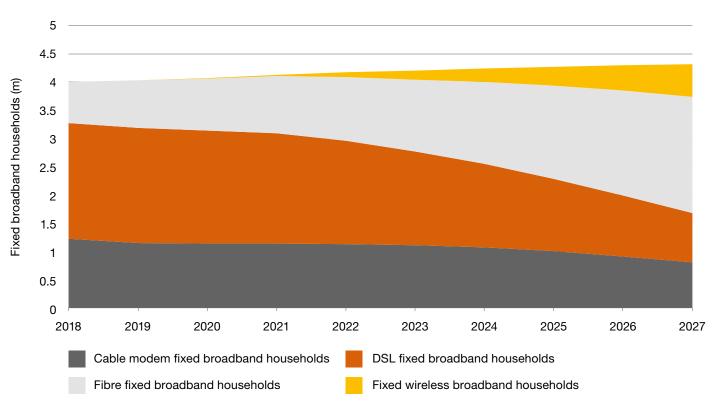
The success of Swiss telecommunication operators in monetising their customers is largely down to the very high pricing, especially in the broadband market, with average revenue per user figures among the highest in the world. Consumer demand for large and unlimited data will remain high, which enables operators to upsell to more expensive tariffs. The Internet of Things (IoT) will remain a key growth driver for mobile subscriptions over the outlook period. By 2027, 5G will be adopted by 81.8% of smartphone owners. Switzerland is among the most advanced European countries

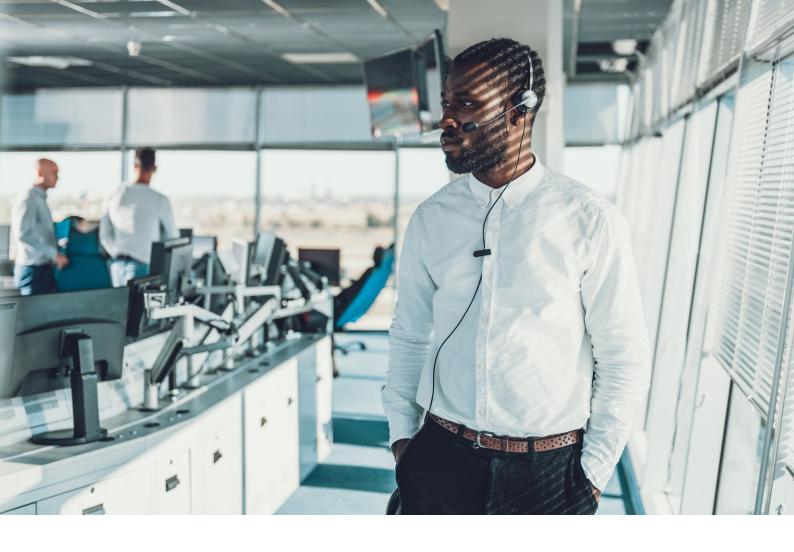
in terms of 5G adoption, as operators already provide almost universal 5G coverage. 2G services were completely switched off in Switzerland when the last of the three mobile network operators (MNOs), Sunrise, retired its legacy network in January 2023.

Full fibre will be in almost half of Switzerland's 4.3m fixed broadband households, while the number taking DSL connections will halve and the proportion of cable connections will fall from 27.1% to 18.6% as a result.

The success of Swiss telecommunication operators in monetising their customers is largely down to the very high pricing, especially in the broadband market, with average revenue per user figures among the highest in the world.







Telecommunications companies

Sunrise has become the primary consumer brand of the merged Sunrise and UPC operations. This telecommunications company launched a new revamped portfolio of fixed-mobile convergence (FMC) bundles in May 2022. The phase-out of the established UPC brand negatively impacted its customer base in 2Q22 and 3Q22, but it will facilitate the sale of the combined product portfolio and strengthen the company's competitiveness.

Salt was the first Swiss operator to react to inflationary headwinds and introduce a consumer price index (CPI)linked clause in its tariffs in 2022. This will give the telecommunications company the option of passing on increased costs to customers and thereby softening the impact on its revenue. While inflation is forecast to decrease in 2023, other Swiss operators will consider similar moves to hedge risks in the current uncertain economic environment.

Swisscom's fibre-to-the-home (FTTH) deployment remains hampered by an ongoing Competition Commission investigation; consequently around 500,000 connections were not marketable at end-2022. The final ruling is expected in 2023. Swisscom still plans to decommission digital subscriber line (DSL) by 2030 and to cover 70-80% of Swiss households and offices with its FTTH/B network by 2030, but the company lowered its 2025 target to 50-55% (from 50-60%). Swisscom's revenue was down by 0.3% year-on-year (YoY) to CHF2.7bn in 1Q23, while EBITDA increased by 2.4% to CHF1.2bn. Revenue in Switzerland decreased by 0.6% to CHF2.0bn. Ongoing competitive and price pressure continued to cause a decline in telecommunication service revenue. Swisscom has announced that, until the end of 2024, it will refrain from increasing the price of internet subscriptions for private customers, besides telephone, mobile and TV subscriptions.





7

Internet advertisement

This segment comprises spending by advertisers either through a wired internet connection or via mobile devices. The types of advertising (wired or mobile) are classified primarily by format rather than transport mechanism or device.

Segment definitions

Total internet advertising comprises online television, newspaper, consumer magazine and trade magazine advertising, which are also all included in their respective segments. The wired sub-segments cover paid search, display and classified formats. Display is broken down further into video and other display. The revenues are digital and stem from advertiser spending.

Search internet advertising involves placing advertisements on web pages that show the results of search engine queries (e.g. Google AdWords).

Classified internet advertising is advertising posted online in a categorical listing of products or services. A fee is paid by an advertiser to display an ad or listing around a specific vertical such as automotive, recruiting or real estate.

Display internet advertising comprises revenues from traditional advertisements placed on web pages in many forms, including banner advertisements and branded content/ native advertising. Other internet advertising formats (affiliates, rich media and email) are also included under this category. Advertisements sold through programmatic advertising are included here, but we do not break down revenue by method of selling. Broken down from display internet advertising revenue is video internet advertising revenue, which comprises revenue from in-stream video advertising (pre-rolls, mid-rolls and post-rolls) and out-of-stream video advertising. It includes revenue from both traditional broadcasters and internet-based websites, including YouTube.

Mobile internet advertising comprises all advertising delivered to mobile devices via formats designed for the specific device. It is split into the sub-segments of mobile paid search internet advertising revenue and mobile display internet advertising revenue. Mobile display internet advertising revenue is broken down further into mobile video internet advertising revenue and mobile other display internet advertising revenue. "Social" advertising occurs across a range of wired and wireless subsegments, but is not broken down separately. Figures for total advertising eliminate any double counting.

Internet advertising

The internet is the biggest advertising medium in Switzerland, significantly higher than newspapers and consumer magazines, the next-biggest medium. Total revenue in the Swiss market was CHF2.7bn in 2022 and will rise, at a 3.0% CAGR, to CHF3.2bn by 2027. The market is already welldeveloped, and growth is beginning to slow as it reaches maturity.

The wired sector accounted for 53.7% of revenue in 2022. Over the forecast period, the wired sector will see a 2.7% CAGR to push revenue from CHF1.5bn to CHF1.7bn. Mobile revenue, meanwhile, will increase from CHF1.3bn to CHF1.5bn, with a 3.3% CAGR expected. The fastest-growing part of the market is mobile video display, with a 14.7% CAGR.

Fig. 17: Growth slows but revenue still set to pass CHF3.0bn by 2025 Switzerland, internet advertising revenue, 2018-2027 (CHFm)

		His	torical da	ta			CAGR %				
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022–2027
Total internet advertising revenue	1,794	1,921	2,025	2,581	2,728	2,843	2,939	3,026	3,102	3,158	3.0%
Total wired internet advertising revenue	1,179	1,176	1,200	1,376	1,466	1,519	1,568	1,611	1,648	1,674	2.7%
Paid search internet advertising revenue	393	311	331	433	460	467	471	474	476	477	0.7%
Classified internet advertising revenue	454	492	485	518	558	581	600	620	639	658	3.4%
Display internet advertising revenue	332	373	385	425	447	471	497	517	533	539	3.8%
Other display internet advertising revenue	276	300	305	320	310	306	303	296	288	281	-2.0%
Video internet advertising revenue	56	73	80	105	137	165	194	221	244	258	13.5%
Total mobile internet advertising revenue	615	744	824	1,205	1,263	1,325	1,371	1,415	1,454	1,484	3.3%
Mobile paid search internet advertising revenue	180	171	189	316	339	380	405	428	447	462	6.4%
Mobile display internet advertising revenue	436	574	636	889	924	944	966	987	1,007	1,022	2.0%
Mobile other display Internet advertising revenue	408	533	586	820	836	840	845	849	851	847	0.3%
Mobile video internet advertising revenue	28	41	50	69	88	104	121	138	157	175	14.7%
Year-on-year (%)		7.0%	5.4%	27.5%	5.7%	4.2%	3.4%	3.0%	2.5%	1.8%	

Google, Amazon, Meta and Apple (collectively GAMA) already enjoy dominance across the Swiss internet advertising market, accounting for about three-quarters of total internet advertising revenue in 2022. And this only represents GAMA players' advertising revenue as media owners: including the revenue that flows through their extended display and search networks further boosts GAMA's power over the internet advertisement market. Indeed, this is something upon which regulators and litigators are already acting: two classaction lawsuits against Google regarding its advertising tech practices and impact on publishers were announced in the UK and the Netherlands in September 2022.

Nevertheless, growing competition from Google and Amazon will lead to muted revenue growth over the forecast period. This trend is reinforced by the likes of TikTok and premium video service providers increasingly turning to advertisements for monetisation as well as the negative impact of Appledriven privacy changes on its ability to reach, measure and target consumers outside its apps and services.

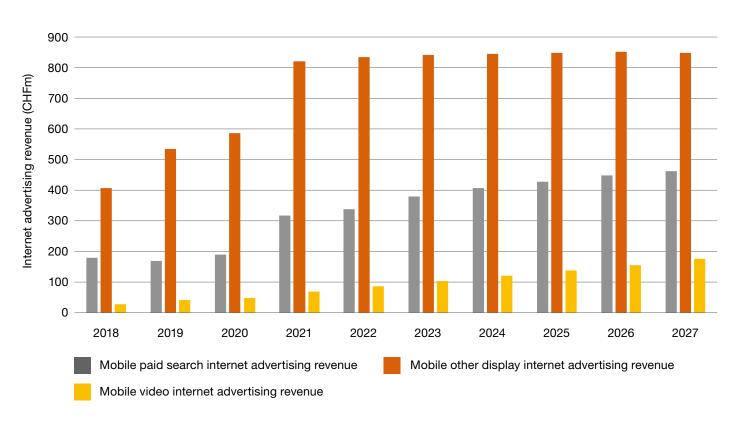
Google continues to dominate the paid search market, taking 75% of revenue in 2022 after removing traffic acquisition costs (TAC): payments made by internet search companies to the likes of affiliates for directing traffic to their own websites. However, Google will cede a share of this segment over

the forecast period, primarily to retail media solutions from Amazon and prominent retailers. Apple will remain a small player in the search market through Search advertisements but will grow its role in the app installation advertising space by expanding to new, display-focused formats such as Search Tab advertisements. Although its share of the internet advertising market will continue to be under 2%, Apple will remain a key gatekeeper in the mobile space.

Following years of dynamic growth, expansion of the Western European mobile display segment is expected to slow substantially. Particularly the segment leader, Meta, continues to face multiple challenges. This includes the continuing difficulties posed by Apple's changes to privacy in iOS, as well as increased competition for consumer attention and advertising budgets from rising social star TikTok in the social video segment. Meta is actively adding new advertisement formats and contexts in a bid to compete, but its growth trajectory is expected to slow considerably.

Video advertising continues to grow strongly. However, the competitive dynamics of the mobile video segment in particular have been significantly disrupted by the growing popularity of the TikTok mobile app among both users and advertisers, which has dampened incumbents YouTube and Meta's mobile video advertising revenue growth.

Fig. 18: Plenty more growth available in mobile search and video Switzerland, mobile internet advertising revenue, 2018-2027 (%)





New AI technologies will serve as both a threat to, and an opportunity for, traditional internet search engines.

By far the fastest-growing segment of online video advertising is connected TV (CTV) advertising. This is being driven by increasing shifts towards the OTT delivery of ad-supported premium video content on both an on-demand (AVOD) and a linear (FAST) basis, a shift in YouTube's focus to more premium content and viewing environments, and an increasing focus on media advertising from CTV manufacturers.

A pocket of opportunity in the internet advertising market is the emergence of the retail media segment, which was boosted by the rapid uptake of e-commerce during the pandemic. As advertisers continue to seek greater returns on investment (ROI) through increasingly outcome-based campaigns, a publisher's ability to tie an advertisement directly to a physical or digital sale is a hot commodity. This is leading to key data partnerships among digital publishers. broadcasters and prominent retailers, in addition to the rollout of more directly shoppable advertising formats.

While e-commerce behemoth Amazon will continue to be the main beneficiary of this shift, other retailers have already launched retail media networks through which they can offer similar closed-loop attribution to advertisers. This shift is expected to remain a driver of revenue across multiple internet advertising segments.

Meanwhile, new Al technologies will serve as both a threat to, and an opportunity for, traditional internet search engines as Microsoft integrated OpenAl's GPT-4 model into its Bing search engine for conversational search experiences in February 2023 and Google introduces its own competitor, Bard. Although such conversational engines have the potential to massively disrupt the core internet search experience - and, by way of extension, the paid search advertising revenue stream - early results have been mixed in terms of accuracy. Indeed, Al's short- to medium-term role in the paid search segment is likely to improve the contextual relevance, accuracy and usefulness of search results rather than replace search entirely. While AI has been used for some time in other forms of online advertising, its role is expected to increase to achieve further personalisation and targeting of advertisements at scale and speed. Improvements made to chatbots mean that AI responses are rendering click-through unnecessary for some queries, which could have wider implications for traffic and the effectiveness of the paid search model in the long term.



Music and radio

This segment comprises consumer spending on music, including both physical and digital recorded music and live music played at concerts, as well as revenue from sponsorship of live music, but does not include revenue from merchandise or concessions at live music events. It also includes revenue from consumer spending on radio licence fees and all advertising spending on radio stations and radio networks. This segment includes both digital and non-digital revenue, and revenue from both consumer and advertising spending.



The recorded music component comprises physical and digital. All consumer spending is measured at retail level, which can be substantially higher than the wholesale or trade value revenues sometimes reported. This segment includes both digital and non-digital revenue and is revenue from consumer spending.

Physical recorded music covers any retail or online purchase of official physical albums (e.g. CDs), single sound recordings or music videos.

Digital recorded music comprises the sale of any licensed music distributed digitally to connected devices (including PCs, tablets, smartphones and dedicated music players), and is split between streaming and downloads. Downloads includes revenues from any licensed recorded music downloaded via app stores or licensed services (such as iTunes). Streaming comprises revenue from subscription and advertiser-supported streaming services (such as Spotify).

Performance rights revenue is generated for record companies and performers by the use of recorded music by broadcasters and in public venues.

Synchronisation rights revenue represents earnings from the use of music in advertising, film, games and television programmes.

For live music, consumer spending on tickets is included along with sponsorship revenues. This segment is nondigital and represents revenue from consumer and advertising spending.

In radio, public radio licence fees are included.1 Revenue from radio advertising on radio stations and radio networks is tracked as net of agency commissions, production costs and discounts.

Music and radio

Switzerland's music and radio market was worth CHF1.2bn in 2022, up 18.0% from CHF1.1bn in 2021. Revenue is forecast to rise at a 1.7% CAGR to 2027. Recorded music revenue was up 0.3% to CHF247m in 2022 and is set to be worth CHF281m at the end of the forecast period.

Fig. 19: Live recovery and recorded growth leads to strong year Switzerland, music and radio revenue, 2018-2027 (CHFm)

		His	storical dat	а			Fo	recast data	a		CAGR %
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022–27
Total music revenue	634	645	312	448	628	681	695	705	714	722	2.8%
Total recorded music	198	208	220	246	247	258	265	271	276	281	2.6%
Physical recorded music	51	43	34	34	28	25	23	23	22	22	-4.5%
Digital recorded music	120	138	164	190	198	211	219	224	229	234	3.3%
Downloads	24	18	13	10	8	5	4	2	2	1	-32.6%
Mobile	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.1	-28.5%
Streaming	96	119	150	180	190	205	215	222	227	232	4.1%
Streaming advertising	8	12	17	21	24	26	29	31	33	35	8.0%
Streaming subscription	87	108	133	158	166	179	186	191	194	197	3.5%
Performance rights	26	27	21	22	21	21	22	23	24	24	3.6%
Synchronisation	0.6	0.5	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	3.2%
Live music revenue	436	437	92	202	381	424	430	434	438	441	3.0%
Live music ticket sales	358	359	73	164	315	353	358	363	366	369	3.3%
Live music sponsorship	78	78	18	38	67	71	71	72	72	72	1.5%
Total radio revenue	622	619	562	582	587	597	600	601	600	599	0.4%
Traditional radio advertising revenue	144	144	105	110	118	130	133	135	135	135	2.7%
Public radio licence fees	478	475	457	472	469	468	467	467	465	465	-0.2%
Total music and radio revenue	1,256	1,264	874	1,030	1,215	1,279	1,295	1,306	1,314	1,321	1.7%
Year-on-year (%)		0.7%	-30.9%	17.8%	18.0%	5.2%	1.3%	0.8%	0.6%	0.5%	

The radio fee and television fee are not separated and are paid as one levy which is collected by SERAFE AG. The public radio licence fee shown in this chapter is estimated and based on historical data

Swiss music rights firm MusicBird was able to obtain more financial firepower at the start of 2023 when it signed a loan facility with Mitsubishi UFJ Financial Group worth as much as CHF95m. The rights acquisition company launched just under two years ago but has already done several significant deals, including taking the publishing rights of record producer and songwriter JR Rotem (whose rights include songs for Rihanna, Gwen Stefani and Sean Kingston) and from Shaggy (including the songs "It Wasn't Me" and "Boombastic").

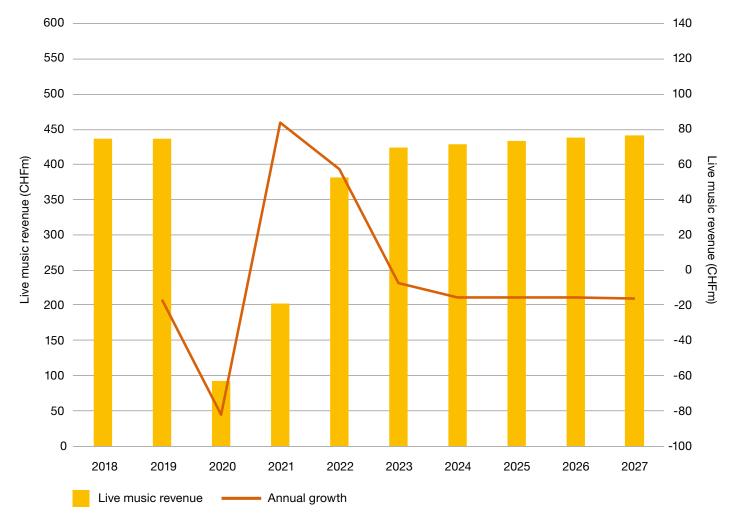
Zug-based Utopia Music, a fintech company providing financial services to record companies, publishers and distributors, had been on a two-year business-acquisition spree and had built a 1,200-strong workforce, but in November 2022 it announced that it was making sharp cuts in staffing around the world. Utopia said it was looking to reduce costs across its acquisitions and focus on sustainable growth.

Live music

Live music revenue reached 87% of its pre-COVID revenue in 2022, with a full recovery expected by 2026. This will be helped by Zurich Openair festival's continued ability to book world-famous headliners: Artic Monkeys and Kings of Leon were among the headliners in 2022, while the iteration in August 2023 featured The Killers and Calvin Harris. Frauenfeld, Gampel and St. Gallen continued to be popular OpenAir festivals in 2022.

Elsewhere, the Montreux Jazz Festival went on for more than two weeks between June and July 2023. The festival typically brings in around 250,000 visitors per year and would thus account for an appreciable portion of the CHF353m ticket sales revenue anticipated in 2023.

Fig. 20: Live recovery set to be complete in 2026 Switzerland, live music revenue (CHFm) vs annual growth (%), 2018-2027

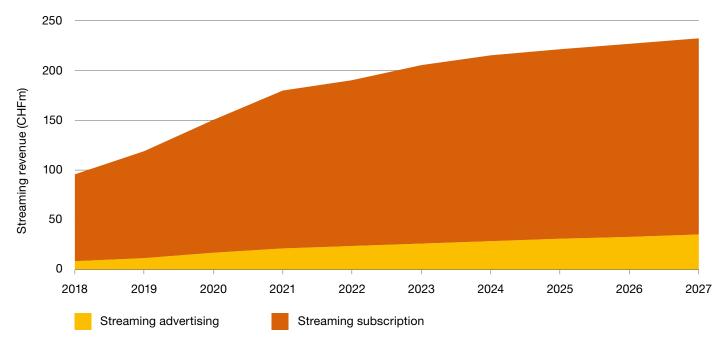


Streaming music

Digital music streaming providers had another good year in 2022. Services such as Spotify and Apple Music continue to attract new subscribers despite the rising cost of living. The launch of Apple Music Classical in the first quarter of 2023 may draw classical music aficionados into streaming. The service allows users to search for specific performances, and audio in feature songs is available in maximum lossless quality, an important factor for this demographic.

Radio broadcasting in Switzerland is divided according to the national languages of the country's four distinct regions.

Fig. 21: Streaming growth set to tail off as market matures
Switzerland, digital streaming music, subscription and advertising, 2018-2027 (CHFm)



Switzerland Entertainment and Media Outlook, PwC, Omdia

Radio

Switzerland's radio market is partly funded by a public licence fee, which in 2022 contributed CHF469m (79.9%) towards total revenue of CHF587m, the balance being funded by advertising. Advertising spending into the sector will rise without reaching pre-pandemic levels. With the licence fee remaining fixed for the time being, total radio revenue is forecast to reach CHF599m in 2027 at a 0.4% CAGR however, 2026 and 2027 will see contractions in the sector. Radio broadcasting in Switzerland is divided according to the national languages of the country's four distinct regions. Independent media company SRG is thus responsible for providing public broadcasting services as follows: SRF (German) with six stations; RTS (French) with four stations; RSI (Italian) with three stations; RTR (Romansh) with one station. SRG's annual revenue amounts to around CHF1.5bn, funded mostly by the public licence fee and partly by advertising and content-reselling fees. SRG claims that its radio stations are the leaders in their respective language markets and that SRG as a whole has 60% national reach.

CH Media is the largest private radio group in the country with stations including Radio Argovia, Radio 24, FM1, Radio Pilatus and Radio Bern. The company claimed 1.29 million weekly listeners for its stations during 2H2022, with Radio 24 and Radio Pilatus leading the market in Germanspeaking Switzerland with 231,000 and 227,000 daily listeners respectively. CH Media also reported solid daily listening figures for its DAB+ stations: Radio Melody (95,000), Virgin Radio Switzerland (79,000) and Flashback FM (64,000). In February 2023, the Federal Office of Communications approved the transfer of licences for three stations that CH Media had taken over: Sunshine, Central and Eviva. Switzerland's radio industry is set to go purely digital at end-2024 when the country's FM transmitters are switched off. Around 77% of radio listening in the country is already digital (via DAB+ and streaming services).



Newspapers and consumer magazines

This segment comprises revenue from both consumer spending on newspapers and consumer magazines (both physical and digital), and advertising in newspapers and consumer magazines (physical and digital). This segment covers all daily newspapers, including weekend editions and free dailies. This revenue is both digital and non-digital and comes from both consumer and advertising spending.

Newspaper advertising revenue covers advertising spending on both print editions of newspapers and digital newspapers, which includes all advertising on newspaper websites, tablet apps and smartphone apps.

Newspaper circulation revenue comprises consumer spending on newspapers, including print (newsstand purchases and subscriptions to the print edition) and digital (digital subscriptions and payments for newspapers delivered direct to connected devices such as a PC, tablet or smartphone, including fees to access online content).

Magazine advertising can be either direct through a magazine website or through magazines distributed directly to a connected device such as a PC or tablet. Magazines published under contract (customer magazines/contract or custom publishing) are included within this advertising section.

Magazine circulation revenue comprises spending by readers on physical print magazines direct from retail outlets or via subscriptions in print, and via downloads of individual digital copies or subscriptions delivered digitally direct to a connected device such as a PC or tablet.



Newspaper and consumer magazines

Switzerland's total newspapers and consumer magazines market will shrink from CHF1.5bn in 2022 to CHF1.2bn in 2027. This can largely be attributed to the fact that a rise in digital revenue, from CHF241m to CHF304m, will not be enough to counterbalance the more rapidly declining non-digital segment, which will fall from CHF1.2bn to CHF913m.

Fig. 22: Print-led segment continues downward path Switzerland, newspaper and consumer magazines revenue, 2018-2027 (CHFm)

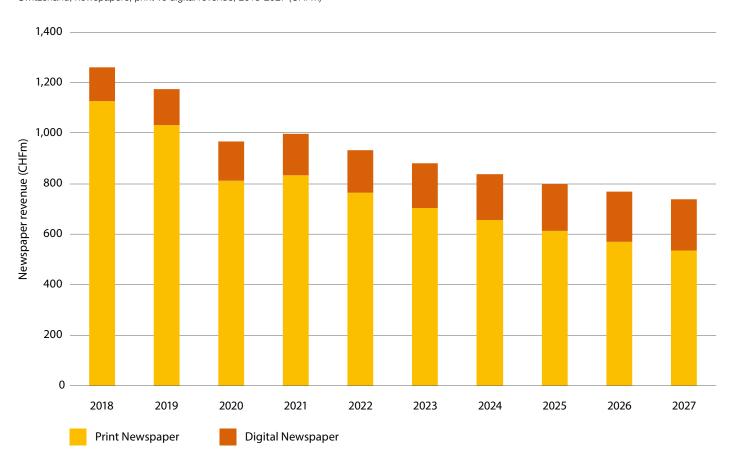
		His	storical dat	а			Fo	orecast data	1		CAGR %	
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022–27	
Newspaper advertising	712	667	545	556	528	503	483	468	458	450	-3.2%	
Print	610	561	432	442	412	383	360	341	326	313	-5.3%	
Digital	102	106	113	114	116	119	123	127	132	137	3.3%	
Newspaper circulation	548	509	423	440	404	377	354	331	309	289	-6.5%	
Print	515	471	380	393	352	322	296	270	245	222	-8.8%	
Digital	33	38	43	47	51	55	58	61	64	67	5.4%	
Total newspaper	1,260	1,176	968	996	932	880	837	799	766	739	-4.5%	
Consumer magazine advertising	379	349	298	287	276	267	260	254	250	247	-2.2%	
Print	330	296	242	228	213	199	187	176	166	157	-5.9%	
Digital	49	53	56	59	64	68	73	78	84	90	7.1%	
Consumer magazine circulation	315	299	247	275	268	259	252	245	238	231	-2.9%	
Print	307	291	238	266	258	249	242	235	228	220	-3.1%	
Digital	8	8	9	9	9	10	10	10	10	11	2.4%	
Total consumer magazine	694	648	545	563	544	526	512	499	488	478	-2.6%	
Total newspaper and consumer magazine	1,954	1,824	1,513	1,559	1,476	1,405	1,349	1,298	1,254	1,216	-3.8%	
Year-on-year growth (%)		-6.6%	-17.1%	3.0%	-5.3%	-4.8%	-4.0%	-3.7%	-3.4%	-3.0%		

Newspapers

Total newspaper market revenue in Switzerland is forecast to decline from CHF932m to CHF739m over the next five years, equivalent to shrinking at a -4.5% CAGR. As in other Western European nations, this decline can be attributed to a decline in print, down from CHF764m to CHF535m. This means that the digital space is particularly important for news publishers, as traditional newspapers face competition from social media, news aggregators and digital-only outlets. Neue Zürcher Zeitung offers both a CHF24 monthly digital subscription and

a CHF39 option that also includes the in-depth analysis of its PRO Global site, in an attempt to differentiate by providing high-quality journalism. According to TX Group, one of Switzerland's biggest news publishers, its Tamedia business unit that publishes many daily and Sunday newspapers has 646,000 paid subscribers and by mid-2022 had increased its digital-only subscribers to 146,000. According to Reuters' Digital News Report 2023, however, only 17% of Swiss consumers are prepared to pay for online news.

Fig. 23: Digital set to account for 27.5% of revenue in 2027 Switzerland, newspapers, print vs digital revenue, 2018-2027 (CHFm)



Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

With big tech giants such as Meta and Google dominating digital advertising on a global scale, finding effective, sustainable business models is crucial. In response to the shifting market, publishers are experimenting with technology like the AI-powered Sophi.io dynamic paywall engine created by Canada's The Globe and Mail and spun off as a separate entity. Sophi.io helps publishers decide what content to put behind a paywall and when to sell a subscription, as well as automatically deciding when to gather first-party user data with progressive disclosure, which will be important once Google phases out third-party cookies in 2023.

News publishers globally will be watching this experiment with interest. In Switzerland itself, 20 Minuten's app uses AI to automatically translate content into nine different languages.

In an effort to support local newspaper publishers, radio and TV providers as well as online media, the Swiss parliament had proposed to increase public funding for Swiss media. However, 54.6% of voters rejected the parliament's proposal in a February 2022 ballot. This decision underscores the downward trend in the newspaper segment.

In May 2023, the Federal Council of Switzerland approved a bill granting the right to remuneration for journalistic works used by internet service providers. As an example, a snippet of text from a newspaper article that shows up in a search engine's results will require remuneration in future.

News fatigue, news avoidance and a lack of trust in the media as a result of declining objectivity and political polarisation are also affecting the newspaper market. Reuter's Digital News Report 2023 ranks trust in news overall at 42% in

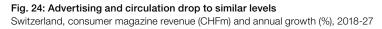
Switzerland. In some countries, there has also been evidence of news fatigue and a growing trend to news avoidance after three years of the pandemic. The newspaper market is also affected by increased production costs and the fact that the pandemic led to reduced advertising budgets. Changing trends in commuting patterns and working from home have also affected the free dailies sub-sector, meaning that fewer copies are picked up by commuters which is in turn affecting advertising revenue.

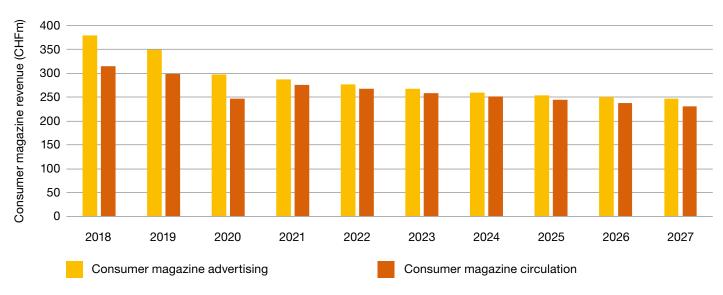
News fatigue, news avoidance and a lack of trust in the media as a result of declining objectivity and political polarisation are also affecting the newspaper market.

Consumer magazines

Consumer magazine revenue in Switzerland is forecast to decline from CHF544m to CHF478m between 2022 and 2027, equivalent to a decrease at a -2.6% CAGR. This indicates that magazine publishers are faring better than newspapers at minimising losses in the sector.

According to the readership study of MACH Basic 2022-1, the Beobachter, a magazine focused on politics, health and consumer issues, is read by 640,000 people in the Germanlanguage group and is the most-read magazine in the country.





Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

With print revenue declining globally, some magazines are reinventing themselves as lifestyle brands, broadening their offer beyond printed and digital content. Vogue magazine, for example, has established the Vogue Club to attract and retain subscribers. Operating on a global level, the club offers a members-only website and digital content, virtual meet-andgreets, discounts, newsletters and access to special events. Some publishers are also venturing beyond "traditional"

website content and into the metaverse. Hearst UK is building a metaverse experience for its Cosmopolitan title inside the Roblox gaming world. In 2022, China's Huasheng Media and Alimama teamed up to launch MO, a virtual magazine inside the metaverse, which attracted 400,000 readers, while Milanbased editor Gloria Maria Cappelletti launched Red-Eye, a fashion and lifestyle magazine in the metaverse.



Out-of-home (OOH)

The out-of-home (OOH) advertising market consists of advertiser spending on OOH media. OOH comprises total advertiser spending on all formats of OOH media and is split between physical and digital. Advertising spending is tracked as net of agency commissions, production costs and discounts.

Physical OOH advertising includes billboards, street furniture (bus shelters and kiosks), transit displays (bus sides and taxi toppers), sports arena displays, and captive advertisement networks (in such venues as lifts).

Digital OOH advertising includes any OOH advertising media that is internet-connected (e.g. smart billboards).

OOH

Switzerland is home to the fourth-largest OOH market in Western Europe after Germany, the UK and France. It has been making a slower comeback from the impact of the COVID-19 pandemic owing to its underweight digital out-ofhome (DOOH) market, though significant strides were made in 2022.

While 38.1% of Western European OOH revenue was digital in 2022, Switzerland's digital OOH revenue was far lower at 25.1%. This is hindering the post-COVID-19 rebound that is observable in more digitally mature markets. In 2022, however, total revenue grew by 17.0% to CHF447m.

Over the next five years, the market will increase at a belowaverage 2.2% CAGR (Western Europe will expand at a 3.3% CAGR). By 2027, Switzerland's OOH market will be valued above its pre-pandemic baseline, at CHF499m.



Fig. 25: Digital increases prominence as growth remains slow Switzerland, OOH advertising revenue, 2018-2027 (CHFm)

		Hi	storical dat	а			CAGR %				
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2021–26
Physical OOH advertising revenue	401	411	308	300	335	350	351	348	346	343	0.4%
Digital OOH advertising revenue	62	73	65	82	112	127	141	148	152	156	6.9%
Total OOH advertising revenue	463	484	373	382	447	478	492	496	498	499	2.2%
Year-on-year (%)		4.5%	-22.9%	2.4%	17.0%	6.8%	3.1%	0.8%	0.4%	0.1%	

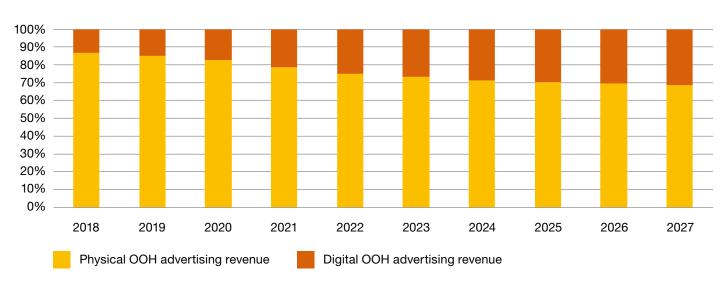
Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

In March 2023, voters in Geneva narrowly turned down a plan by local authorities to ban advertising billboards in the city. Votes against totalled 51.9% of the ballot, with opponents of the ban concerned about the prospective loss of revenue in Switzerland's second-largest city by population. This news is enough to move the needle at a national level, with outer-year forecasts for the OOH market now more bullish than a year prior.

Clear Channel Outdoor sold its Swiss business in December 2022 to Neo Advertising for CHF86m. Neo Advertising, in which Goldbach Group has a majority stake, is the closest competitor of APG|SGA, which is 30% owned by JCDecaux. Following the merger, the combined company will have turnover of around CHF103m on a historical basis, representing around one-quarter of Switzerland's entire OOH market. Meanwhile, market leader APG|SGA announced fullyear 2022 results in March 2023. Revenue was up 16.6% from 2021 to CHF314.1m, while net income had nearly doubled to CHF23.4m.

The pandemic has boosted the relevance and adoption of programmatic buying of DOOH media, which is rapidly taking root.

Fig. 26: Digital share will surpass 30% by 2027 Switzerland, physical vs digital share of total OOH revenue, 2018-2027 (%)

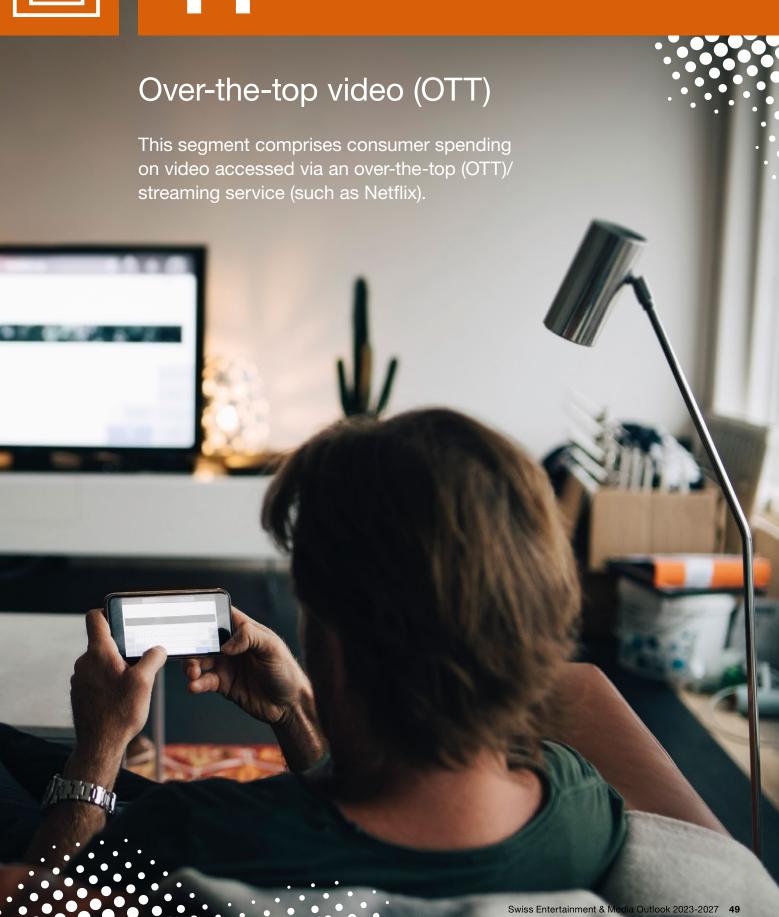


Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

The pandemic has boosted the relevance and adoption of programmatic buying of DOOH media, which is rapidly taking root. Amid changing and uncertain circumstances in 2020 and 2021, advertisers came to recognise the advantages of agility and flexibility that this new method of activating brand campaigns made possible. Today, real-time bidding on various media is made possible with the integration of omnichannel demand-side platforms (DSPs), where advertisers select their chosen media, and supply-side platforms (SSPs), which enable media companies to list their inventories. These platforms allow advertisers to target specific audiences with greater precision and efficiency than was previously possible, and they have become an integral part of the modern advertising landscape, including the DOOH channel. The increasing sophistication of the measurement of outdoor audiences and conversions by tracking people's smartphones

through a process called "device ID pass back" is also making programmatic DOOH highly effective. This allows advertisers to target audiences with their campaigns by reaching specific consumers in chosen locations at specific times. This marriage of measurability and the automation of advertisement buying has made DOOH a highly competitive channel in the overall marketing mix. A recent global survey by Viooh, the SSP backed by OOH market leader JCDecaux, found that some advertisers are converting existing physical and DOOH budgets to buy programmatic DOOH. This displaces existing industry revenue, leaving substantial growth from newly unlocked budgets and the reallocation from other channels. Globally, it has been found that 37% of media professionals have added new budgets to programmatic DOOH, and 21% have shifted budget from competing digital and physical OOH media.





OTT video revenue comprises revenue from stand-alone services (such as Netflix) whose filmed entertainment content is accessed via a broadband or wireless internet connection and is viewable on a PC, TV, tablet, smartphone or other device which bypasses TV subscription providers. These services are split between subscription video on demand (SVOD) and transactional video on demand (TVOD). SVOD services (such as Netflix) are delivered over the open internet, requiring a subscription. TVOD services (such as iTunes) also deliver filmed entertainment content via the open internet and do not require a subscription.

OTT

The Swiss OTT market's growth remained strong in 2021, with restrictions still in place from the COVID-19 pandemic, before slowing to 12.5% in 2022 to produce revenue of CHF199m. In a competitive and near-saturated market, further expansion is likely to come through households subscribing to multiple platforms or upgrading to premium tiers. Revenue will expand at a 4.2% CAGR to reach CHF245m in 2027. At this time, SVOD services will account for 91.8% of total OTT market revenue.

Fig. 27: Growth to settle as SVOD market matures Switzerland, OTT video revenue, 2018-2027 (CHFm)

		His	storical dat	а				CAGR %			
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022-27
Subscription VOD	77	88	125	158	180	195	205	213	220	225	4.5%
Year-on-year (%)		13.7%	42.2%	25.9%	14.4%	8.2%	5.2%	4.0%	2.9%	2.4%	
Transactional VOD	19	19	19	19	19	19	19	19	20	20	1.5%
Year-on-year (%)		1.5%	-0.1%	-0.4%	-3.2%	1.6%	1.1%	1.3%	2.1%	1.1%	
Total OTT video	97	107	145	177	199	214	224	233	239	245	4.2%
Year-on-year (%)		11.3%	34.6%	22.4%	12.5%	7.5%	4.8%	3.7%	2.8%	2.3%	

Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

Although the option to purchase individual films or series retains a place in the product mix, the convenience of an "all-you-can-eat" service continues to prove the prevailing consumer model.

TVOD remains a small, and weakly growing, part of the Swiss market, with revenue increasing slightly from CHF19m in 2022 to CHF20m in 2027, at a CAGR of 1.5%. TVOD will thus have a declining share of the OTT video mix to 2027. Although the option to purchase individual films or series retains a place in the product mix, the convenience of an "all-you-can-eat" service continues to prove the prevailing consumer model.

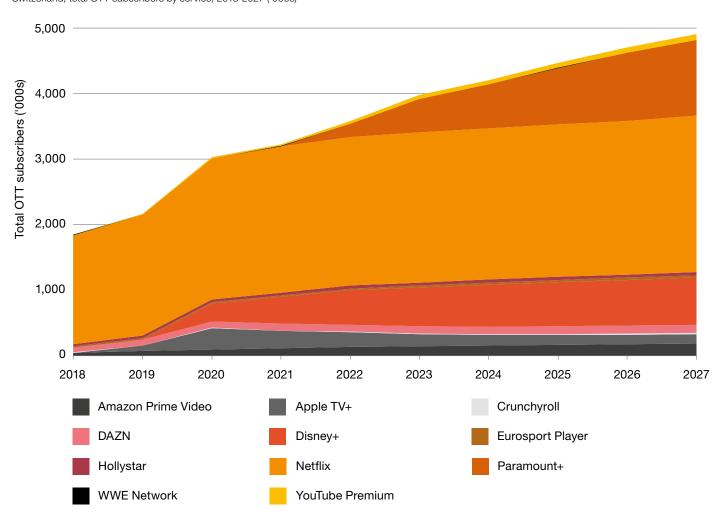
Netflix is the leading SVOD platform in Switzerland. Still, competition from international players continues to expand, with Disney+ experiencing rapid growth following its 2020

launch, adding to services from Amazon Prime Video and Apple TV+. Further competition came with the December 2022 launch of Paramount+. Paramount+, which launched in Austria and Germany at the same time, has invested in original content in some of these markets. French-speaking Switzerland has seen a distribution bundle package for Paramount+ with Canal+. In response to competition and the slowing of organic growth, Netflix has announced a clampdown on password-sharing among subscribers. An extra CHF5.90 monthly fee will now be required to share an account beyond somebody's household.

Paramount+ may yet expand its FAST service Pluto TV internationally too. FAST stands for "free, ad-supported streaming television" and is distributed via digital networks that are fully addressable - that is, they can be used to target different audience segments using data-driven techniques and are therefore perfectly suited to targeted advertising.

Crucially, channels are curated rather than being algorithmdriven, tapping into a consumer preference for passive, "lean-back" viewing and offering an alternative to on-demand services. As targeted advertising becomes an increasingly important part of the mix, uptake of FAST services is likely to rise over the coming five years.

Fig. 28: Paramount+ to push total OTT subscribers near 5m by 2027 Switzerland, total OTT subscribers by service, 2018-2027 ('000s)



Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

HBO Max has not yet launched, despite its European expansion in 2021 and 2022, primarily owing to a rights deal with telecommunications provider Swisscom and its pay-TV service blue TV and streaming platform blue Play. Swisscom's platforms are further boosted by holding the rights to the Swiss football league and UEFA Champions League. Swiss public broadcaster SRG launched a streaming platform named Play Suisse in November 2020. The multilingual offering includes both local and international movies and TV series. Regional media company Nordic Entertainment Group (NENT) is set to bring its range of entertainment content and sporting rights to the Swiss market. The company announced

that its Viaplay service would launch in Switzerland during 2023. However, the proposed launch was delayed due to planned cost saving due to the weaker macroeconomic environment.

Despite changes in market dynamics, the basic tenets of the global OTT market remain unchanged in the new streaming era. Content remains king. Hit TV, film franchises and "mustwatch" live sport are set to see their values soar, even as overall budgets tighten, as OTT operators focus on the programming most likely to win customers.



Traditional TV and home video

This segment comprises consumer spending on basic and premium pay-TV subscriptions; consumer spending on public licence fees; and physical home video revenue.



Consumer spending on basic and premium pay-TV subscriptions includes video on demand (VOD) and pay per view (PPV) accessed from cable operators, satellite providers, telephone companies and other multichannel distributors. It considers only the primary pay-TV subscription in each household, so penetration will not exceed 100%. Physical home video covers consumer spending on movies, TV programming and other premium filmed entertainment content on DVD or Blu-ray.

The segment also includes consumer spending on public licence fees. Where the public licence fee also covers provision of radio services, a proportion of the total has also been included in the radio segment, but 100% of the total fee is shown in the TV section, and figures for total revenue eliminate any double counting.

Physical home video covers consumer spending on movies, TV programming and other premium filmed entertainment content on DVD or Blu-ray. The purchase of physical home video products - on DVD or Blu-ray - is included here with

all spending considered, including retail and online. Rental revenue, comprising spending on rentals of videos at video stores and other retail outlets along with DVD or Blu-ray discs distributed by mail services, is also included. Ultraviolet sales - where the digital version is bundled with a physical disc - are recorded under physical home video revenue.

Traditional TV and home video

Subscription TV revenue in Switzerland will increase at a 1.2% CAGR to reach CHF1.7bn in 2027, up from CHF1.6bn in 2022. Swisscom is the pay-TV market leader and reported 1.6 million pay-TV subscribers at end-2022, roughly unchanged from 2021. Swisscom stated it had a 39% share of the pay-TV market in 2022. Swisscom benefits from important sporting rights, including the domestic Swiss football league until 2025. Sunrise UPC is the secondlargest telecommunication company in Switzerland and provides cable and IPTV services. It reported 1.2 million video subscribers at end-2022, roughly unchanged from the previous year.

Fig. 29: Pay-TV maintains growth to 2027

Switzerland, traditional TV and home video revenue, 2018-2027 (CHFm)

		His	storical dat	а			CAGR %				
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022-27
Pay-TV subscription	1,693	1,612	1,619	1,697	1,593	1,606	1,625	1,645	1,667	1,689	1.2%
Public licence fees	1,379	1,368	1,370	1,377	1,387	1,387	1,387	1,387	1,387	1,387	0.0%
Physical home video	71	54	46	37	28	22	17	13	11	8	-21.9%
Total traditional TV revenue	3,143	3,035	3,035	3,110	3,009	3,015	3,029	3,045	3,065	3,085	0.5%
Year-on-year (%)		-3.5%	0.0%	2.5%	-3.3%	0.2%	0.4%	0.5%	0.7%	0.6%	

Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

OTT will continue to put pressure on the pay-TV market, which will lead to a small decline in subscriptions over the next five years. However, pay-TV revenue will remain substantially ahead of OTT by 2027. Partnerships between telecommunication providers and OTT providers are one way for the former to reduce the impact of cord-cutting, particularly if integrated into their own TV proposition. Swiss operators have been collaborating with OTT providers for many years: Sunrise collaborates with Amazon Prime,

Netflix and Sky Sports/Show, while Swisscom works with DAZN, Mubi, OCS, Sky Sports/Show and Netflix. Recent developments in collaboration include Sunrise's new fixedmobile convergence (FMC) bundle, Sunrise UP TV XL, which has included a standard Netflix subscription since May 2022. Meanwhile, Swisscom stopped offering a 12-month free Netflix subscription to customers that sign up for its combined broadband and TV plan in the second half of 2022.

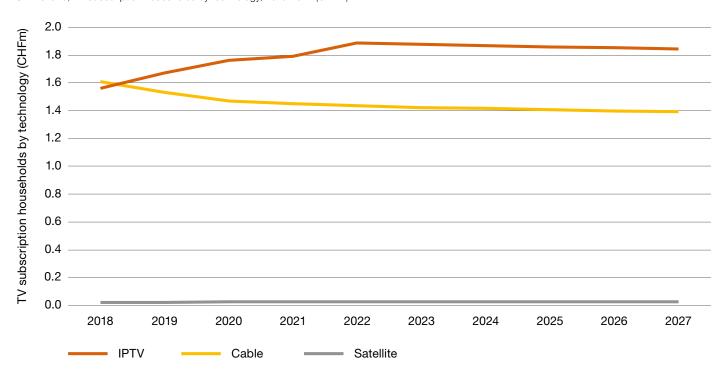
OTT will continue to put pressure on the pay-TV market, which will lead to a small decline in subscriptions over the next five years.

Multiplay services are the norm in Switzerland and bundled services are offered by all three operators. Sunrise and Salt have launched specific brand names, Sunrise Up and Salt Home respectively, while Swisscom refers to them as combo subscriptions. Swisscom offers customers a wide range of mobile, broadband, fixed voice and TV tariffs. Sunrise offers three bundle options, but customers cannot alter the individual tariffs, while Salt only offers one triple-play bundle to which a mobile subscription can be added.

The "Swisscom blue" product family, which combines all of Swisscom's entertainment offerings, was upgraded and expanded in 2022. In addition to the existing offerings (Swisscom blue TV, blue Cinema and blue News), it now

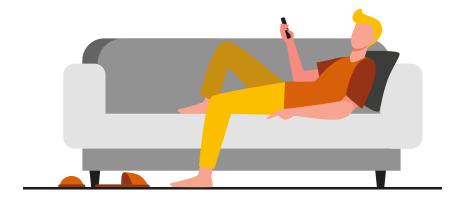
includes connectivity offerings on the mass market. Swisscom blue TV offers up to 2,000 hours of recording capacity. Depending on the language region, the blue Play media library includes up to 10,000 films and series episodes and is free of charge for customers with the blue M subscription level or higher. It is available both via the Swisscom Box and via a smartphone and tablet app, a web player on blue.ch and a smart TV app on Apple, Samsung, and LG devices. Blue TV is also available to customers of other operators. This package is only available in combination with the Swisscom Box, because only the Swisscom Box integrates streaming offers from Netflix, Prime Video, Sky, OCS, DAZN, YouTube and Play Suisse in addition to traditional television and blue+ content (live sport, movies, and series).

Fig. 30: Subscriptions to decline in each year of the forecast period Switzerland, TV subscription households by technology, 2018-2027 (CHFm)

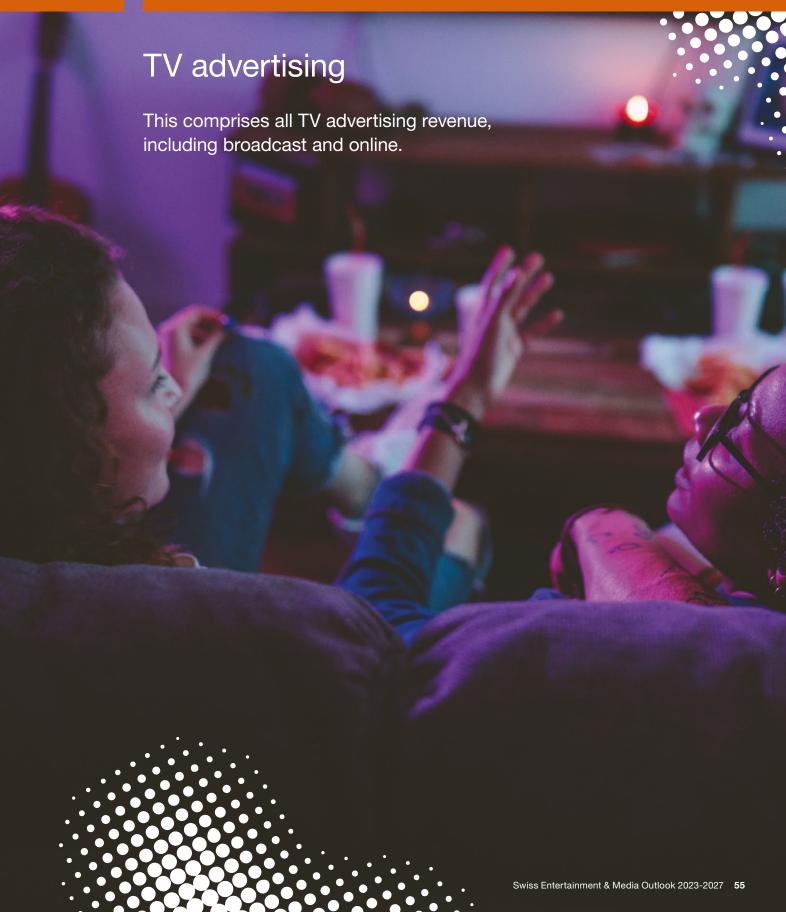


Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

Collectors and legacy format enthusiasts effectively represent the sole remaining buyers of physical home video, with revenue set to fall to as low as CHF8m by 2027. There may remain hope for such formats – the revival of vinyl in many Western markets has transformed the prospects of physical music – but the decline cycle here shows no signs of slowing for the foreseeable future.







Broadcast television covers all advertising revenues generated by free-to-air networks (terrestrial) and pay-TV operators (multichannel). Online TV advertising consists of in-stream adverts and reflects revenues from pre-roll, mid-roll and post-roll advertisements around TV content distributed by broadcaster-owned websites.



TV advertising

Switzerland's TV advertising market had been in decline for several years before the COVID-19 pandemic downturn, with viewing habits increasingly shifting towards on-demand content and the highly competitive OTT sector. Revenue grew in 2021 but fell in 2022 and remains some way below prepandemic levels. TV advertising spending will contract at a negative 2.5% CAGR to reach CHF601m in 2027, down from CHF781m in 2018. Major sporting events in 2024 and 2026 will help to ameliorate losses in those years – for instance, the 2024 Olympics in the same time zone (Paris) plus the Euro 2024 Football Championships will contribute to a mere -1.1% decline in that year.

Free-to-air TV in advertising in particular is suffering from the rise of online advertising, though pay-TV advertising is also on a (slower) downward trajectory. In December 2022, a government report stated that online media had replaced television as the most influential media in Switzerland for the first time in 2021; indeed, online TV advertising is the sole bright spot in a market that will lose CHF83m over the next five years.

Fig. 31: Decline expected throughout forecast period Switzerland, TV advertising market, 2018-2027 (CHFm)

		Hi	storical dat	a				CAGR %			
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022-27
Broadcast TV	766	704	617	678	662	641	634	613	592	567	-3.1%
Year-on-year (%)		-8.1%	-12.4%	9.9%	-2.4%	-3.2%	-1.1%	-3.3%	-3.4%	-4.2%	
Online TV	15	18	18	19	22	25	28	31	33	34	9.5%
Year-on-year (%)		17.2%	4.1%	5.1%	13.3%	13.2%	15.4%	9.9%	6.4%	3.0%	
Total TV advertising	781	722	635	697	684	666	662	644	625	601	-2.5%
Year-on-year growth (%)		-7.6%	-12.0%	9.7%	-1.9%	-2.7%	-0.5%	-2.7%	-2.9%	-3.8%	

Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

SRG

Public broadcaster SRG is mostly funded by licence fee income but remains vulnerable to downturns in the advertising market, with 12.9% of total revenue in the 2022 financial year attributable to TV advertising and sponsorship. SRF received a boost in February 2023 when it secured free-to-air rights to the UEFA Champions League. The broadcaster will cover one match a week from the start of the 2024/25 season for three years, alongside coverage of the Europe League and Conference League. Live football brings in some of the largest audiences, with SRG boosted by its coverage of the 2022 FIFA World Cup.

SRG continues to lead the ratings in each linguistic region of Switzerland. The broadcaster reported that its SRF stations (covering its channels SRF 1, SRF zwei and SRF info) had a market share of 33.4% in the 2022 financial year, down only slightly from 33.5% a year earlier. RTS's TV market share was 29.7%, this time slightly up from 29.6% in 2021, with RSI standing at 29.5%, down from 30.5% the previous year.

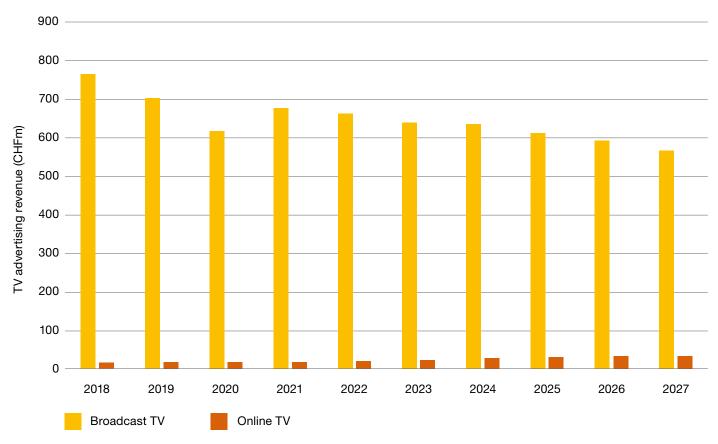
AVOD's capacity for advertising – which is much more targeted than traditional TV advertising places it in a good position.

AVOD

In the world of OTT, the economic challenges facing SVOD businesses are becoming evident. This has created an opportunity for the advertising-supported video on demand (AVOD) market to emerge as the biggest growth sector, especially in many territories and among the biggest streaming players that have not yet exploited it. AVOD provides a way for some operators to launch cheaper adsupported, paid-for subscription packages with the aim of attracting new cost-conscious consumers,

countering piracy or reducing churn by giving existing customers the opportunity to spin down instead of leaving. As global consumer spending weakens, advertisers are cutting back their marketing budgets and scrutinising the value for money that they are getting from the media channels they use to target customers. AVOD's capacity for advertising - which is much more targeted than traditional TV advertising - places it in a good position.

Fig. 32: Advertising and circulation drop to similar levels Switzerland, consumer magazine revenue (CHFm), 2018-27





Video games

This segment comprises consumer spending on video games software and services (not hardware or devices) across both traditional and social/casual gaming, as well as revenue from advertising via video games.



Traditional gaming comprises revenues associated with playing games on PCs and games consoles (both TVconnected and portable). This includes physical (discbased) 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, Xbox Games Store and Nintendo eShop for consoles), and additional downloadable content (DLC) and subscription services. Online/microtransaction revenue also includes spending associated with free-to-play Massively Multiplayer Online games (MMOs) but does not include spending on social and casual browser-based games, which are included in the social/casual gaming component.

Social/casual gaming revenues includes consumer spending on and in app-based games on tablets and smartphones, and browser games aimed at a casual audience (e.g. Ruzzle and Zynga's Words with Friends). This includes revenues associated with the purchase of social and casual game apps, subscription services for social and casual games, and the 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.

Video games

Switzerland's total video games revenue was CHF1.4bn in 2022 and is forecast to reach CHF1.7bn in 2027 after increasing at a 4.5% CAGR. Year-on-year growth in 2022 was 4.7%, with the rate expected to remain steady over the next few years, slowing slightly towards the end of the forecast period.

Social and casual gaming is the largest segment of Switzerland's video games market, with revenue of CHF800m in 2022. This is expected to reach CHF1.1bn by 2027, increasing at a 7.1% CAGR, at which point the sector will represent over double the revenue of traditional gaming.

Traditional gaming nonetheless remains a substantial portion of Switzerland's video games market, with revenue of CHF538m in 2022. Even so, with an increase in the forecast period at a 0.4% CAGR, this sector will see minimal growth over the next few years. This is due to the steady decline in the country's hitherto successful market for physical console games. Declining at a -7.4% CAGR, physical sales are shrinking faster than online/microtransaction revenue is growing (7.1% CAGR), while digital sales of console games remain flat. Meanwhile, the PC games market will expand at a 2.6% CAGR, with PC games having almost fully transitioned from physical sales to digital and online/microtransaction revenue.

Fig. 33: Mobile gaming grows in significance in Swiss market Switzerland, video games revenue, 2018-2027 (CHFm)

		His	torical dat	а			Fo	recast data	3		CAGR %	
Category	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2022-27	
Traditional gaming revenue	435	465	510	514	538	560	564	560	553	548	0.4%	
Total console games revenue	266	282	313	307	334	349	347	337	325	317	-1.1%	
Physical console games revenue	130	126	137	127	125	123	114	106	95	85	-7.4%	
Digital console games revenue	97	113	129	129	155	166	169	164	157	155	0.0%	
Online/microtransaction console games revenue	39	43	47	51	55	59	63	68	72	77	7.1%	
Total PC games revenue	169	182	198	208	204	211	218	223	228	232	2.6%	
Physical PC games revenue	20	16	11	7.0	4.0	2.3	1.3	0.7	0.4	0.2	-43.3%	
Digital PC games revenue	81	91	105	112	112	118	122	124	125	125	2.2%	
Online/microtransaction PC games revenue	69	75	81	89	88	91	95	98	102	106	3.8%	
Social/casual gaming revenue	376	494	629	763	800	834	916	994	1,065	1,129	7.1%	
App-based social/casual revenue	263	298	384	442	434	443	482	519	552	583	6.1%	
In-app games advertising revenue	102	187	236	313	358	384	428	470	508	541	8.6%	
Browser-based social/ casual revenue	10	9.8	8.9	8.2	7.5	6.7	6.1	5.6	5.1	4.6	-9.0%	
Integrated video games advertising revenue	40	41	41	41	41	42	42	43	43	44	1.2%	
Total video games revenue	851	1,000	1,180	1,317	1,379	1,436	1,523	1,597	1,662	1,721	4.5%	
Year-on-year growth		17.5%	18.1%	11.6%	4.7%	4.1%	6.0%	4.9%	4.0%	3.6%		

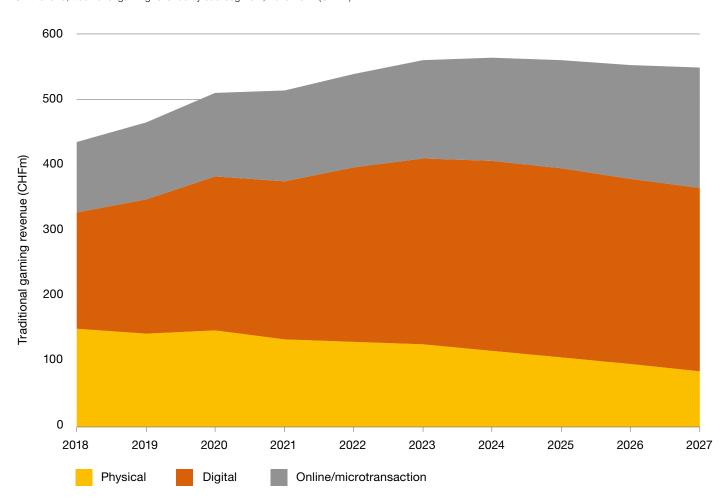
Console gaming

Late 2022 saw the beginning of a rebalancing between supply and demand in the console market on a global level. This has given console manufacturers an opportunity to regain the ground lost during the early stages of the ninth generation of consoles. Sony, for instance, was able to ramp up production of the PS5 more rapidly than expected in 2022. Although this enabled it to better meet fervent demand in the highly competitive US console market, this came at the expense of other core PlayStation markets, including Japan and Europe – with Switzerland no exception. There were thus declines in PS5 shipments during 2022 in the country compared with 2021. Increased supply will enable PS5 to catch up with

PS4 in terms of equivalent lifetime sales in 2023 and 2024, although macroeconomic pressures may limit this pursuit in some markets such as Europe.

Meanwhile, Microsoft has blamed supply issues for a decline in hardware revenue during the first quarter of calendar year 2023. However, Xbox Series X/S began to show signs of a loss of momentum towards the tail end of 2022, and this appears to have continued into 2023. Finally, owing to the Nintendo Switch being close to the end of its lifecycle, a reduction in console demand is to be expected during 2023.

Fig. 34: Physical decline begins to accelerate Switzerland, traditional gaming revenue by sub-segment, 2018-2027 (CHFm)





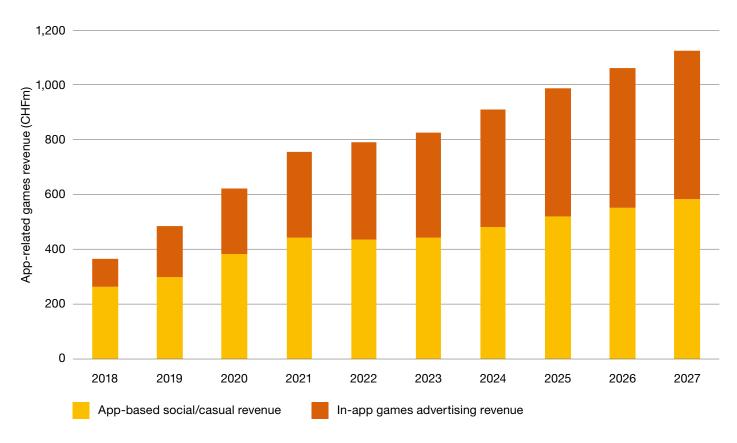
Mobile gaming

Game app revenue suffered a surprise fall in Switzerland in 2022. Along with the waning effect of the pandemic, the growth of in-game spending slowed down considerably. However, revenue remains significantly above the pre-COVID period. In a macroeconomic environment where spending is more constrained, in-app games advertising is rising in prominence, with a 14.4% increase in 2022. By the end of the forecast period, in-app games advertising will be close to app-based social/casual revenue.

According to data from Sensor Tower, over 2022, Candy Crush Saga and Clash of Clans proved some of the most popular games in Switzerland by revenue. Candy Crush Saga made CHF19.4m in 2022, comparable to the record-breaking box office gross of Avatar: Way of Water. State of Survival: Zombie War also put in a strong performance.

Fig. 35: Advertising becomes an increasingly important part of the mobile games mix

Switzerland, app-based social/casual gaming revenue vs in-app games advertising revenue (CHFm), 2018-2027



Source: Switzerland Entertainment and Media Outlook, PwC, Omdia

In a macroeconomic environment where spending is more constrained, in-app games advertising is rising in prominence.

Conclusion

The surveys and interviews conducted are proof of an ambivalence towards generative AI that is typical for younger technologies. On the one hand, generative Al has a lot of potential. Generative Al outputs span a broad range of categories that have the potential to support multiple use cases across most verticals, while the benefits can be immediate. Taken together, this is making generative Al a powerful, hugely disruptive technology with farreaching impacts and implications for the E&M industry.

On the other hand, the challenges and risks that exist also need to be addressed proactively.

Disruption can be uncomfortable and generative Al raises concerns such as its impact on jobs, data protection and ethics. Taken together this can exacerbate discrimination, bias, misinformation, manipulation and abuse. All these issues must be addressed if generative Al is to be a force for good and produce the benefits and opportunities which it is so capable of.

Across the E&M industry, revenues have exhibited resilience and growth despite the challenges posed by the COVID-19 pandemic and economic uncertainties. Growth was

particularly apparent in segments such as live music, trade shows, cinema as well as VR and AR, driven by the easing of pandemic-related restrictions. Yet the shift towards digital alternatives led to declines in more traditional segments like print media and traditional TV. Conversely, internet access and internet advertising have become major drivers of revenue in the E&M industry, with a growing share of total E&M spending attributed to digital sources.

Across segments, advertising revenue exhibited both growth and moderation, with in-game advertising as a promising growth area. Also, more traditional segments such as traditional TV and home video continued to be important for brand building, while new technologies such as Al are changing the landscape for advertising.

Overall, the report emphasises the importance of embracing digital transformation, adapting to changing consumer preferences and managing the challenges and opportunities presented by evolving trends such as generative Al. While the Swiss E&M industry is projected to continue its trajectory of moderate growth, industry players must remain agile, innovative and attentive to emerging trends to maintain their competitive edge in the evolving landscape.

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