Media and Games Invest plc

(Scale All Share, Software/IT)

WARBURG RESEARCH

Buy	**Value Indicators:**	EUR	**Share data:**		**Description:**			
EUR 1.90	DCF:	1.91	Bloomberg:	M8G GR	MGI is engaged in the gaming as well as media and advertising market			
			Reuters:	M8G.DE				
			ISIN:	MT0000580101				
	Market Snapshot:	EUR m	**Shareholders:**		**Risk Profile (WRe):**	2019e		
Price EUR 1.13	Market cap:	79.1	Freefloat	38.0 %	Beta:	1.6		
Upside 68.1 %	No. of shares (m):	70.0	Bodhivas (Remco	62.0 %	Price / Book:	1.0 x		
	EV:	232.9			Equity Ratio:	55 %		
	Freefloat MC:	30.1			Net Fin. Debt / EBITDA:	3.3 x		
	Ø Trad. Vol. (30d):	31.01 th			Net Debt / EBITDA:	3.3 x		

A hidden gaming champion; Initiation with Buy

Media and Games Invest plc. (MGI) is active in the fields of gaming and online advertising. Its main asset is a 53%-stake in gamigo AG, a games publisher and developer, in which it started to invest in May 2018 with an initial stake of 32.8%. Of the remaining 47%, ProSieben holds 33% while 14% is held by other minority shareholders with whom the MGI subsidiary Samarion SE has concluded call options and voting agreements. The main shareholder and chairman of the MGI board of directors is Remco Westermann via investment vehicle Bodhivas GmbH. In July and November 2019, MGI increased its financial firepower by issuing debt and equity as it is aiming to acquire the rest of gamigo.

MGI's main asset, gamigo, no longer develops new games as this business is associated with higher risk but rather acts as a market consolidator by acquiring distressed games publishers. Such publishers often have a loyal customer base but poor profitability owing to high overhead costs mainly for personnel, distribution and IT infrastructure. Gamigo leverages the acquired user base with its own infrastructure and generates cost synergies in personnel, IT, and marketing/distribution. Sales are pushed up with the support of MGI's well-established gaming portals (www.gamigo.com; www.deutschland-spielt.de) at global scale. An appropriate monetisation strategy is applied while an efficient user acquisition strategy is implemented by its own media / advertising companies.

Online games involving large numbers of players, so-called massive multiplayer online games (MMOGs), generate 80% of gamigo's gaming revenues (80% of overall gamigo revenues). These games are free to play but are monetised by in-game purchases for virtual items. They are characterised by strong customer loyalty owing to high player engagement and social communities which enable players to enhance their characters/skills. The remaining 20% of gaming revenues are generated by a subscription model for more than 5,000 casual games. The majority of gaming sales is generated by games for PC (82% browser-based and download) and console (17%).

Gamigo has a strong track record. Sales increased at a CAGR of 31% from EUR 15.1m in 2014 to EUR 45.3m in 2018. Sales of EUR 60m are expected to have been generated in 2019. There has also been a constant increase in adj. EBITDA margins from 10.0% in 2014 (EUR 1.5m) to 29.6% in 2018 (EUR 13.4m). We are assuming that the general awareness of this hidden champion is still relatively low, owing to gamigo's incorporation into MGI along the lines of a reverse IPO. Now, the company is starting to intensify its capital market activities. If MGI acquires the remaining stake in gamigo, it would simplify the investment case significantly and provide more clarity at MGI-level. Complementing its gaming focus, MGI recently acquired two ad-tech companies, Applift (mobile app ad performance agency) and PubNative (technology-driven Supply Side Platform, operating 100% with real-time-bidding monetisation solutions for publishers). These companies focus on user acquisition and re-engagement as well as in-app monetisation. With this, MGI increased its exposure to the fast-growing and global mobile advertising market which is less attractive for games publishers/developers owing to the dependence on costly distribution channels (app stores).

Overall, we welcome the company's strategy and active role as a market consolidator with clear proof of concept in gaming. For media and advertising, the market structure is similar which bodes well for the future. Downside risk is limited owing to relatively low upfront investment for the acquired assets of EUR 6m for roughly EUR 20m in revenues, a zero at EBITDA-level, and slightly negative net income shortly after the acquisition of these assets. We initiate with Buy and a PT of EUR 1.90.

Rel. Performance vs Scale All	
1 month:	-3.6 %
6 months:	-22.4 %
Year to date:	-4.8 %
Trailing 12 months:	-5.2 %

Company events:

FY End: 31.12. in EUR m	CAGR (18-21e)	2016	2017	2018	2019e	2020e	2021e
Sales	34.4 %	39.0	42.1	45.3	73.0	92.0	110.0
Change Sales yoy		n.a.	8.0 %	7.6 %	61.2 %	26.0 %	19.6 %
Gross profit margin		*61.1 %*	*70.0 %*	*70.3 %*	*72.6 %*	*70.7 %*	*71.8 %*
EBITDA	36.3 %	2.6	7.0	11.1	15.0	17.5	28.0
Margin		*6.8 %*	*16.7 %*	*24.4 %*	*20.5 %*	*19.0 %*	*25.5 %*
EBIT	71.3 %	-10.1	-3.4	2.6	1.0	3.5	13.0
Margin		*-25.9 %*	*-8.0 %*	*5.7 %*	*1.4 %*	*3.8 %*	*11.8 %*
Net income	34.8 %	-9.1	-5.0	1.5	-1.8	-0.8	3.8
EPS	-	n.a.	n.a.	n.a.	-0.03	-0.01	0.05
EPS adj.	-	n.a.	n.a.	n.a.	-0.03	-0.01	0.05
DPS	-	n.a.	n.a.	n.a.	0.00	0.00	0.00
Dividend Yield		n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
FCFPS		n.a.	n.a.	n.a.	-0.02	-0.05	0.08
FCF / Market cap		n.a.	n.a.	n.a.	-1.7 %	-4.9 %	7.1 %
EV / Sales		n.a.	n.a.	n.a.	3.1 x	2.5 x	2.1 x
EV / EBITDA		n.a.	n.a.	n.a.	15.3 x	13.3 x	8.1 x
EV / EBIT		n.a.	n.a.	n.a.	229.1 x	66.5 x	17.5 x
P / E		n.a.	n.a.	n.a.	n.a.	n.a.	22.6 x
P / E adj.		n.a.	n.a.	n.a.	n.a.	n.a.	22.6 x
FCF Potential Yield		n.a.	n.a.	n.a.	5.0 %	5.8 %	10.3 %
Net Debt		24.3	26.1	38.1	49.9	53.8	48.1
ROCE (NOPAT)		n.a.	n.a.	6.8 %	0.5 %	1.8 %	5.9 %
Guidance:	n.a.						

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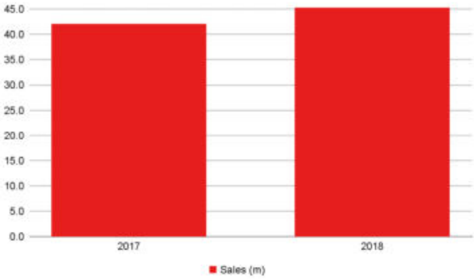
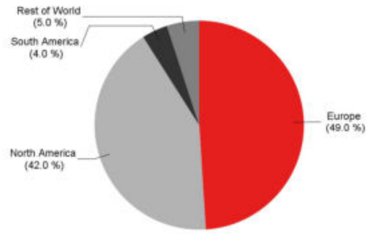
Gamigo's sales development
in EUR m



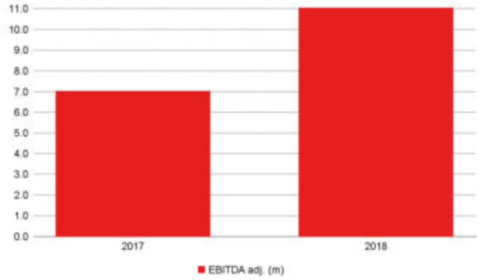
Source: Warburg Research

Gaming revenues by regions
H1 2019; in %



Source: Warburg Research

Gamigo's adj. EBITDA development
in EUR m



Source: Warburg Research

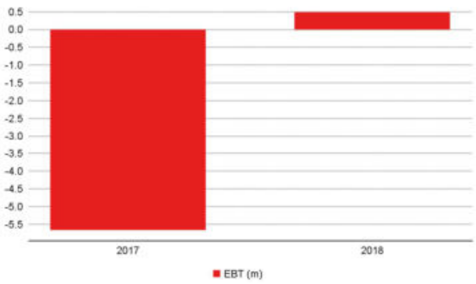
Company Background

- Media and Games Invest plc (MGI) is a corporation with a specific focus on gaming (especially via in-games purchases in MMOGs) and media advertising (agency business and programmatic ad-tech solutions)
- MGI's main asset is gamigo, a games publisher with more than 30 well-established MMOGs and 5k+ casual games. MGI holds 52.6% of gamigo (fully consolidated)
- In May 2018, the Solidate real estate holding was renamed blockescence plc. It decided to divest the real estate business and acquire an initial 35.5% stake in gamigo.
- In June 2019, the company changed its name to Media and Games Invest, to underline its commitment to the gaming and advertising market…
- … as it acquired another 13.8% stake of gamigo and 100% of the two programmatic ad-tech companies Applift and its subsidiary PubNative and has announced its intention to acquire further gamigo shares.

Competitive Quality

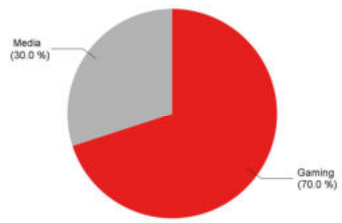
- MGI's gamigo has a relatively broad games portfolio with a focus on multiplayer games. The top-10 games account for roughly 55% of total revenues but no game accounts for more than 15%.
- Revenues are generated with loyal customers. The majority of games generate over 60% of revenues with users who have been playing the game for more than five years.
- MGI is acting as a successful consolidator in the gaming market by purchasing distressed assets (games and media) for low prices and leveraging the acquired user base with its existing infrastructure
- Successful deal history of more than 25 deals prove high quality of the management as well as deal execution ability
- Recently acquired programmatic advertising companies should benefit from existing media content from own games portfolio as well as high experience and rich data of user behaviour and monetisation potential.

Gamigo's EBT development
in EUR m



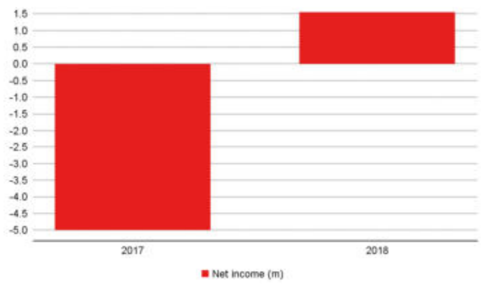
Source: Warburg Research

Sales by segments
H1 2019; in %



Source: Warburg Research

Gamigo's Net income development
in EUR m



Source: Warburg Research

Summary of Investment Case

Investment triggers

- Highly competitive company on a global scale with an attractive growth and profitability profile. It is active in the emerging niche of gaming and does not yet enjoy a high level of awareness on the capital markets.
- With growing social acceptance of gaming as mainstream entertainment, even banks are increasingly granting loans to the gaming sector, which can be regarded as an indication of the sector's bona fide commercial credentials.
- An increase in the investment in gamigo or complete purchase of the remaining stake (47%) for an attractive price could lay the base for a higher valuation as it reduces the complexity of the investment structure.
- Well managed operations of the recently acquired advertising assets Applift as well as PubNative offer significant growth potential supported by synergies with own media and games content from the existing gamigo portfolio in combination with a data-rich user base to optimise processes.

Valuation

- Our DCF approach leads to a fair value per share of EUR 1.90, reflecting upside of roughly 70%.
- Given the company's growth and margin profile, the company is undervalued with current multiples of EV/Sales 3.1x, and EV/EBITDA of 15.2x.

Growth

- The company is positioned in the very attractive and synergetic growth markets of gaming and advertising, which should enable the company to generate high single-digit organic growth.
- Furthermore, as shown in the past, the company will continue its considerable growth by acquisition, especially of distressed assets and will continue using its existing infrastructure to leverage acquired user bases.
- MGI's main asset, gamigo, generated revenue CAGR of 31.7% from 2014 to 2018, which was significantly driven by acquisitions.

Competitive quality

- MGI's gamigo is a well-established player in the gaming market and a successful market consolidator. gamigo's management team, led by CEO Remco Westermann and COO Jens Knauber, is adept at identifying distressed assets for low purchase prices.
- MGI's gaming portfolio consists more than 30 well-established massive multiplayer online games (MMOGs), which are distributed via well-known distribution networks such as gamigo.de, Deutschland-spielt.de in Europe and WildTanget's own networks in the US (acquired in April 2019). Revenues are generated via in-game purchases and subscriptions (access to 5k+ casual games). Gamigo's top-10 MMOGs account for roughly 55% of total revenues as of H1 2019 and the top game accounts for 15%.
- Not only does gamigo have a broad games portfolio, but is also benefiting from a very loyal customer base. The majority of games generate over 60% of revenue with users who have been playing the games for more than five years.
- The recently acquired mobile advertising assets, Applift and PubNative will benefit from the existing games portfolio as well as user base and user behaviour know-how to enhance its services for its customers in a competitive landscape which is intermittently confronted with questions of fraud and low transparency, i.e. low quality.

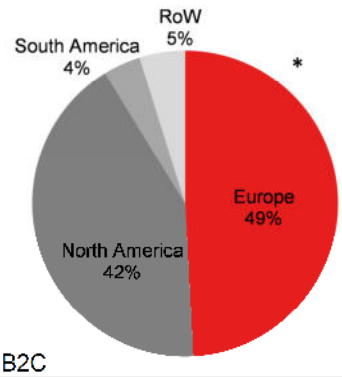
Warburg versus consensus

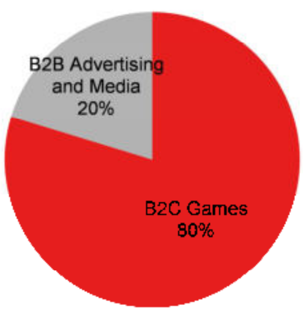
- Our estimates are more or less in line with three other analysts covering the stock. However, as the company's operational performance is considerably M&A driven, we believe that management indications are the most plausible way to estimate correct assumptions.

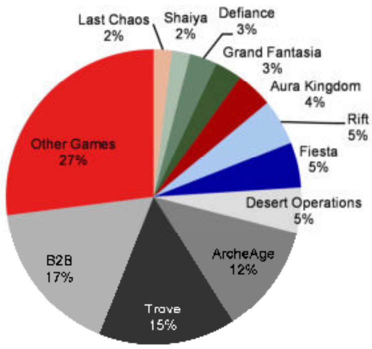
Company Overview

Segments	B2C Games	B2B Advertising and Media		Group
Revenues (in mEUR as of H1 2019)	22.8	5.8		28.6
% of total	*80%*	*20%*		*100%*
B2C by Regions	**Europe**	**North America**	**South America**	**RoW**
B2C Revenues (in mEUR as of H1 2019)	11.2	9.6	0.9	1.1
% of total	*49%*	*42%*	*4%*	*5%*
Business model	**B2C Games**		**B2B Advertising and Media**	
	30+ Massive Multiplayer Online Games (**MMOGs**)	Free-to-play model with **in-game purchases**	**Advertising sales** through gaming plattforms and owned games	
	5,000+ **casual games**	Additional revenue from **subscriptions or advertising**	**Marketing agency and advertising technology service provider** for third parties	
Selected brands	**Gaming Portals**: looki, gamigo group, Z GAMES, Deutschland Spielt, aeria games, mmorpg.de	**Games**: Trove, ArcheAge, Desert Operations, Fiesta, Defiance, Rift	**B2B Advertising and Media**: adspree, MediaKraft, reachhero, PubNative, Applift	
Activities	Game publishing	Operation of gaming portals	Ad campaign conception, production and management	
	Gaming IP purchases and licensing	Community and content management	Lead generation and programmatic advertising services (DSP/SSP)	
	Acquisition of companies with gaming IP	Further developement of games with IP ownership	Platform services and consulting for video, influencer- and social-media marketing	
Competitors	Activision Blizzard, EA, Tencent, Nexon, Pearl Abyss, WPP, Google			
	World of Warcraft, Candy Crush Saga, Battlefield, League of Legends, Dungeon Fighter, Black Desert, facebook, theTradeDesk, Call of Duty, Hearthstone, FIFA, Blade & Soul, CrossFire, EVE, Publicis Groupe			

Revenues by regions and segments / games (H1 2019)







* only B2C

Source: Warburg Research

Competitive Quality

- Broad games portfolio with unified publisher/distribution network, as well as infrastructure
- Successful positioning as an active consolidator in a fragmented market with an impressive track record
- Interesting niche of own and licensed MMOGs with very loyal customers, owing to vast online social communities, which have sprung up around certain games
- Media & Advertising assets cover the whole value chain of efficiently mediating between advertisers and publishers

Gaming

Top players dominate an attractive up-and-coming market

The global gaming market is largely characterised by a few large corporations, which dominate segments, platforms or categories. In 2018, the top 35 companies accounted for 82% of global gaming revenues. The largest players (by gaming revenues) in the gaming industry are listed in the table below.

Top companies in the gaming industry (by revenues in 2018)

Rank	Company	Game Revenues 2018 (USDm)	YoY Growth
1	Tencent	19.733	9%
2	Sony	14.218	41%
3	Microsoft	9.754	32%
4	Apple	9.453	18%
5	Activision Blizzard	6.892	6%
6	Google	6.497	22%
7	Netease	6.177	11%
8	EA	5.294	4%
9	Nintendo	4.288	36%
10	Bandai Namco	2.741	13%
11	TakeTwo Interactive	2.580	35%
12	Nexon	2.252	8%
13	Ubisoft	2.221	3%
14	Netmarble	1.893	-17%
15	Warner Bros	1.835	-5%
16	Square Enix	1.583	-9%
17	NC Soft	1.343	-8%
18	Cyber Agent	1.324	7%
19	Mixi	1.222	-17%
20	Konami	1.210	12%
21	Aristrocrat Leisure	1.146	187%
22	37 Interactive	1.091	27%
23	Perfect World	897	3%
24	Sega	832	-3%
25	Capcom	809	49%
26	Century Huatong	807	573%
27	Disney	795	-9%
28	Dena	777	-13%
29	IGG	749	23%
30	Facebook	688	-3%
31	Zynga	671	6%
32	Sea Group	637	74%
33	Gungho Entertainment	563	-19%
34	Gree Inc	540	-16%
35	Youzu Interactive	518	5%
	…..		
	gamigo	45	8%

Source: Warburg Research

The console platform companies Microsoft, Sony, and Nintendo, which are among the top 10 companies, leverage their positions with established subscription models to access their respective online gaming features.

Like MGI, the market leader Tencent is both a platform operator and a publisher, which is a competitive advantage as such companies can promote their own games on their own networks. Tencent is increasingly strengthening its efforts to sell and distribute its games over its own social messaging service, WeChat (Chinese equivalent to “WhatsApp”), which is used by almost the entire internet connected population of China (roughly 60%). By pursuing this strategy, Tencent aims to circumvent two other important players in the gaming industry, namely Apple and Google.

Apple and Google act as gatekeepers for mobile games, taking a 30%-share of sales (also in-app purchases, IAPs) generated by games distributed by the Google Play store or Apple App store. Smaller mobile games companies have practically no negotiation *(very little negotiating)* power against these platforms, which obviously puts pressure on margins, raises the risk, and makes the mobile gaming market less attractive as game developers rely on “hits” that can be monetised quickly in order to cover development costs.

The major console and PC games developers, Activision Blizzard, Electronic Arts, TakeTwo Interactive, Nintendo and Ubisoft can count on loyal fan communities for major premium games such as GTA, Call of Duty, FIFA, Battlefield, or WoW (Word of Warcraft). Like a successful TV or streaming series, which releases new episodes on a regular basis, a successful game continues a story (Call of Duty, Battlefield, etc.) and/or enhances the gameplay (Fifa series) with every new release. Barriers to entry are typically relatively high for the premium segment as development costs are high. However, the loyal customer base, which applies not only to the premium segment but to many gaming segments, leads to recurring revenues of sorts. This also applies to MGI, as most gaming revenues are generated by very loyal customers (please see chapter “… with loyal and long-standing customers”, starting on p. 13.)

Gamigo’s niche position as a games consolidator

Gamigo is MGI’s most important asset by far, accounting for roughly 85% of total sales (including its media activities with adspree and Mediakraft) and almost 100% of the group’s EBITDA as of FY 2019e.

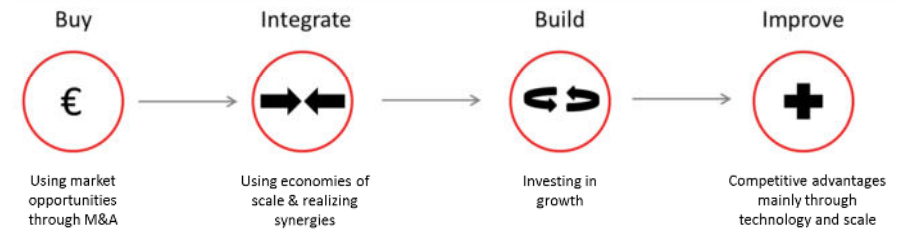
MGI’s segment and brand structure

Source: Warburg Research

Fragmented games market leaves room for consolidation

Excluding the top players, the gaming market is very fragmented with a multitude of small companies and games-serving niches. Often, a company has one successful title but lacks scale and efficiency owing to high fixed costs for IT infrastructure and/or development costs for unsuccessful second games, which plunges the company into a loss-making situation. In such a scenarios MGI, can step in as a consolidator to acquire successful games from distressed companies and then use its existing infrastructure of personnel, IT, distribution and or marketing channels, and know-how (e.g. in user acquisition, lower churn rates, and game updates) to leverage the single successful games.

MGI's strategy: Buy–Integrate–Build–Improve



Source: Warburg Research

MGI is a successful consolidator within the fragmented gaming market

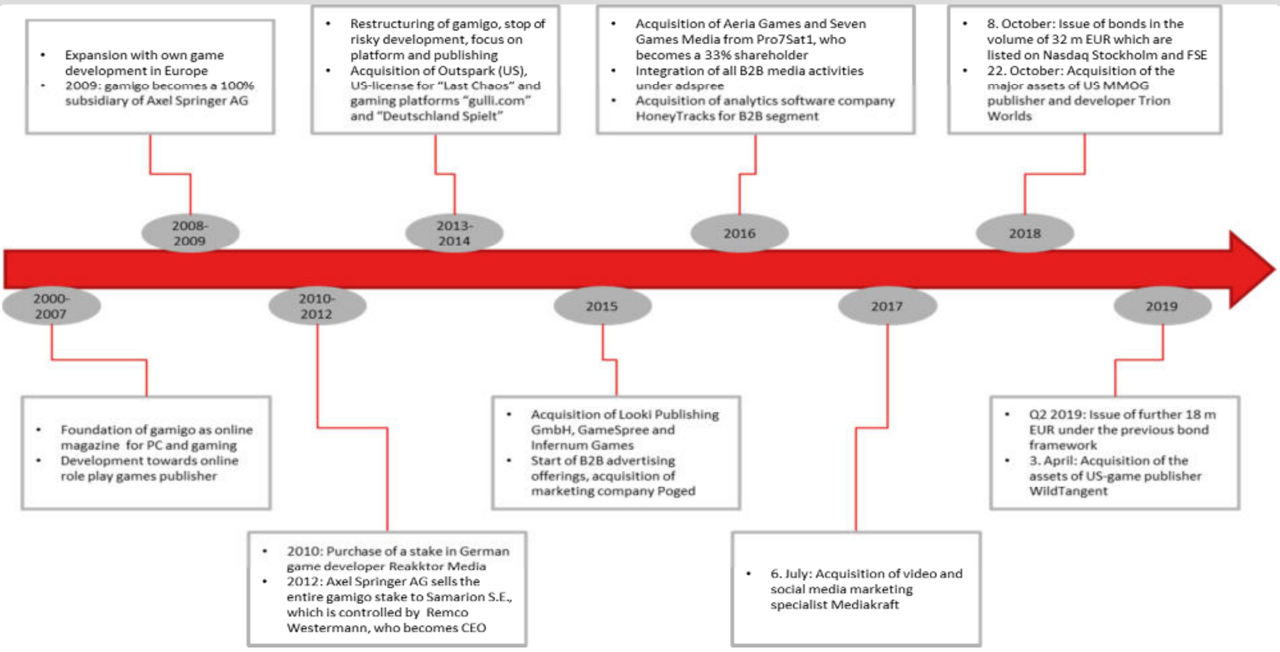
Management's proven M&A track record

A main part of MGI's business model is based on inorganic growth. MGI pursues a strategy described by the company as "buy, integrate, build and improve". This strategy follows standardised processes in M&A and post-merger integration. The focus lies on small and medium-sized companies, preferably distressed assets or underperforming companies with potential for synergies and growth that can be unlocked in the context of the MGI portfolio. A revenue multiple of max. 1.5x and EBITDA multiple of up to 6x is targeted for profitable companies. For distressed assets, an earn-back scenario of max 24 months is applied.

In the recent past, the experienced gamigo management team has acquired more than 25 companies and assets under the stewardship of CEO Remco Westermann. The company cites a failure rate of <15%. Mr. Westermann knows the operative business well as he has headed gamigo since 2012. He is now also CEO of MGI. Westermann is the main shareholder of MGI via the Bodhivas GmbH, which holds 62.4% of the outstanding MGI shares. This close alignment of management and investor interests should increase the trust in the company's M&A decisions. Furthermore, the fragmentation in the lower echelons of the gaming market should leave enough potential for value-creating consolidation.

However, as successful as this strategy has been in the past, it is also a considerable risk for the investment case as investors are largely relying on a continuation of the quality of management's decisions to date regarding M&A targets as well as its track record in unlocking synergies or improving operative performance. The timeline below shows the company's past acquisitions and important milestones for its gaming segment.

Gamigo's acquisition history



Source: Gamigo, Warburg Research

Less in-house development lowers risk

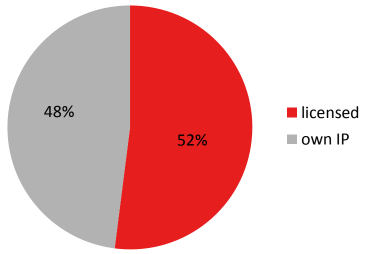
The main risk in the gaming industry is linked to the development of games, which is rather costly and requires considerable resources while there is no guarantee of financial success whatsoever. Successful market entry is linked to intensive marketing effort, i.e. user acquisition costs, as well as high upfront investment.

No own game development limits risks

Gamigo does not engage in the costly and risky development of new games but acquires whole publishers with single successful games and an existing user base, which are already established in the market. Depending on the overall structure, gamigo either acquires licenses from developers without ultimately acquiring the game's intellectual property (IP) rights, or the game is bought together with the IP rights, so that gamigo can release updates and further enhance the game and its monetisation potential by using its data and expertise. About 50% of MGI's gaming revenues are generated with its own games, while the other half is generated with licensed games. The duration of these licenses is typically three to five years but the risk that they will not be prolonged is low, as MGI owns the customer base and a developer would have to start from scratch if it withdraws a license. Only twice was a license withdrawn and both were relatively small games. Furthermore, gamigo is in the process of acquiring the IP of its most important games. Today, the company holds the IPs for seven of its 10 most important games, which makes it more independent and less vulnerable to future license prolongation negotiations. Furthermore, all the user data belongs to gamigo. Therefore, if a developer cancels its license, the ultimate loser is the player who would lose all the saved game progress. This would probably trigger customer dissatisfaction and reluctance by the player to start the game anew on another distribution platform. We therefore regard the risk of license cancellation as very limited.

The pie chart below shows the share of revenue generated by games with IP ownership compared to the share of revenue generated with licensed games.

MGI's revenue split: IP ownership vs. licensed IP (as of H1 2019)



Source: gamigo, Warburg Research

These games all follow the "free2play" approach, with which revenue is generated solely with IGPs (in-game purchases for virtual currency, new items, levels, characters, etc.). The user does not pay anything to download or install the game, or to register. However, the games are so structured that the user experience or character skills can be enhanced or the progress of the game accelerated once real money is spent by the user.

Of the illustrated game split, gamigo holds the IP to Trove, Desert Operations, Fiesta Online, Rift, Defliance, Shaiya, and Last Chaos, while the IP of ArcheAge, Aura Kingdom, and Grand Fantasia is used by the company under license.

Gamigo's top-10 games by genre and IP status

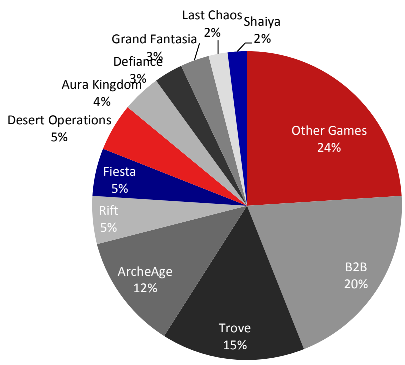
Name	Genre	IP status	Player Base
Trove	Action role-play	owned	15 million
ArcheAge	Fantasy	licensed (EU, NA)	
Desert Operations	Real-time strategy	owned	
Fiesta	Fantasy	owned	
Rift	Fantasy	owned	
Aura Kingdom	Fantasy	licensed	
Grand Fantasia	Fantasy	licensed	
Defiance	Shooter	owned	
Shaiya	Fantasy	owned	
Last Chaos	Fantasy/ Action	owned	3 million

Source: Warburg Research

Monetisation of MMOG niche…

Within the video games market, gamigo pursues a niche strategy by focusing on free-to-play massive multiplayer online games (MMOGs). The company operates more than 30 of these games in a diversified portfolio with balanced distribution of revenues between the titles. The graphic below shows the H1 2019 revenue distribution of gamigo, the biggest game accounts for 15% of revenues and the top 10 games (all MMOGs) account for 56% of revenues.

MGI's revenue split by single games (as of H1 2019)



Source: Warburg Research

Revenues are generated by in-game purchases of virtual goods (such as currency, tools/weapons, designs, characters, levels, etc.), which personalise or enhance the gameplay as well as providing the player with superior skills. Players who wish to progress faster are motivated to spend money on a game and typically do so over a longer period of time. This is mainly driven by the character of MMOGs, where several thousand gamers play together on one server online, where they interact and form communities (aka clans or guilds) and create social relationships in a virtual world. Most MMOGs have to be downloaded and installed locally on a PC or console, but players need to be online to play the game.

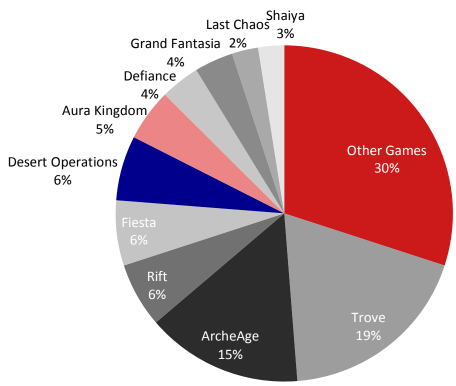
Another revenue source is the more than 5000 casual games, which are mainly monetised by subscription and in-game advertising. These games are mostly browser games, which do not have to be downloaded and are rather simple in structure and gameplay, meaning that the level of player engagement, or the social community, is typically not as strong as in MMOGs.

The company's USP is its efficient customer acquisition and monetisation capability. This is conducted over MGI's own gaming portals such as gamigo.com, deutschland-spielt.de, aeria.geames.com and is supported by the expertise and services provided by the company's media and advertising subsidiaries which put particular focus on social-media and influencer-based marketing. External channels such as SEO, affiliate marketing and third-party gaming portals are also used by the company to promote its games. Additional data and the use of AI should improve monetisation further by analysing individual user behaviour to assess the likelihood of converting the user into a paying customer. Likewise, advertising frequency can be individualised to maximise revenues. On average, the company converts 7-10% of MMOG registrations to paying users after 30 days and states that the average monthly revenue per paying user (ARPPU) in its MMOG portfolio is EUR 50 to 80 per month.

… with a diversified games portfolio across Europe and the US

At MGI level, the top 10 games accounted for 56% of total revenues as of H1 2019. Meanwhile this share is expected have decreased further to about 40%, as MGI acquired further assets in its advertising segment in H2 2019. At gamigo level, the gaming revenue share of the top 10 games accounted for 68% as of H1 2019, as shown in the pie chart below:

MGI's revenue split by single games (as of H1 2019)

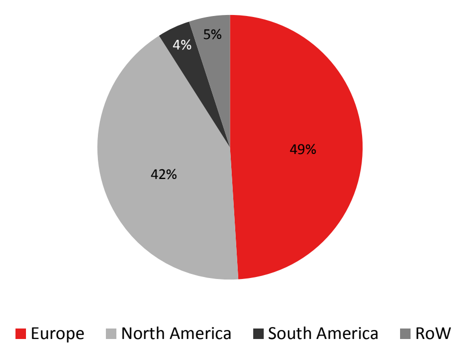


Source: Warburg Research

We regard the portfolio as well diversified, especially looking at overall group revenues. For 2019e, no single game is expected to account for more than 7% of total group revenues due to the media asset acquisitions. Furthermore, of the 10 most important games, gamigo owns the IP rights for seven, which limits the risks and dependency on third party developers and the respective license contracts.

Regionally too, gaming revenues are well balanced between Europe (49%) and North America (42%), while South America (4%) and RoW (5%) account for the rest as shown below. While China's share is less significant than one might assume, we regard this as positive. Although the market is very large, gaming companies active in this market are momentarily facing challenges as the government aims to limit the number of hours that players are exposed to gaming. We believe that this could lead to some interesting opportunities for gamigo in future in terms of market entry and growth, considering its proven take-over strategy.

Gaming revenue split by regions (as of H1 2019)

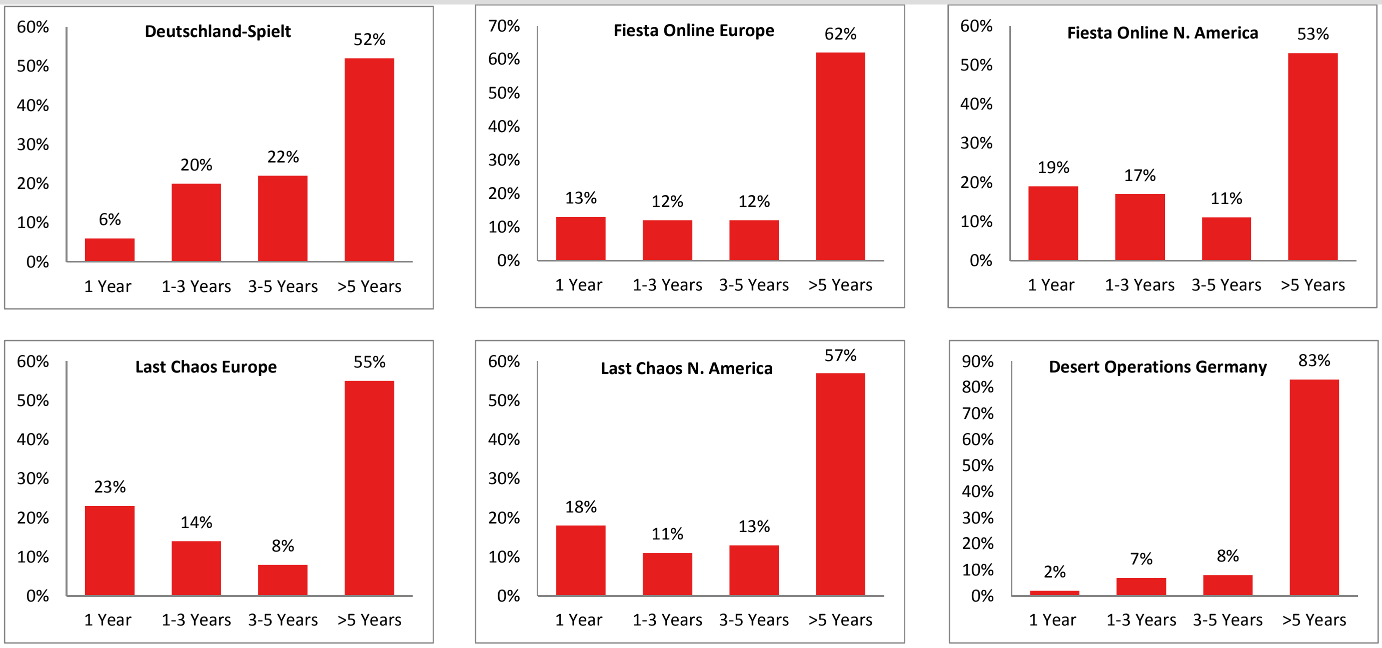


Source: Warburg Research

… with loyal and long-standing customers

Although the gaming market is fast-moving, gamigo has the advantage of a loyal customer base, especially in the most important MMOGs. According to the company, more than 50% of the core gaming revenues are generated by users that have been playing the game for more than five years, e.g. Fiesta Online, an Anime-roleplay game that is 13 years old, is generating 62% of its revenues with players who started more than five years ago. This is driven by strong communities as well as social interaction within the online world. Their common interest is to reach the next level / stage and to become more powerful and skilful in the virtual environment.

Percentage of revenues per game by user lifetime



Source: Warburg Research

Media and Advertising

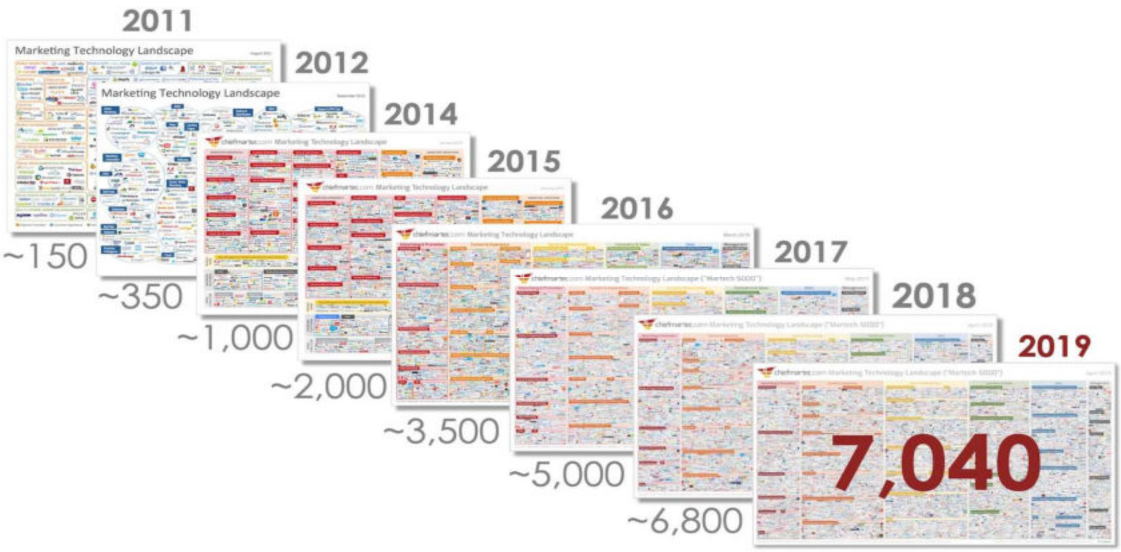
Fragmented market environment

In the digital advertising market there are many players and roles and, with the rapid pace of innovation and change, there is a steady inflow of new companies and business models.

Crowded market with a similar structure to the gaming market

The market has grown at break-neck speed from roughly 150 players in 2011 to about 7,000 existing players in operation in 2019, as indicated in the graph below.

Development of the competitive environment within the advertising ad-tech space



Source: Chiefmartec.com, Warburg Research

Regarding the roles in the online advertising market there are currently five key categories: agencies and trading desks, demand side platforms (DSPs), advertising networks/exchanges, supply side platforms (SSPs) and publishers.

Starting from the advertiser's point of view, the first station in the online advertising services industry is, depending on the degree of outsourcing needs, an agency or trade desk. The services of an agency comprise creating, planning and execution of advertising campaigns. Large advertising agencies like WPP offer a full service package, allowing an advertiser to completely outsource advertising-related activities. MGI's Mediakraft would fall into this category, as it can carry out complete campaigns, including e.g. producing advertising content for certain campaigns. A so-called Trade Desk is still very similar to an agency in its activity radius, but it does not create advertising content. The focus is on the process of buying advertising inventory, which ideally is enriched with data for targeting. One example is the company Xaxis, which offers the handling of already produced advertising media in the programmatic advertising market. MGI is represented by Reachhero to spread the advertising campaign with social influencers, potentially produced by Mediakraft, across the influencers' channels directly to the targeted audience group (with support from adspree (online) and Applift (mobile)) across ad networks and SSPs.

The next step in the value chain and a necessary function in programmatic advertising is a demand side platform (DSP). It bundles the demand of advertising buyers and enriches it with specific data to be able to match the advertising content most efficiently with advertising inventory. An example of a DSP is the company the Trade Desk, or MGI's recently acquired Applift.

The counterpart of a DSP is a supply side platform (SSP). It bundles the supply of advertising space from publishers including specific information about the characteristics of the available advertising inventory. Most large networks like Google have their own

SSPs, but there are also several independent players such as Fyber, or MGI's pubnative, who are trying to maximize ad space yields.

An advertising exchange sits between DSPs and SSPs and acts as a marketplace for supply and demand of advertising space. Often, this is an automated process in the form of real time bidding (RTB). However, the focus of DSPs, SSPs, and ad-exchanges are somewhat blurred as sometimes advertisers might connect directly with an SSP (effectively with its own "DSP", which however might lack certain product features or industry standards), while certain publishers negotiate a campaign and its pricing directly with advertisers.

At the end of the value chain is a publisher, the owner of a medium or media platform wishing to sell its advertising inventory. At this point, the advertisement reaches its audience. Prominent examples include Youtube or Facebook, or in the case of MGI adspree, which is in charge of gamigo's inventory, i.e. games and platforms.

The graph below summarises the five key categories and shows its key players as well as MGI's specific subsidiaries, which are spread across the value chain.

Competitive environment and key roles within the modern advertising process

Source: Warburg Research

MGI is present at every stage of the value chain

MGI covers the entire value chain for digital advertising. Below, we introduce MGI's subsidiaries and their respective roles in the value chain in connecting certain publishers, i.e. ad space, with the most suitable advertiser.

Mediakraft

Mediakraft is MGI's online advertising agency with a specific focus on social-, influencer-, and video-marketing. Not only does it produce content but also manages Youtube channels and creates and produces whole influencer advertising campaigns. Its customers are advertisers, as well as influencers and Youtubers, specifically in the area of gaming. The company actively manages Youtubers and influencers and connects them with advertisers as well as its own user acquisition activities and produces suitable content to market attractively. The company is active in Germany, Poland and Turkey.

Adspree

Supporting advertisers and publishers

Adspree is in charge of MGI's gaming portals. It acts as an advertiser for MGI's own games and assists third-party games in the acquisition of new users. Adspree is also a publisher which maximises available gamigo ad space and third-party space. Adspree manages the advertising campaigns of customers across all important channels: SEO, SEA, social media/influencer marketing, programmatic media buying, affiliate marketing, and TV advertising. This service and know-how is provided to third parties, but also to MGI's own portfolio.

Applift

The recently acquired (July 2019) Applift is an international mobile advertising agency, but predominantly DSP, helping advertisers, especially apps, to acquire users. The company is specialised in customer targeting and re-engagement measurements as well as appropriate measures to enhance efficiency. Applift has global reach with 10 offices around the world. It is integrated with more than 35 SSPs and exchanges and has access to more than 1.5bn+ mobile users. It also offers solutions for publishers by directly connecting to Applifts's aggregated demand. This is processed programmatically, which is the core of its business.

Pubnative

Pubnative, an Applift subsidiary, is an SSP for mobile programmatic in-app advertising and enables app publishers to monetise and maximise their advertising inventory. Pubnative enables publishers to directly connect via an API (application programming interface), without the requirement to maintain an SDK (software development kit), which is normally needed to integrate an app with a monetisation advertising platform.

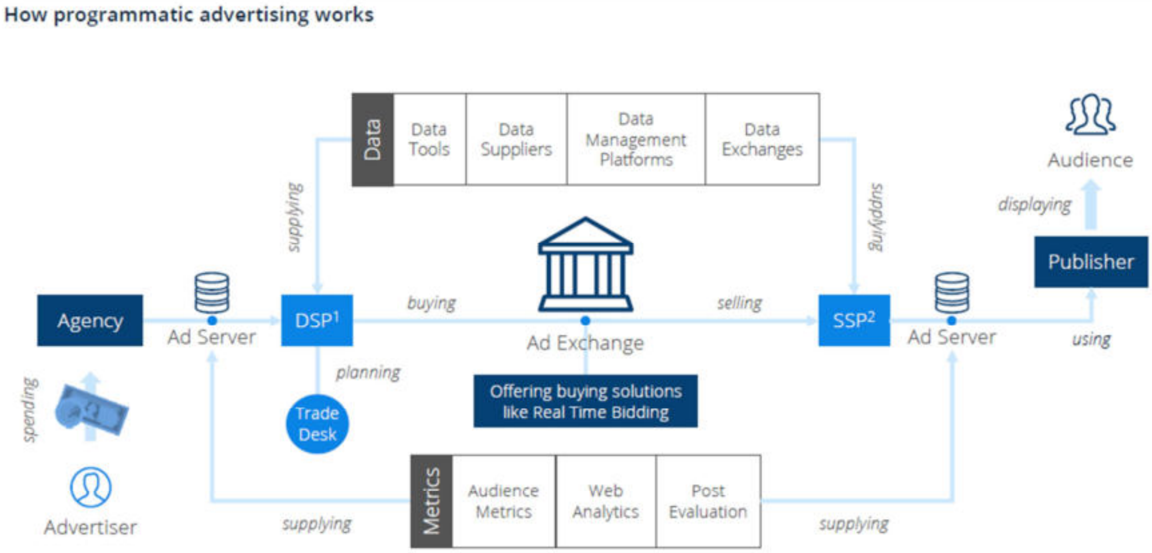
Both Applift and PubNative are operating in the fast-growing mobile advertising technology market, which is highly competitive and includes large players such as the Trade Desk (DSP) or Google Ad Manager (SSP). However, Applift and PubNative achieve clear differentiation with their focus on gaming and smaller businesses / game developers, a market which is still highly fragmented and offers scope for consolidation.

Reachhero

Reachhero, in which MGI holds 67.4%, provides agency services for social media influencers and creators in order to connect brands / products / advertisers, with the appropriate influencer and channel. It operates an SaaS (software as a service) platform for the management of influencer campaigns by agencies and advertisers. With its access to more than 70k registered influencers, it is acting as something of a pipeline for Mediakraft and is also engaged in the overall creative process. The services are offered as a classical agency model and as a software as a service model. The activities of Reachhero overlap to some extent with Mediakraft, which should offer some potential synergies.

Below, we show the value chain and key functions of the programmatic advertising process, where MGI has value adding positions together with a clear focus on gaming, which is supported by its own games portfolio and third parties in the gaming market.

The process of programmatic advertising



Source: Warburg Research

Potential of recent acquisitions Applift and PubNative

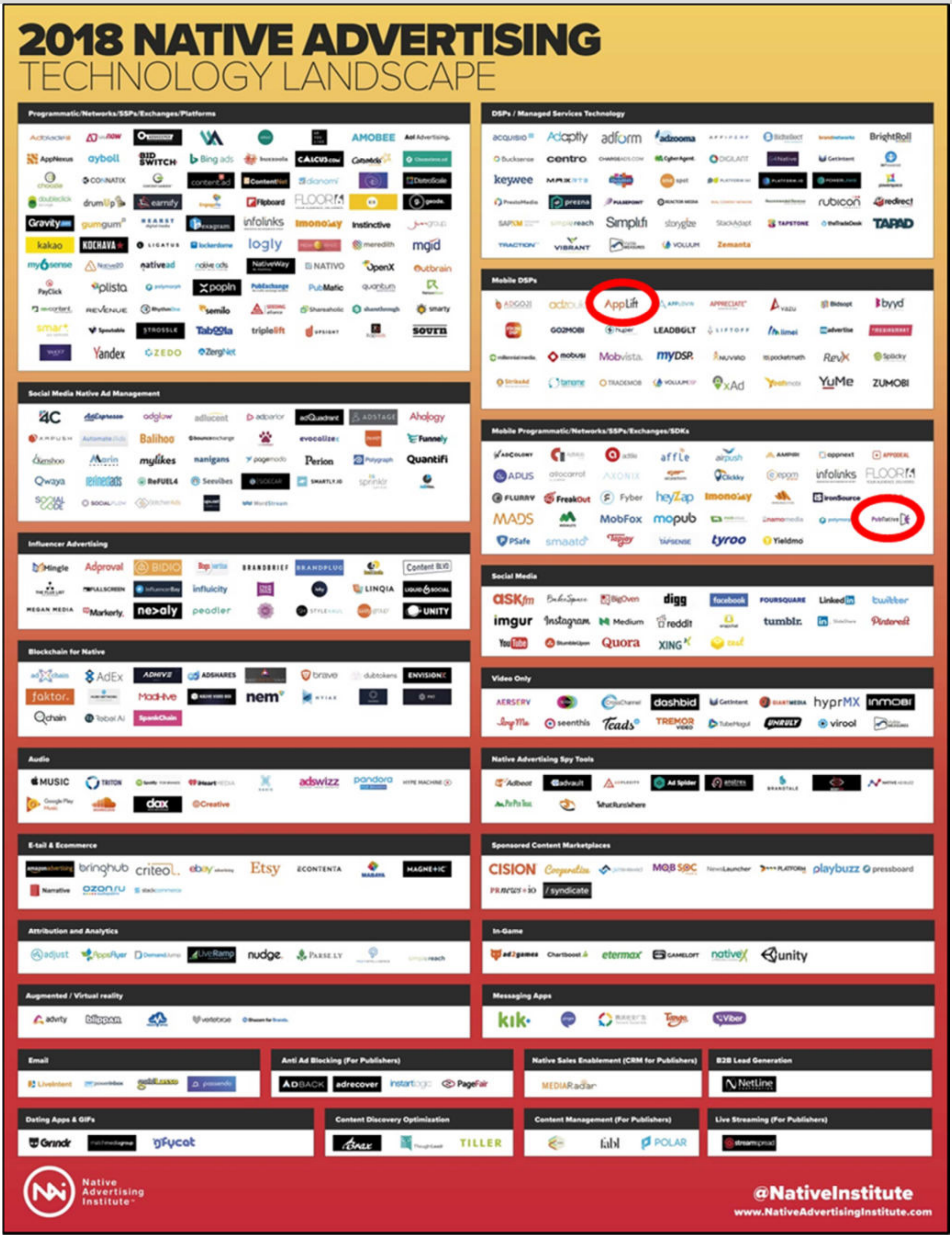
Within the process of programmatic advertising solutions, Applift and PubNative play two major roles – the DSP and SSP.

Fragmented ad-tech landscape

Both depend on similar success factors, which include the size of the network, information about their respective users and potential clients, and the variety of formats, which can be distributed via different channels. In contrast, they serve different interests. While PubNative as an SSP is supporting publishers to maximize monetisation of their in-app ad spaces, Applift, as DSP is supporting advertisers (especially apps) to acquire customers / users and to re-engage with a brand / product / app in the most efficient way, i.e. lowest price.

The positions of Applift and PubNative are highlighted below (both circled in red) in the context of other players in their space. However, both are focused on the gaming sector, i.e. gaming apps and brands, a business in which MGI has valuable experience and assets from the gamigo group.

Positioning of Applift and PubNative within the ad-tech space



Source: Chiefmartec, Warburg Research

Network size – global reach

Size is an important factor for most platforms and networks, especially in the tech area, as it typically increases efficiency and scalability. However, it is also important to serve its target customers and specific features with the highest possible quality in terms of targeting, reporting, and efficiency tools. A successful DSP (Applift) ideally has many advertisers (in the specific case of Applift these are predominantly apps), which bundle their advertising budgets with the DSP in order to increase users and engagement. The DSP is ideally also well connected to publishers, i.e. ad space, which is typically bundled at SSPs (PubNative) to reach a wide audience, i.e. potential users. Technology and data is used to achieve more specific targeting in order to increase conversion.

Today, Applift is working with more than 500 advertisers, which are integrated with the platform. It is connected to more than 35 SSPs (one of which is PubNative) and ultimately reaches more than 1.5bn mobile users. However, in order to increase size and therefore maximise the platform's efficiency, Applift is also working with advertisers outside the gaming segment, in areas such as e-commerce, classifieds, dating, and lifestyle – always with the aim of increasing the user base and awareness of the app. Furthermore, Applift provides global reach with 24/7 service and 10 offices in major cities such as Berlin, Sao Paulo, Tokyo, Shanghai, San Francisco, Jakarta, New Work, Ho Chi Minh City, and Bangalore.

The SSP, PubNative, is ideally connected to many publishers (one being gamigo), offering ad space and striving to maximise revenues by finding the best advertiser for the specific user at the right time, who is willing to pay the highest price for the ad space. The SSP is working in the best interests of the publisher. To maximize the price, which is typically generated by real time bidding processes (RTB), it is also an advantage for the SSP to be connected to as many DSPs or ad-exchanges as possible, to increase demand.

PubNative also provides a global reach with two offices, serving clients in more than 120 countries.

Data is key to increasing efficiency

For both a DSP and an SSP, data is crucial to identifing the best possible target group and also the best possible technology to increase efficiency. For a DSP, e.g. by increasing conversion rates and decreasing churn rates for a lower price. For an SSP, e.g. by increasing advertising revenues for the available ad space. This can be done by intelligent frequency capping (ad-load) for certain user groups or by varying the format for specific user groups, which has shown greater success in the past. To ensure that, and also to provide its clients with transparent reporting, Applift is working with several MMPs (mobile measurement partners) also known as DMPs (data management platforms), to deliver efficient results, which are mainly measured in CPAs (cost per acquisition).

User information is key driver of pricing

By gathering data, DSPs gain valuable experience of certain formats in connection with specific campaigns in various segments and environments. An SSP gains valuable experience of different user behaviours and the formats, or monetisation channels that work best. The use of intelligent algorithms to keep track of a user's tolerance to ads and monetisation potential enhances the returns that publishers can achieve from digital advertising while maintaining a balance as regards a positive user experience.

The following graph illustrates the different sources of data, which is then transformed into valuable insights about user behaviour and recent interests.

Example of data sources for DMPs and others

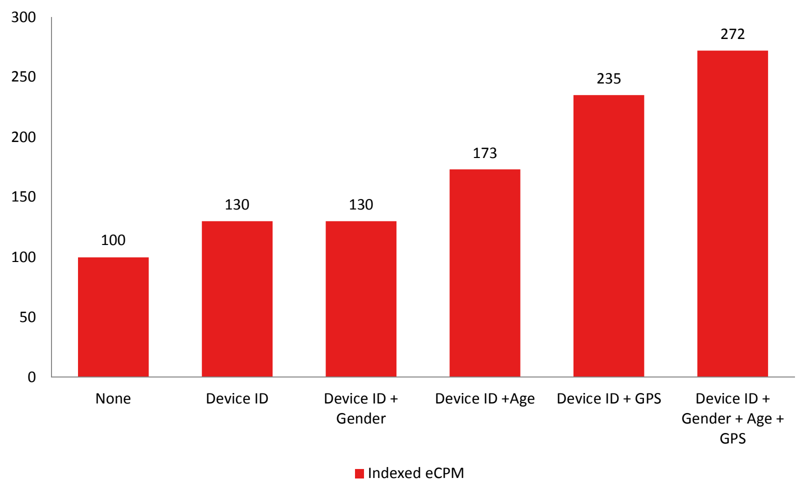
Source: Warburg Research

In the case of an SSP, such as PubNative, publisher revenues can be increased significantly by providing more information about the ad-receiver. In this way, the publisher provides less ad-space for the same price.

User data is not only a win for advertisers but also for app developers. Apps that can collect user data stand to profit significantly when including it in the ad request. The more data included in a single ad request, the more the advertiser will pay for the impression. For instance in H1 2019, the eCPM of an ad impression with device ID and user age was 27% higher than one without any additional data. Enhancing that ad impression with information such as user gender and GPS location increases the eCPM by an extra 117%.

The following graph illustrates how the eCPM rises in accordance with the degree of information provided, i.e. spread losses for the advertisers are reduced.

eCPM in accordance with provided information



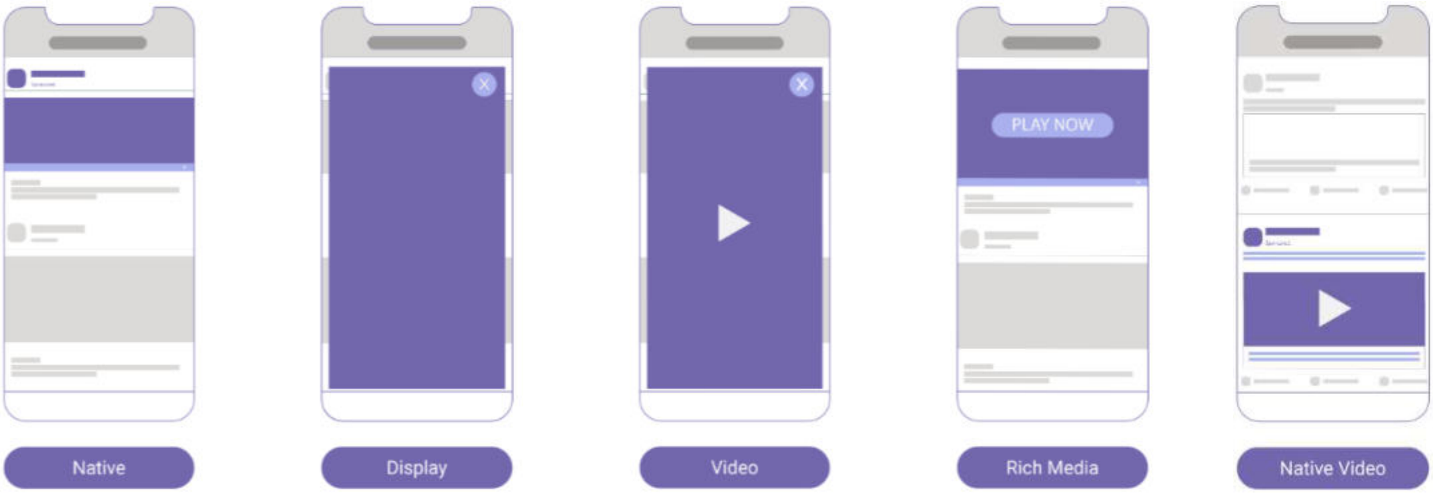
Source: Smaato, Warburg Research

Variety of advertising formats improves efficiency

Publishers and advertisers, or the respective DSP and SSP, can choose from a variety of formats to increase efficiency. However, a format that an advertiser considers to be ideal as, e.g. it creates greater awareness, may not necessarily be the best option for a publisher as, e.g. it could lead to a negative user experience and increase the publisher's churn rate. Again, by using data and intelligent algorithms, the format mix can also be optimised by clustering certain user groups according to individual behaviour when confronted with a certain ad format.

The following graphs illustrate various formats, supported by PubNative and Applift, respectively.

PubNative's ad-formats



Source: PubNative, Warburg Research

Applift also supports a variety of formats, the effectiveness of which can vary, depending on specific segments or purposes (e.g. brand awareness, interactivity, re-engagement, product advertisement, etc.).

Static images / banners:

Interstitials and banners are the traditional ad format and are rather straightforward. Banners typically include content, which is easy to read or calls for attention and includes a hyperlink, e.g. to the advertiser's website or a specific product.

Variety of formats as part of services/products enhances efficiency

Native:

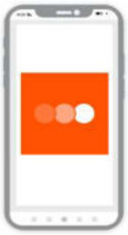
Frequently used if advertisers need to provide a short description next to an image, e.g. for any app vertical, especially when launching a special promotion. Or in many cases, e.g. in news apps, the ad is not always recognised by the user as an ad but as another article or news headline.

Videos:

Videos can obviously be used for multiple purposes, but in the specific case of Applift, they often work well for gaming advertisers as they can show gameplay at a specific level. They can work well for e-commerce too, when launching a special promotion.

GIF:

Is the format for any kinds of animated images.



Product Feed:

This format is often used by e-commerce and travel advertisers, focusing on re-engaging with users who have abandoned their environment. It is one of the most important features to check with integrated retargeting partners, as it allows the ad to be customised for specific users.

Playables:

This is a highly interactive format, as playable ads can provide a playground for advanced retargeting to return and convert users. This does not necessarily only apply to gaming, but also other segments.

Synergies of MGI's gaming and media portfolio

Consolidation potential in the programmatic ad-tech market

As outlined in the media and advertising competitive quality segment of this note (starting on page 7), the ad-tech landscape has a similar structure to the gaming market, with many different apps published and advertised every day via different channels and platforms. With its recent acquisitions, MGI is tapping into this field and is seeking to pursue a strategy similar to its gaming segment strategy by acquiring distressed assets and using the respective "user base", i.e. publishers as well as advertisers and technology to leverage its existing platform.

Own content to attract more advertisers

Making a platform more attractive for advertisers to allocate their budgets, requires high quality content to prevent fraud and to guarantee the quality of user information. With its existing games portfolio, gamigo reaches more than 600,000 daily active users and more than 5m monthly active users. This user base provides the company with a wealth of user data, which can be analysed accordingly.

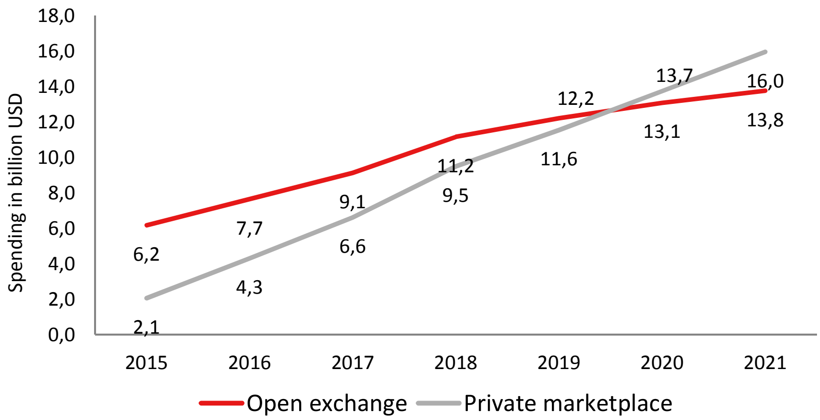
High demand for high quality digital ad space

MGI's gaming segment thus plays an important role in building a successful player within the advertising space. Not only does it allow MGI to better participate in the attractively growing mobile gaming and advertising market but also puts its ad-tech platform in a better competitive position. Advertisers are increasingly seeking private market places with high advertising quality and exclusive partners rather than relying on the open marketplace concept, where many platforms try to integrate with many publishers without having full control over data, formats, viewability, and reporting standards (KPIs; definitions). This trend is obviously also recognised by publishers, which are also seeking to integrate with high quality platforms and to provide standardised definitions and KPIs.

Given that quality usually goes hand-in-hand with lower quantity we consider MGI to be in a very promising position to serve the budgets of advertisers wishing to specifically target the attractive and growing gaming market.

According to eMarketer, the volume in private marketplaces for programmatic (RTB) digital display ad spending will surpass the volume of open exchanges in 2020 and will continue its strong growth in the following years as illustrated in the graph below.

US RTB digital ad spending by marketplace (2015 – 2021 in USD bn)

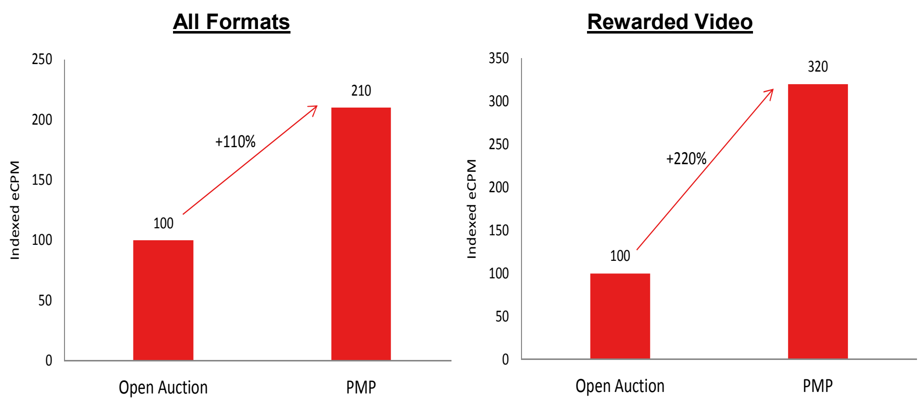


Source: eMarketer, Warburg Research

- Open exchange: Includes ad transactions in a public RTB (real time bidding) auction in which any buyer or seller can participate, also known as open auction or open marketplace
- Private marketplace: Includes ad transactions in an invitation-only RTB auction where one publisher or a selected group of publishers invite a selected number of buyers to bid for its inventory.

This is also driven by higher prices as indicated by the graph below, taken from a research note of Smaato. eCPMs for private auctions were 110% higher than for open auctions in H1 2019, indicating a clear willingness to pay more for higher quality and exclusivity. The difference is even more pronounced when looking at rewarded videos, for which the price in private market places was 220% higher than in open auctions (rhs).

eCPM difference in open auction vs. private auction (H1 2019)



Source: Smaato, Warburg Research

Growth

- Gaming is a booming market with vast potential for organic as well as inorganic growth
- Proven M&A history strengthens confidence for future developments
- Applift and PubNative provide very interesting services in the rapidly growing programmatic advertising world – especially for apps
- Advertising budgets will continue to grow and shift into the online sector, especially the categories of mobile and social-media/influencer

Gaming – a booming market

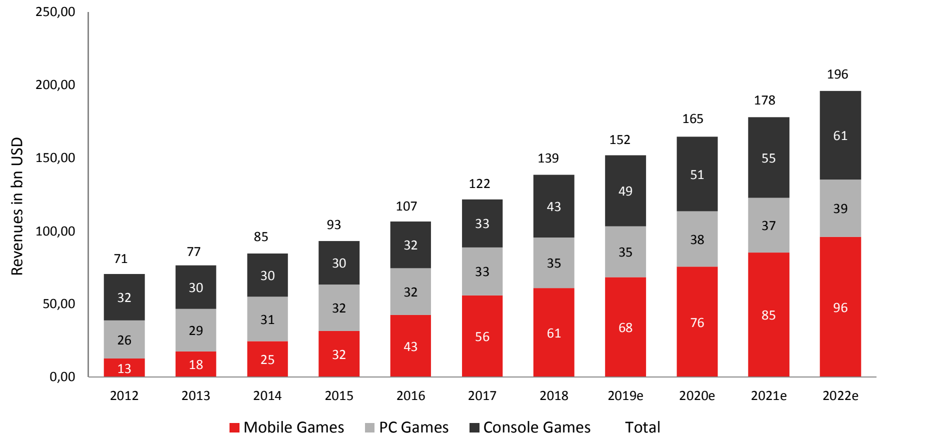
Growth is driven by all types of games

The global gaming market is estimated to have amounted to roughly USD 152bn in 2019. Considering that this figure *was* roughly USD 70.6bn in 2012, the market has comfortably more than doubled within seven years. From 2012 to 2018, the market was growing at a CAGR of almost 12%. Projected CAGR from 2018 to 2022 is expected to slow slightly to roughly 9% which is still very attractive and considerably higher than global GDP. More recently however, the market has seen considerable acceleration. In 2016 the market grew +14.3%, driven by mobile gaming, which grew 34.4% in that year and accounted for 40% of overall gaming revenues, compared to 34% in 2015. It continued to be the main growth driver until 2018, when console gaming experienced another uplift and recorded growth of 30.7%. In 2019, mobile gaming is expected to have accounted for roughly 45% of the overall global gaming market, followed by console at 32% and PC at 23%.

Forecasted CAGR of up to 11% until 2022e

The graph below illustrates gaming market growth by segment from 2012 to 2022, split into growth recorded from 2012 to 2018 and projections for the years ahead (2019–2022). Mobile is expected to be the strongest growth driver with an expected CAGR of 11.3% from 2018 to 2022, followed by console gaming with almost 10% CAGR, and PC, with 3.5%.

Overall gaming growth by segment from 2012 to 2022e

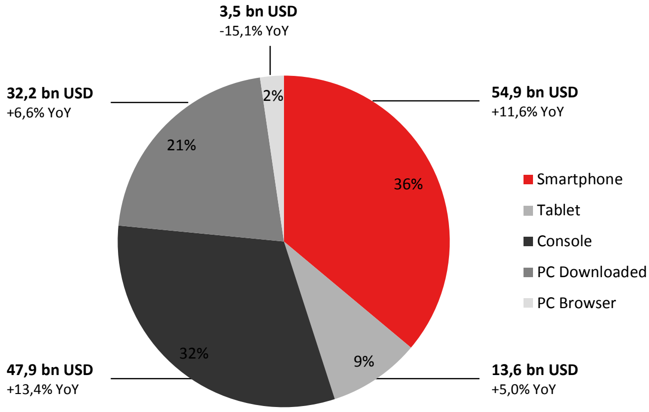


Source: NEWZOO, Warburg Research

MGI's gamigo growth profile

The graph below once more illustrates the detailed gaming market split by category for 2019 and annual growth expectations. The largest share (36%) is generated with smartphones, followed by console gaming (32%), and PC client/downloaded (21%). The rest is generated by tablet (9%) and PC browser games (2%), which is the only market in decline, as it is increasingly being eroded by mobile applications as well as PC client/downloaded versions.

Gaming revenue split by category with yoy growth in 2019e (in USD bn)

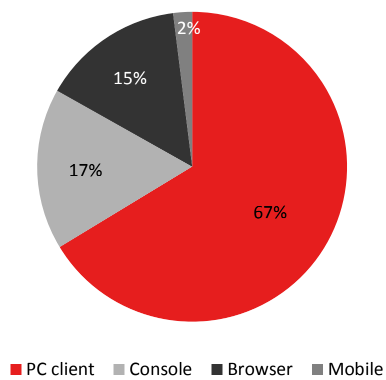


Source:NEWZOO, Warburg Research

Gamigo's gaming revenue split as of H1 2019 is shown below, which illustrates that the majority of gamigo's revenues (67%) are generated by PC client games, a market which is expected to grow by about 7% and accounts for more than one-fifth of the global gaming market. The second-largest revenue share is generated by console gaming (17%), which is the market with the highest growth expectations of more than 13%, outpacing smartphone-based growth (11.6%). Admittedly, gamigo is currently underrepresented in the mobile space with a revenue share of only 2%. However, as described above, the mobile gaming market is very crowded and is driven by casual games, typically one-hit wonders, and is associated with higher risk. Additionally, the Apple and Google app stores, act as unfavourable gate keepers by charging 30% of all revenues generated by an app (also in-app purchases). Nevertheless, with additional media assets in mobile (Applift and PubNative) as well as a stronger position in social media, especially influencer-based advertising (Mediakraft and Reachhero), MGI is in a better position to strengthen its involvement in the attractively growing market for mobile games.

PC browser games are experiencing a considerable decline, especially as casual browser games migrate to mobile applications. Gamigo is generating roughly 15% of its revenues with MMO-browser games, but owing to its loyal, and assumingly older, customer base, we see limited risks that these revenues will decline in the same ballpark as the overall market.

Gamigo's gaming revenues by category as of H1 2019



Source: NEWZOO, Warburg Research

By region

In 2019, the USA overtook China for the first time since 2015 as the largest gaming market by revenue with USD 36.9bn. This was a consequence of China's government-initiated slow-down. New game permits were refused as part of the government's anti-gaming agenda, which aims to reduce the number of hours spent playing games, especially by young people. In an effort to comply with these new restrictions, Tencent for instance introduced time-limits in its games. Gamigo's exposure to the Chinese market and in the APAC region overall is very limited. It only sells via licensed local partners and the revenue share is well below 5%.

Very attractive mostly double-digit growth in all regions

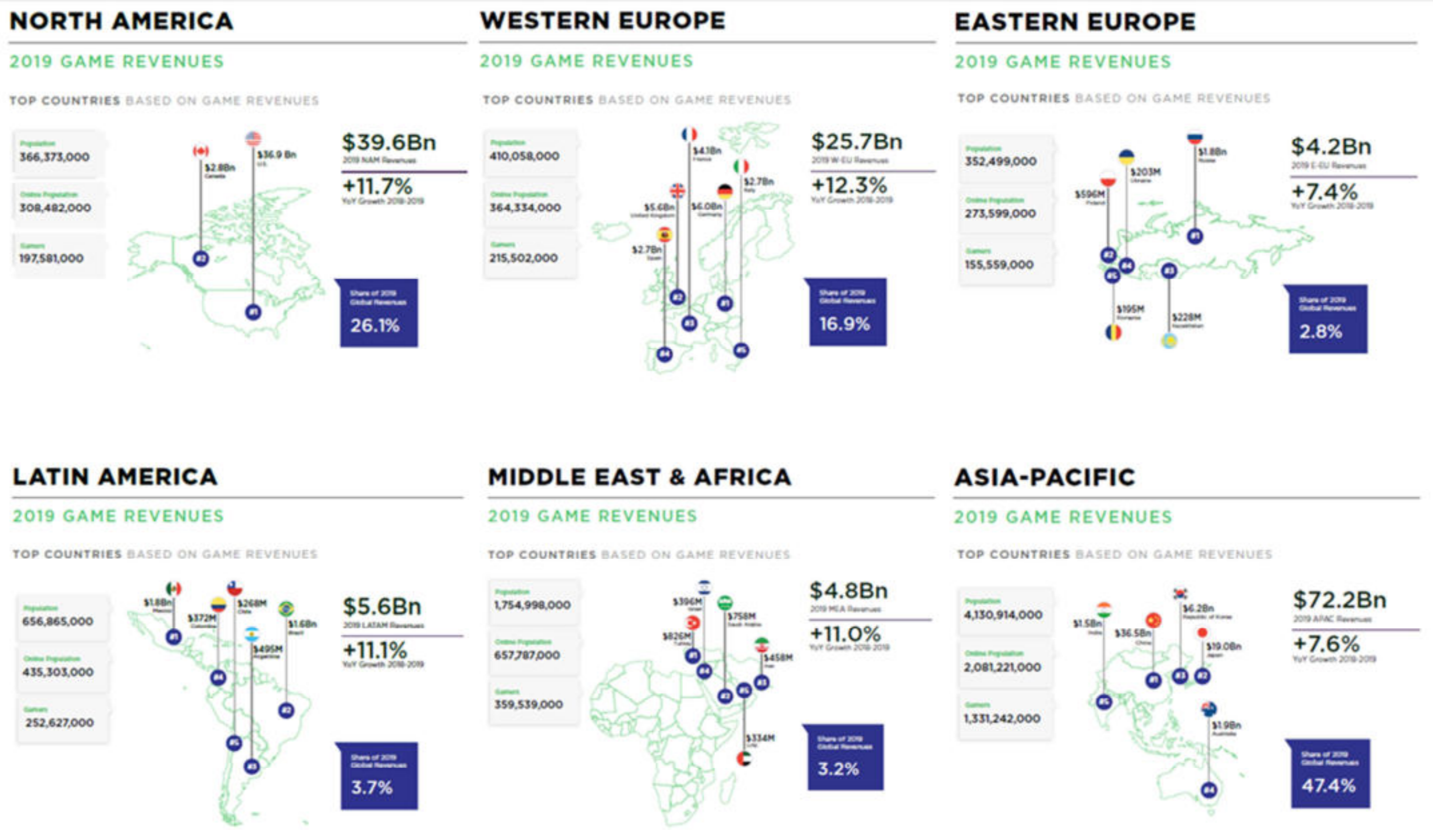
APAC is by far the world's largest gaming market and the most mature market. It accounted for almost half (47.4%) of global gaming revenues in 2019 while the number of gamers in this region alone exceeds that of the rest of the world combined. Growth rates are slower than in the past (2019: +7.6%) and slower than in other markets but this is likely to be predominantly linked to the government measures mentioned above. For this reason we expect that growth rates would otherwise at least equal those of the rest of the world, if not exceed them.

Europe and especially Western Europe is experiencing attractive growth with double-digit growth figures in 2019. Within Europe, Germany is the largest market with USD 6bn in revenues, followed by the UK where revenue of USD 5.6bn is generated.

With revenue of USD 36.9bn, North America is the largest market and is also growing very attractively at almost 12% in 2019.

The graphic below illustrates the most important regions and individual countries by market size and most recent growth development in 2019.

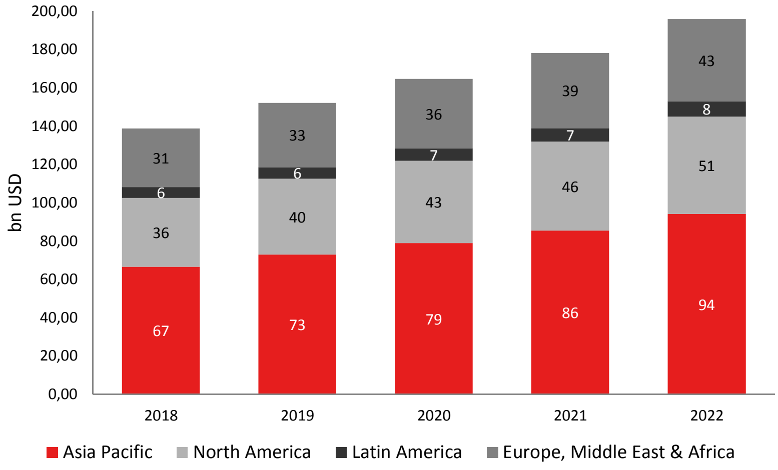
Overall gaming revenues by regions in USD and yoy growth for 2019



Source: NEWZOO, Warburg Research

Looking forward to 2022, the global gaming market is expected to experience rather synchronised growth across regions, leaving the market share of each region almost unchanged, according to NEWZOO, a provider of analytics and consultancy services for the gaming sector. Therefore, the revenue split should remain stable with APAC dominating the market at 48%, followed by the US at 26%, and Europe plus Middle East and Africa at 22%. The rest is made up by Latin America at almost 4%.

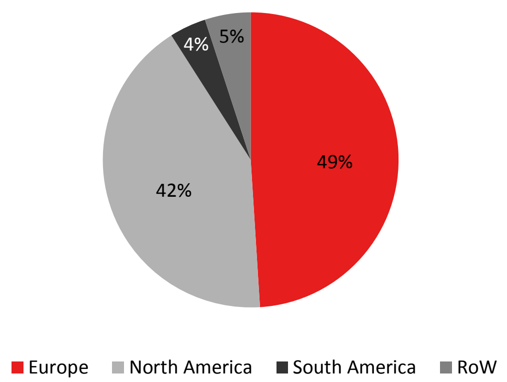
Overall regional gaming revenues development (2018–2022 in USD bn)



Source: NEWZOO, Warburg Research

In H1 2019, gamigo's revenues were dominated by the US (42%) and Europe (49%), which are two of the three largest gaming markets with attractive growth rates of above 10%. Its limited exposure to China also avoids the current headwind posed by the Chinese government's recent initiative. In China, gamigo is only active via licensed partners and revenues account for far less than 5% of gamigo's overall revenues. 4% in generated in LatAM and 5% by the rest of the world, which includes China.

Gamigo's revenue split by region (as of H1 2019)



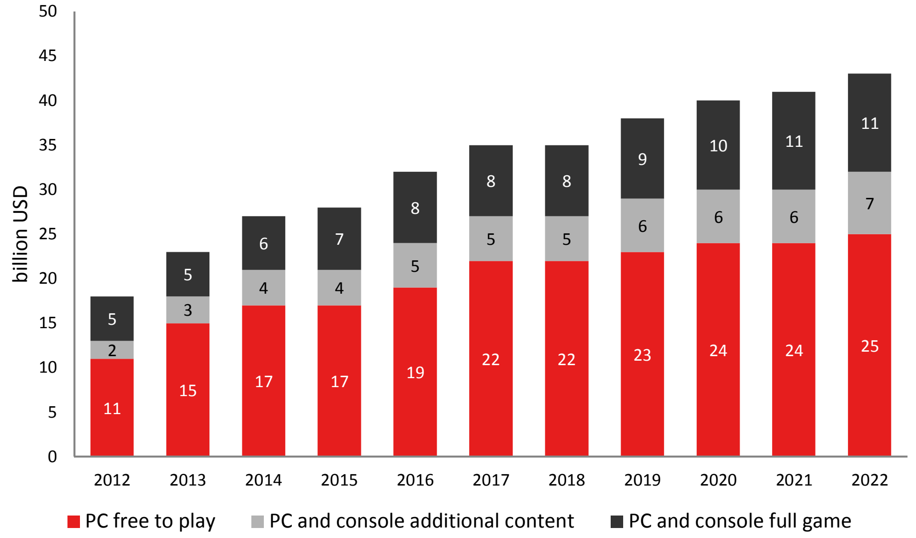
Source:NEWZOO, Warburg Research

Growth driven by in-game revenue from free-to-play games

Looking at gamigo's revenue split by category, the PC and console gaming category is the ultimate driver. Furthermore, about 80% of gamigo's revenues are driven by free-to-play in-game purchases, which is one of the main growth contributors looking ahead to 2022 according to Superdat. The remaining 20% of gamigo's revenues are generated by subscriptions, which enable users to access more than 5,000 causal games. These revenues should be recurring in character but the growth potential in this segment is rather limited.

The following graph illustrates the PC and console gaming revenue by full game access, additional content and free-to-play revenues for the years 2012–2022, which is showing very solid growth. Gamigo should continue to benefit from that growing market.

PC/Console revenue development by type (2012 – 2022 in USD bn)



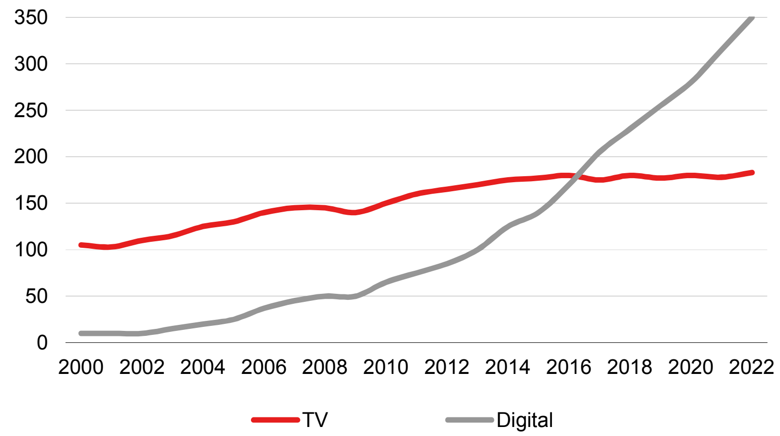
Source: , Warburg Research

Media & Advertising

Digital advertising growth continues apace

In 2017, the global digital ad spend surpassed the traditional TV ad spend for the first time, marking a watershed in the rise of internet-based advertising. The technological ability to harness user data to target a more specific audience share and to monitor user behaviour with click-through rates etc. makes online advertisement extremely efficient, measurable and transparent. the market for digital ad spending is expected to outpace the market for traditional TV advertising significantly over the next years, as indicated by the graph below:

Digital vs. traditional TV ad spend from 2000 to 2022

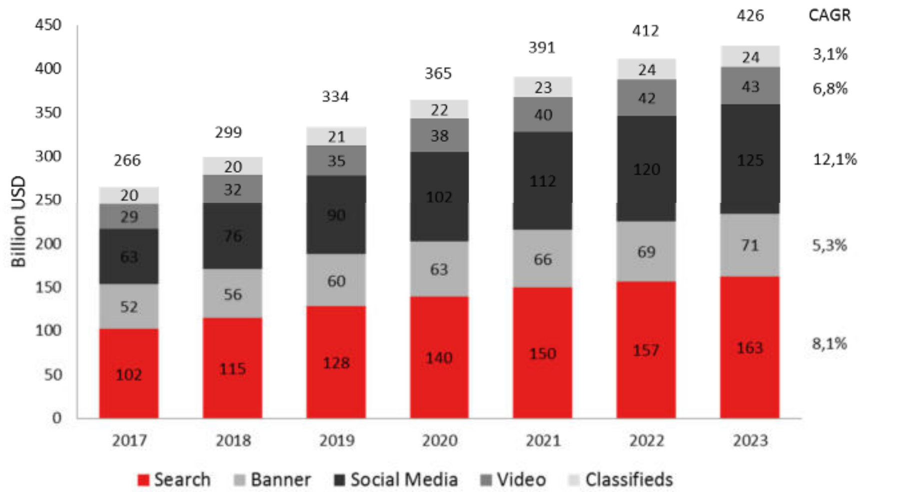


Source: MAGNA, Warburg Research

Social media sector to drive the digital advertising market

The global digital advertising market is expected to remain a strong growth market going forward. The graph below illustrates the expected digital advertising market development by segment according to the Statista Digital Advertising report 2019 until 2023. Total global volume is expected to grow from USD 334bn in 2019 to USD 426bn by 2023, which represents a CAGR of 6.3%. As described in the Competitive Quality chapter of this note, MGI is positioned along the whole advertising value chain, with a special focus on gaming. The special focus of MGI's Mediakraft and Reachhero agencies is on social media advertising. Social media advertising is expected to post the most attractive growth with a CAGR of 12.1% from 2019 to 2023, followed by Search (8.1%) and Video (6.8%). For the latter in particular, MGI is well-positioned to participate in that trend, which was strengthened further by its recent acquisitions of Applift and PubNative, concentrating on in-app monetisation.

Global digital advertising spend from 2017 to 2023 (in USD bn)

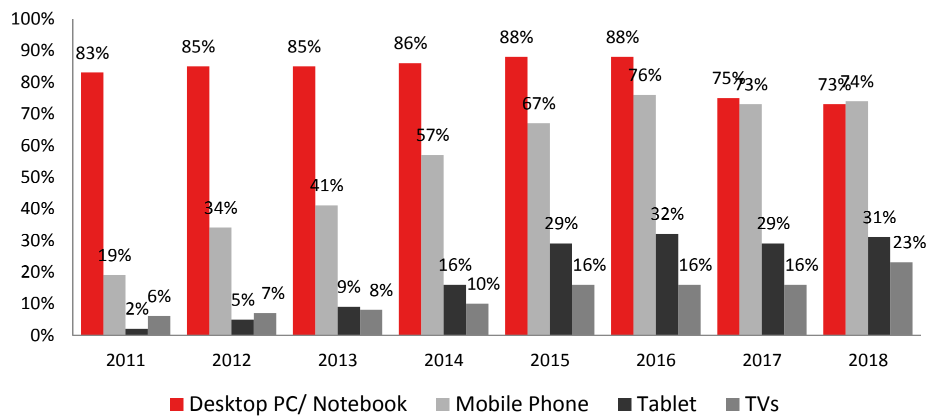


Source: Warburg Research

Mobile is the place to be…

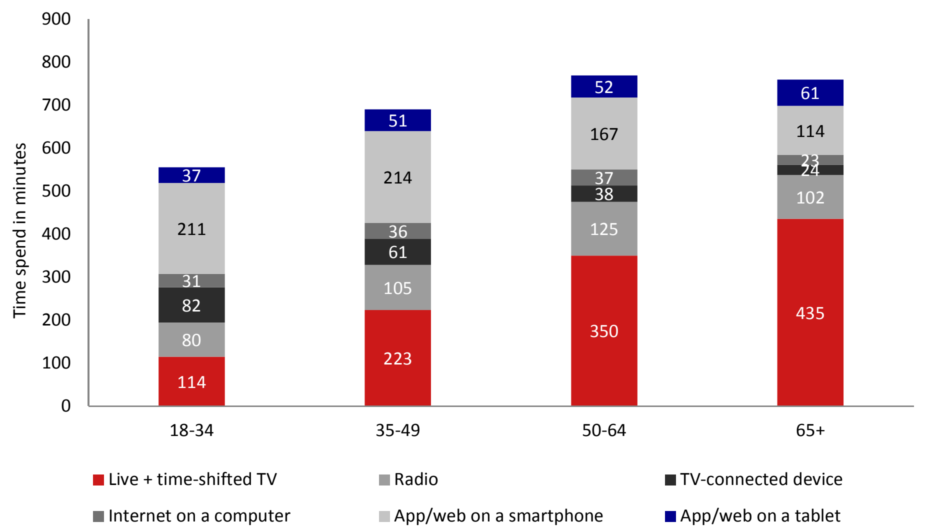
The smartphone is increasingly the device of choice when it comes to accessing the internet, as indicated by the graph below. Smartphone users tend to access the internet more often to make purchases, seek information or for entertainment etc. We assume that this shift will continue. Not only will 5G provide for better quality mobile connectivity in future, demographic change too will play a major role as younger generations will be more accustomed to consuming more fragmented short clips on mobile devices as illustrated by the second graph.

Internet access by device 2011 - 2018



Source: TNS Infratest (Jan 2019) Warburg Research

Daily time spent on media by type and age group (US, Q1 2019)

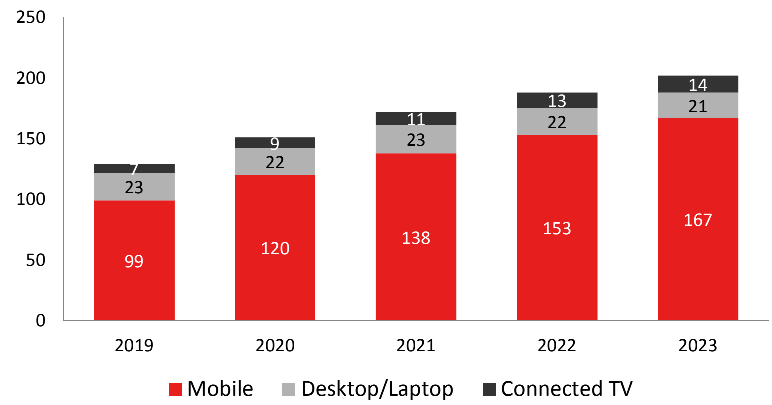


Source: Statista, Warburg Research

Ad spending is following this trend accordingly as illustrated in the graph below. Mobile ad spend is expected to grow at a CAGR of 14% from 2019 to 2023, while desktop advertising spend is expected to decrease slightly (CAGR of -2.2%) by 2023.

This highlights once more the strategic rationale behind MGI's positioning in the advertising business where revenues are generated with mobile-based advertising rather than mobile-based gaming development. In the gaming business, however, MGI concentrates on generating revenue with PC-based online in-game purchases, which is growing and reflects the largest category of overall gaming revenues (see graph on page 29 *"PC/Console revenue development by type 2012–2022 in USD bn")*

US digital ad spending per channel in USDbn (2019–2023)



Source: eMarketer, Warburg Research

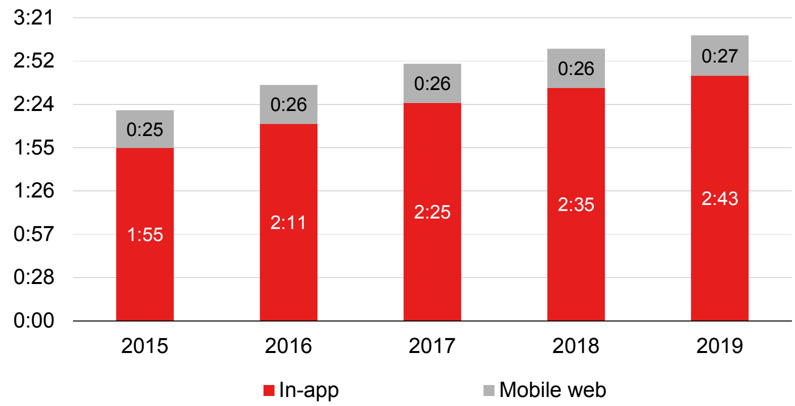
… especially in apps…

We are increasingly spending more time on apps

A smartphone app, rather than a web browser, is often a more convenient way of accessing frequently visited websites or repeating frequent actions. Certain user information can be saved such as log-in data or search criteria and can often be personalised (e.g. checking news, ordering food, etc.). The following graph clearly indicates that the increasing internet access via mobile is almost entirely driven by app-based access. It is thus crucial to apply a technology which best fits the needs of the publisher (maximising monetization and lowering churn) and the needs of the user (optimising user experience for a certain willingness to pay). The graph below only illustrates the behaviour of adults in the US but we are assuming that behaviour is similar in Europe and that ratios are even higher for the younger audience.

With Applift (demand side platform/agency) and PubNative (SSP), MGI is positioned on both sides to deliver advertising distribution and in-app monetisation for the most part programmatically.

Daily time spent in apps vs. mobile web (US adults 2015–2019)



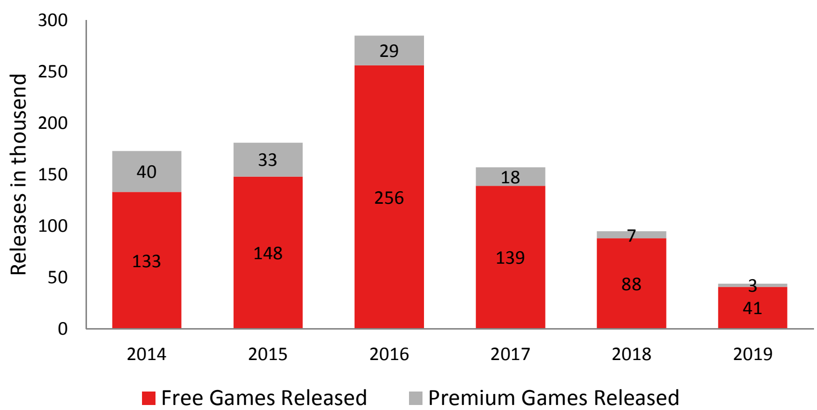
Source: eMarketer, Warburg Research

Furthermore, not only has there been an increase in the time spent using apps online but also in the number of apps brought to market and this trend should continue. This should enable PubNative and Applift to engage with new publishers and apps to deliver their services for in-app monetisation and app user acquisition for a variety of verticals, but especially gaming.

…and specifically in gaming apps

While there has been a considerable decrease in newly published gaming apps recently, the games category is still by far the most dominant in the app stores.

Premium and all mobile games releases in the app store annually



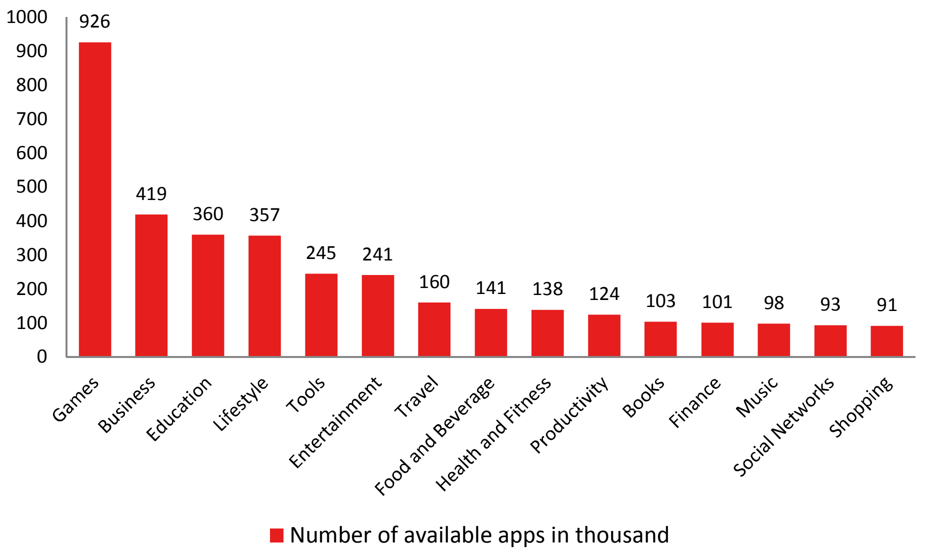
Source: Warburg Research

The trend shown above tends to support our argument that the mobile market is unfavourable for games developers considering that Google and Apple hold a powerful position as gatekeepers and could someday decide to enter the mobile gaming market themselves.

Independent app publishers / game developers would then need even more assistance to enter the market successfully and generate sustainable revenues. Furthermore, player loyalty is generally lower in mobile gaming, which is more casual and provides little scope for the development of a story or social community.

In terms of the number of apps available in the app stores, however, games are still the top category by far. Below, we illustrate the most recently available data for December 2019. To examine any possible distortion to the December pattern owing to the holiday period, we found during our research that the same pattern is valid throughout the year, i.e. gaming accounts for the largest number of apps by far every month.

Number of apps by category in app stores (December 2019)

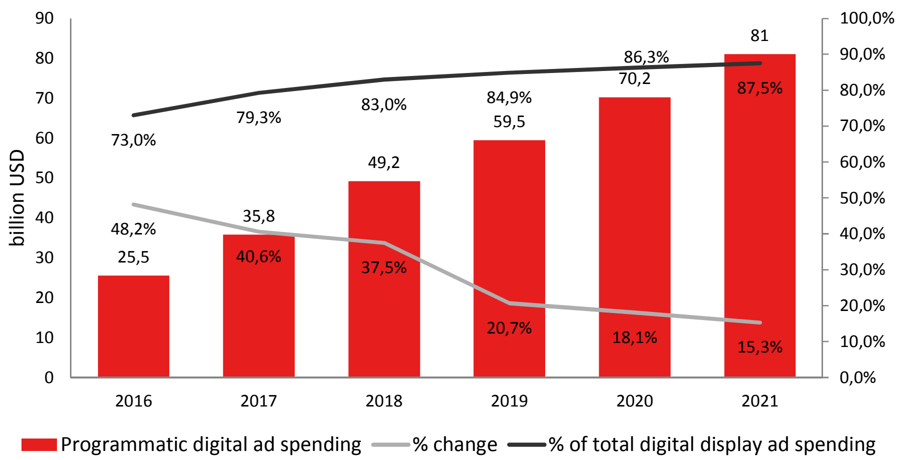


Source: Statista, Warburg Research

Programmatic is key

Programmatic advertising is more or less standard in the industry, especially in the US, as illustrated in the graph below. However, it is still growing attractively, as the overall online advertising market is growing, and programmatic is still taking some market share from traditional advertising booking.

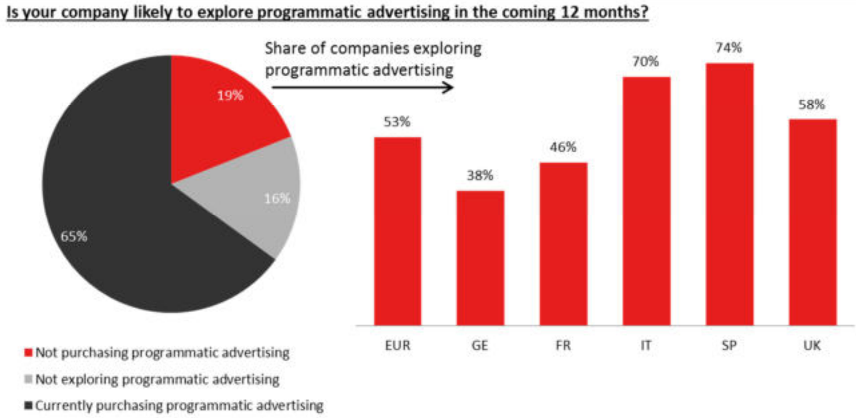
US programmatic digital display ad spending (2016 – 2021)



Source: eMarketer (April 2019), Warburg Research

The share in Europe (53%) is considerably lower, according to iab (Interactive Advertising Bureau), an international online advertising industry association. However, as of March 2019, 19% of companies were exploring programmatic and only 16% had not yet given it any consideration. This clearly highlights the attractiveness of a programmatic ad-tech platform and the future prospects. However, as described above in the Competitive Quality chapter, it is also highly competitive.

Share of programmatic advertising in Europe (as of March 2019)



Source: iab (March 2019), Warburg Research

Financials

- Strong financial track record at gamigo since current CEO took over in 2012
- Proven M&A track record strengthens confidence in future deals
- Considerable debt is used to leverage equity and accelerate market consolidation while maintaining a solid balance sheet structure
- Acquisition of the remaining gamigo stake (47%) is on the agenda

Historical financial performance

The Media and Games Invest plc. has recently been expanding its business focus. As well as gaming, it now includes media and advertising. The legacy real estate business was completely divested in 2018 and the company was renamed Media and Games Invest. Gamigo was incorporated into the listed entity in May 2018 and, until June 2019, gamingo was more or less the only asset and operational activity in the holding. At the end of H1 2019, MGI acquired three media and advertising companies, Reachhero and Applift (including its subsidiary PubNative), strengthening the B2B Media segment of the company. This segment already included Mediakraft and adspree, which are consolidated within gamigo. The acquired assets will contribute to the financial statements of the group in H2 2019 for the first time.

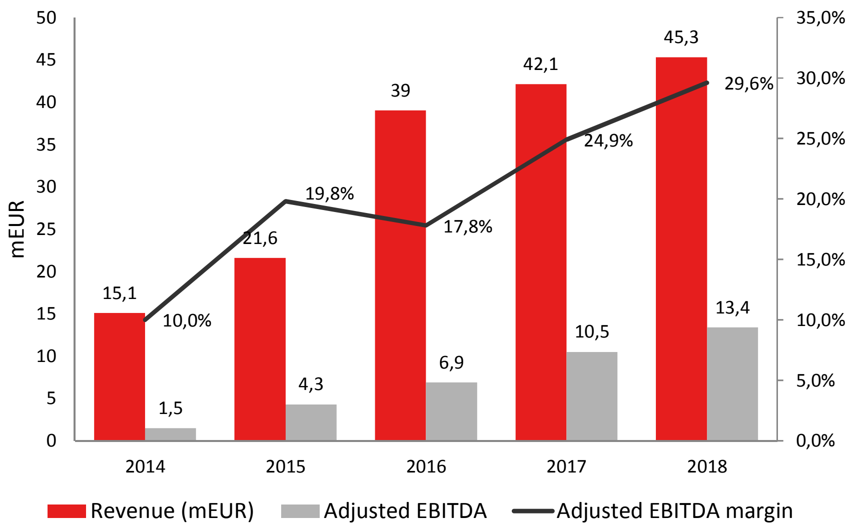
Strong operational development of gamigo…

Strong KPI development at gamigo drives MGI

As the business focus of MGI has completely changed, it is not useful to examine the financial history at MGI level. Gamingo now represents the majority of MGI's assets and operational results, especially at profitability level. A look at gamigo's past financial performance is quite impressive and was also mainly driven by its buy- and-build strategy, i.e. by M&A activity.

The graph below illustrates gamigo's revenue as well as adj. EBITDA development since 2014. The revenue CAGR for the period from 2014 to 2018 amounted to 31.6%, while adj. EBITDA grew 72.9% in the same period. This clearly indicates the synergy potential of acquired assets in the gaming segment, as overhead costs such as personnel, IT infrastructure, and sales & marketing can unlock significant cost-cutting potential and leverage profitability.

Gamigo's financial history (2014–2018)

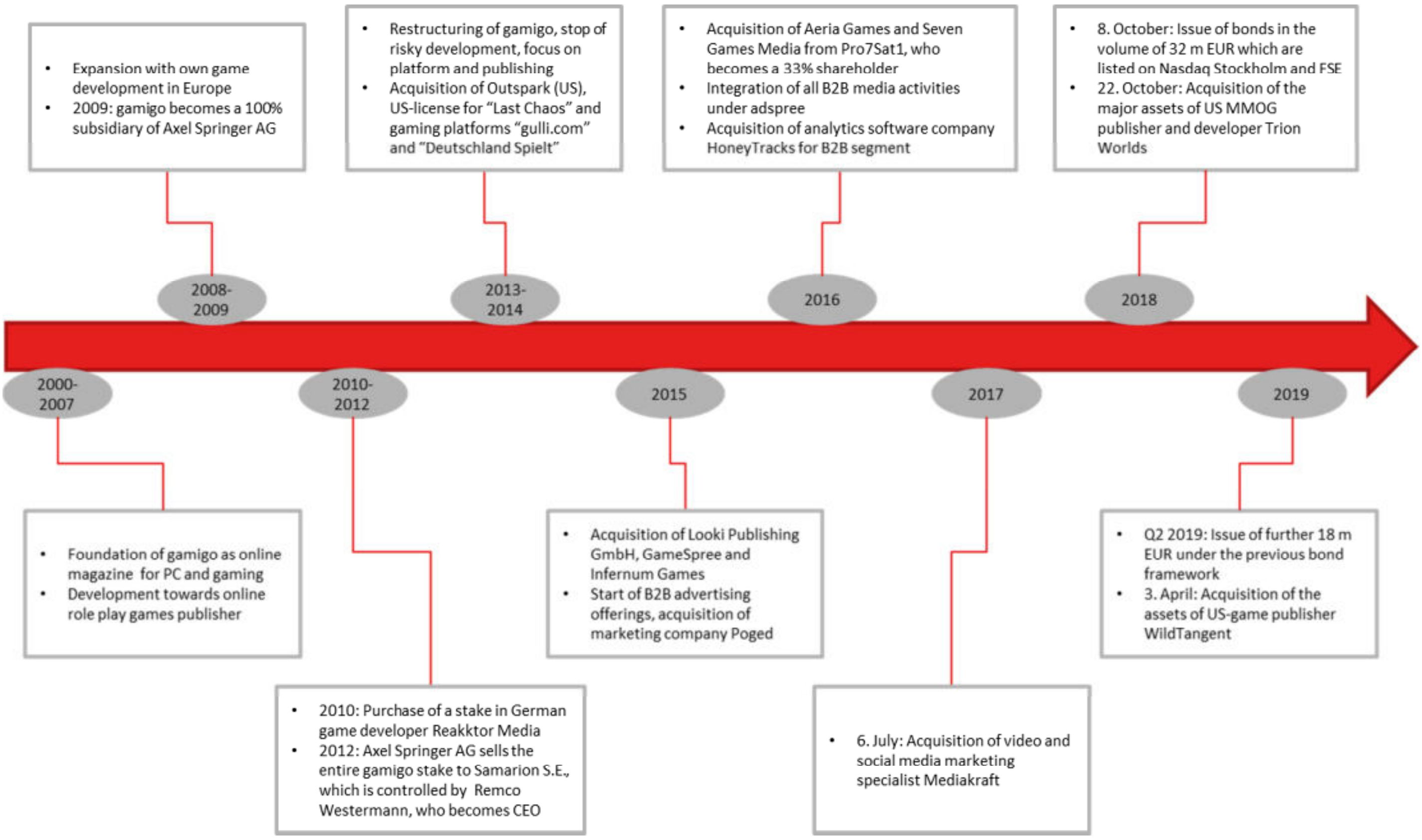


Source: Warburg Research

…with a proven M&A track record…

The gaming market is highly fragmented with thousands of publishers and developers, hoping for the one big one-hit-wonder. However, while there are several successful games available in the market, which are also generating attractive revenues, they often lack scalability and therefore profitability as overhead costs are simply too high relative to average gaming revenue development. In the past, gamigo proved to be an efficient industry consolidator by acquiring various assets in the gaming and publisher/distributor category for attractive prices. The follow graph illustrates gamigo's historic acquisition path with more than 20 completed M&A deals.

Gamigo's M&A history



Source: Warburg Research

To provide a better understanding of the deals pursued by gamigo, we highlight two recent acquisitions.

MGI's strategy: buy-integrate-build-improve

Trion Worlds

Gamigo acquired Trion Worlds in October 2018 for EUR 8.5m. At the time, Trion Worlds was generating revenues of approx. EUR 16m (USD 18m) and EBITDA of roughly EUR -5m (WRe). A little over 12 months later, after unlocking synergies, enhancing the technology, internationalising sales, optimising monetisation, investing EUR 3.4m in updates, relaunches, and new sequels (new levels etc.), the asset is generating revenue of EUR 19m and EBITDA of EUR 7m and is showing significant operational enhancements and value add.

WildTangent

Gamigo acquired WildTangent in April 2019 for a mid single-digit million dollar sum. WildTanget was generating revenues of a (higher) mid single-digit million and immediately made a positive contribution to EBITDA. WildTangent is a US-based company and supports developers to publish their games via its well-known platform and network for gamers. The company has more than 5,000 games and is expanding MGI's exposure to the attractive US market. Furthermore, synergies in sales & distribution and costs should lead to significant operational leverage in future.

Overall, we admire the management's valuable M&A capabilities and value adding skills. Purchase prices are typically well below 1x sales and 6x EBITDA, or the payback period is no longer than 24 months if EBITDA is negative or just marginally positive as described in the two examples mentioned above.

…and more in the pipeline including the outstanding gamigo stake

Acquisition of remaining gamigo stakes in the making

According to the company presentation, MGI currently has an M&A pipeline shortlist of more than 30 potential targets. Of these, more than 20 have been contacted and more advanced negotiations are already ongoing with five of the targets. MGI also indicated that it intends to buy the remaining 47% of its gamigo assets, currently held by ProSiebenSat1 Media (33%) and some private investors, who are familiar with the company (14%). However, owing to the significant improvement in gamigo's performance in recent years, the price for the remaining 47% will most likely surpass the company's available cash position as of H1 2019 of EUR 26m. We are thus assuming that the deal will be partially debt financed or partially with additional equity, depending on the management's appetite for leverage. The company already issued 8m new shares which generated proceeds of EUR 9.2m. It secured further debt funding via a bank loan of EUR 10m and a working capital line from Billfront of EUR 3m. Adjusting for the 13.8% stake of gamigo (WRe 7m), this should bring the financial firepower to roughly EUR 40m (EUR 26m in cash as of H1 2019 + EUR 10m debt + EUR 9m equity raise – EUR 7m gamgio stake). We will elaborate on the debt structure in the "balance sheet" segment below.

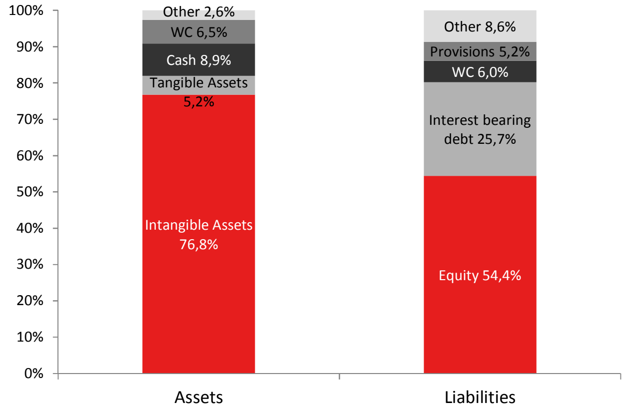
Balance sheet

As a games publisher and games portal owner and a media and advertising technology company (Applift and PubNative), MGI's balance sheet consists mainly of intangible assets, including intellectual property of games, licensing agreements, websites, and capitalised software or technology. Consequently, intangible assets as of H1 2019 amount to EUR 227m of EUR 295m total assets and represent roughly 77% of the balance sheet. These are mainly financed with debt (25.7%) and equity (54.4%). The cash positon of roughly EUR 26m accounts for about 9% of the balance sheet and mainly arose from a bond issue in H1 2019 of EUR 18m.

Asset-light business model generates attractive cash flows

Although working capital is of limited importance as it only accounts for less than 7%, we would like to highlight the relatively high exposure to receivables, which are considerably overdue. Total receivables amount to EUR 19.1m, of which EUR 7.8m is more than 30 days overdue and EUR 5.3m by up to 30 days. While this is not very unusual for the ad-tech landscape (up to 90 days payment is common) and, according to management statements, a considerable amount has meanwhile been collected in H2 2019 as an international payment service provider had to clarify payment accounts first owing to regional exposure, this issue should nevertheless be closely followed.

MGI's balance sheet as of H1 2019



Source: gamigo, Warburg Research

Goodwill

As a result of MGI's M&A focus, a considerable amount of goodwill (EUR 143m) has been accumulated. Goodwill accounts for 48% of total assets and 63% of intangible assets. The majority, EUR 133.8m, is attributable to gamigo and the rest to MGI's recent acquisitions Applift and Reachhero (preliminary statements, as acquisitions were closed shortly before the end of H1 2019 reporting period). We see limited risk of a potential impairment, not only owing to the very positive operational development of the gamigo asset and the full consolidation of gamigo, but also because the stake only amounts to 53% for the time being.

Issuance of equity and debt in July 2019

While the balance sheet ratios are unlikely to have changed much before the end of 2019, the total assets could increase slightly in future, as a consequence of: a) a capital increase in July 2019, when 8m shares were issued at a price of EUR 1.15 and generated gross proceeds of EUR 9.2m; b) another bank loan of EUR 10m, which is likely to be linked to the acquisition of the remaining gamigo stake; and c) a working capital credit line of up to EUR 3m from Billfront GmbH for MGI's recent acquisition, Applift. Furthermore, a promissory note of EUR 3.8m will be swapped into equity, leading to the issue of approx. 3.5m new shares. However, all of this probably has to be seen in connection with the intended acquisition of the remaining gamigo stake, which would impact the 2020 balance sheet. Obviously the purchase price, which is presumably being negotiated at the moment, will also play a decisive role.

Debt structure

At gamigo level, MGI issued a bond with a total framework of EUR 50m with a floating interest rate of EURIBOR 3 months +7.75% p.a., which matures in October 2022. On October 11 2018, gamigo issued a senior secured bond loan of EUR 32m within this framework and another EUR 10m was placed on March 26 2019 over par at 100.5%. The remaining EUR 8m was placed on June 18 2019 over par again at a price of 101%. The bond is trading under the ISIN SE0011614445 at the regulated market of the Swedish stock exchange and at the open market in Frankfurt, Germany.

Full variety of funding sources

Furthermore, the company issued another EUR 5m bond at MGI level on October 10 2019 in a private placement. The bond has a total framework of EUR 25m, matures in October 2024, and carries an interest coupon slightly below the previous bond of 7% p.a., which has to be paid quarterly.

The already mentioned loan of EUR 10m for three years from the UniCredit Bank AG, which was granted in July 2019, carries an interest rate of 5.5%. The working capital line of EUR 3m for 24 months from Billfront was extended at current conditions.

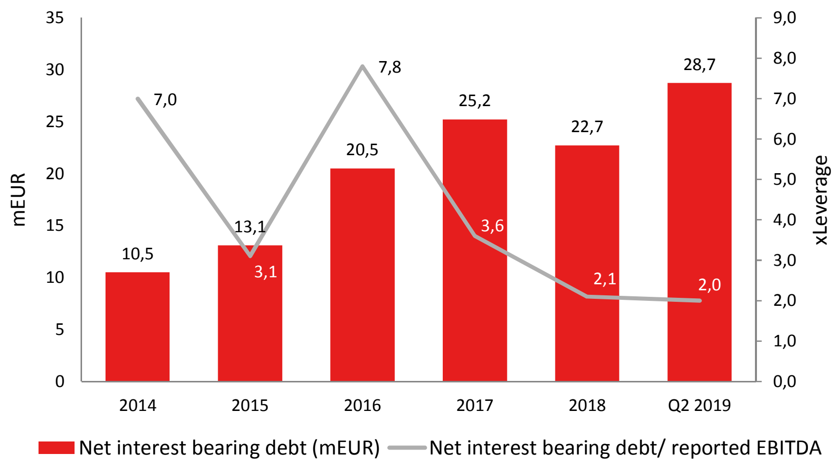
Leverage depends on M&A but should decrease over time

As already mentioned, it makes little sense to compare financial statements of the MGI group with past years as the holding was renamed in the summer 2018 and completely changed its business model from real estate to gaming and more recently to media and advertising. We therefore take a look at the past developments of gamigo and provide our expectations at MGI level for the years 2019, 2020, and 2021.

Reasonable leverage is used to accelerate market consolidation

Since 2014, the CEO Remco Westermann has driven down gamigo's leverage ratio, defined as net debt/EBITDA, from 7.0x to 2.0x, when looking at Q2 2019. This was achieved despite heavy M&A activity but acquisitions were also funded by own generated cash from current operations at the respective point in time. Looking at gamigo's figures as illustrated below, the decreasing leverage leads to higher trust by banks and the capital markets, which is well reflected in the company's several bond issuances with decreasing interest rates as well as a granted bank loan from Uni Credit with an even lower interest rates of 5.5%.

Gamigo's leverage ratio history (2014 – Q2 2019)

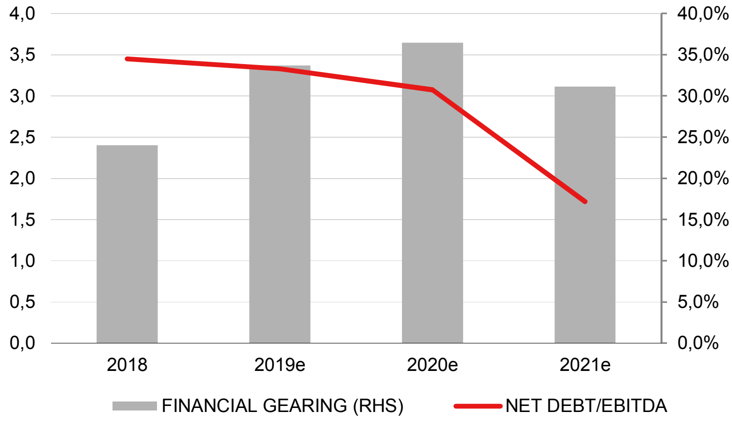


Source: gamigo, Warburg Research

With its recent financial activities described in the previous sections of this note, we are assuming that leverage will rise again slightly in FY 2019 and 2020, especially if the remaining gamigo stake is acquired as this will not generate any additional EBITDA for the group. Nevertheless, we would regard such a step as positive, as it would reduce minorities and increase MGI's shareholders' earnings per share as well as considerably simplifying the investment case. The outcome will obviously depend on the negotiated price but we believe MGI could secure an attractive price for the remaining 47%-stake based on indications by the company and as it is believed that the current owner, ProSieben is no longer really interested in gaming activities. The price could be considerably lower than our current value for MGI's minorities of roughly EUR 105m. Overall, we are impressed by gamigo's operations, which are highly cash-generative and, given the solid track record, we would not be too critical of a potential spike in leverage.

Below, we illustrate our assumed leverage development for the years 2019, 2020, and 2021. A potential acquisition of the remaining gamigo stake is not yet included. Our net debt includes pensions + financial liabilities – cash.

WRe leverage expectations at MGI level (2019e – 2021e)



Source: Warburg Research

P&L

Forecast

Below we illustrate our detailed P&L forecast for the years 2019e, 2020e, and 2021e. For better comparison, we took gamigo's 2018 figures as a basis for 2018. As mentioned above, an historical approach at MGI level is not meaningful as the holding included real estate activities for H1 2018 before the first stake in gamigo was acquired in May 2018.

Further acquisitions should drive the top-line

For the gaming segment, which was predominantly driven by M&A activities, we expect significant growth of almost 70% to EUR 60m for 2019e. For 2020e we are calculating with 5% organic growth which we expect to be supported by further M&A activities in the ballpark of EUR 10m, which corresponds to our EUR 14m capex assumption in our DCF valuation model, of which 4m is earmarked for maintenance. This means EUR 10m is intended for acquisitions, which reflects a 1x sales multiple, which is also the maximum limit of MGI's acquisition strategy and is thus a rather conservative approach.

Our forecast does not include a potential acquisition of the remaining gamigo stake (external growth in the ballpark of up to EUR 10m p.a. is expected to be financed from own cash flows). However as the company increased its credit availability, raised additional equity in July 2019, and indicated that it is aiming for 100% ownership, we are assuming that the purchase of the remaining stake is just a matter of time and, of course, price. Taking the available debt (EUR 15m), the cash position as of H1 of EUR 26m, the equity raise of EUR 9m and deducting the cash for the 13.8%-stake in gamigo (WRe 7m), MGI's firepower should amount to roughly EUR 40m, which could be further strengthened with another equity increase.

For the Media and Advertising segment we expect a significant growth of almost 50%, predominantly driven by M&A, especially by Applift and PubNative. For 2020, we also take a conservative approach by not fully accounting for the remaining inorganic growth of the then fully-consolidated acquisitions in the ballpark of EUR 20m (WRe) as the assets experienced negative sales development in their recent history. However, growth in the Media and Advertising segment can be supported by further acquisitions too. But in the absence of a proven track record in this area, we remain cautious and do not include any M&A activity for 2020e.

P&L Forecast (2018 – 2021e)

P & L Group	2016	2017	2018	2019e	2020e	2021e	CAGR
B2C Gaming	**27,9**	**29,6**	**29,7**	**50,0**	**61,0**	**72,0**	***20,9%***
yoy growth		*6,1%*	*0,3%*	*68,4%*	*22,0%*	*18,0%*	
as % of total	*71,6%*	*70,3%*	*65,6%*	*68,5%*	*66,3%*	*65,5%*	
B2B Media	**11,1**	**12,5**	**15,6**	**23,0**	**31,0**	**38,0**	
yoy growth		*12,7%*	*24,9%*	*47,5%*	*34,8%*	*22,6%*	
as % of total	*28,4%*	*29,7%*	*34,4%*	*31,5%*	*33,7%*	*34,5%*	
Revenues	**39,0**	**42,1**	**45,3**	**73,0**	**92,0**	**110,0**	***23,1%***
yoy growth		*8,0%*	*7,6%*	*61,2%*	*26,0%*	*19,6%*	
+ own work capitalised	2,2	3,6	4,2	8,5	9,5	10,0	
as % of revenues	*5,5%*	*8,5%*	*9,2%*	*11,6%*	*10,3%*	*9,1%*	
- material expenses	17,3	16,2	17,6	28,5	36,5	41,0	
as % of revenues	*44,4%*	*38,6%*	*38,9%*	*39,0%*	*39,7%*	*37,3%*	
= Gross Profit	**23,8**	**29,4**	**31,8**	**53,0**	**65,0**	**79,0**	***27,1%***
Gross margin	*61,1%*	*70,0%*	*70,3%*	*72,6%*	*70,7%*	*71,8%*	
- personnel	10,5	13,9	14,7	29,0	38,0	41,0	
as % of revenues	*26,9%*	*33,1%*	*32,5%*	*39,7%*	*41,3%*	*37,3%*	
+ other operating income	0,6	2,4	6,7	3,0	3,0	3,0	
as % of revenues	*1,5%*	*5,6%*	*14,7%*	*4,1%*	*3,3%*	*2,7%*	
- other operating expenses	11,3	10,9	12,7	12,0	12,5	13,0	
as % of revenues	*29,0%*	*25,8%*	*28,1%*	*16,4%*	*13,6%*	*11,8%*	
= EBITDA	**2,6**	**7,0**	**11,1**	**15,0**	**17,5**	**28,0**	***60,4%***
EBITDA margin	*6,8%*	*16,7%*	*24,4%*	*20,5%*	*19,0%*	*25,5%*	
- Amortization	11,7	9,7	7,0	12,0	12,0	12,5	
as % of revenues	*30,0%*	*23,0%*	*15,4%*	*16,4%*	*13,0%*	*11,4%*	
- Depreciation	1,1	0,7	1,5	2,0	2,0	2,5	
as % of revenues	*2,7%*	*1,7%*	*3,3%*	*2,7%*	*2,2%*	*2,3%*	
= EBIT	**-10,1**	**-3,4**	**2,6**	**1,0**	**3,5**	**13,0**	**n.m.**
EBIT margin	*-25,9%*	*-8,0%*	*5,7%*	*1,4%*	*3,8%*	*11,8%*	
+/- Financial Result	-1,9	-2,3	-2,1	-4,3	-5,0	-5,2	
= EBT	**-12,0**	**-5,7**	**0,5**	**-3,3**	**-1,5**	**7,8**	**n.m.**
EBT margin	*-30,8%*	*-13,5%*	*1,1%*	*-4,5%*	*-1,6%*	*7,1%*	
- Tax	-2,9	-0,7	-1,1	0,0	0,0	0,7	
Tax rate	*24,3%*	*11,9%*	*-229,8%*	*0,0%*	*0,0%*	*8,3%*	
= Net income	**-9,1**	**-5,0**	**1,6**	**-3,3**	**-1,5**	**7,2**	***n.m.***
Net income margin	*-23,3%*	*-11,9%*	*3,6%*	*-4,5%*	*-1,6%*	*6,5%*	
Minorities			*0,07*	*-1,46*	*-0,68*	*3,36*	
= Total income	**-9,1**	**-5,0**	**1,5**	**-1,8**	**-0,8**	**3,8**	***n.m.***
Shares outstanding	*n.m.*	*n.m.*	*n.m.*	*70,02*	*70,02*	*70,02*	
= EPS				**-0,03**	**-0,01**	**0,05**	***n.m.***

Source: Warburg Research

Understanding the cost structure

Material expenses (COGS) include costs for licencing agreements, with game developers via revenues sharing (25–30%) for certain games, payment costs for online payment processing (8–10%), and IT infrastructure costs as well as some marketing activities.

We expect the gross margin to be relatively stable at around 70–72% with some marginally supportive effects from the media acquisitions in H2, owing to the consolidation of net revenues from Applift and PubNative, for which the lion's share of costs is revenue sharing between advertisers. However, these are already deducted to give net revenues. Remaining costs mainly include cloud-related and IT-infrastructure costs.

Personnel expenses are expected to increase significantly in the next few years, owing to the Applift and PubNative acquisitions, where highly-qualified IT developers are required to build and maintain the platform. Additional sales personnel will also be needed to drive organic growth. Personnel costs are therefore forecast to increase to more than double to EUR 38m in 2020 from EUR 15m in 2018. We regard this as a ramp-up phase with proportionately greater investment in personnel, which should ease towards 2021, decreasing as a share of revenue to well below 40% again.

Other operating expenses include IT services (developer licenses for some games), rental, audit and accounting costs, as well as a considerable amount for legal and consulting which are typically M&A-related. We expect less of a correlation between other operating expenses and overall sales development but it also depends on M&A activity, which we expect to remain at the current level.

As the company can typically acquire its assets at very low prices and sometimes even below market value in special distressed situations, an acquisition often triggers a bargain profit (i.e. badwill), which will be booked as **other operating income**. Of course, this cannot be taken for granted but considering the company's solid track record we account for average other operating income of EUR 3m going forward. Bear in mind that this can fluctuate in single years.

Own work capitalised and D&A

MGI is currently making considerable investment in its platform and in its games portfolio, not only to drive external growth but also organic growth. Therefore, a technically good platform is needed as well as further updates and sequels for games, to drive in-game purchases. Accordingly, we are estimating own work capitalised to be in the ballpark of EUR 10m for the coming years. This obviously supports the company's main profitability KPI, EBITDA, but as MGI's D&A also includes considerable PPA amortization of roughly EUR 7m, we regard this as almost fully counter balanced. Nevertheless, this development has to be monitored, making EBIT a more important measure to evaluate margins and value-add.

D&A as mentioned above is considerably driven by PPA as a result of the high M&A activity in the past, which we assume will continue for the next two to three years. However, the overall impact should decrease with the growing size of the company.

Bottom lines

Interest payments are expected to increase in 2020 as the company is increasing its debt position for further acquisitions and the potential purchase of the remaining gamigo stakes. However, with the maturity of the business and the continuation of its solid track record, we expect the company to refinance itself at considerably better conditions than current interest rates of approximately 7%.

We are assuming no tax effects for the years 2019 and 2020, which ended slightly negatively, and we expect the company to benefit from its tax-friendly registration in Malta as well as some usable tax loss carry forwards in the mid term. Consequently we are assuming a high single-digit tax rate in the short term, which should increase to low double-digit in the mid term. Long term, we are calculating with a tax rate of 28%. We believe that this is a rather conservative approach, but extremely low tax rates are unlikely to be sustainable, in our view, especially with global operations.

Valuation

- Valuation depends on consistently good execution of M&A and integration measures by the company, i.e. management
- DCF-based valuation approach signals significant undervaluation of the stock
- Visibility and thus credibility will increase to support our DCF-based PT of EUR 1.90 per share

DCF model approach

Our DCF-based valuation leads to a fair value of EUR 1.90 per share. This is based on a detailed planning period from 2019 to 2021, followed by a transitional period until 2031, and a perpetuity term.

Following our detailed planning phase, as described in the section "P&L forecast", (on page 39) and for which we are estimating a sales CAGR of 21%, we are assuming sales growth will decline moderately towards our long-term growth rate of 2% in perpetuity. Given the company's track record we are assuming a considerable contribution from acquisition-driven growth as reflected in our capex assumptions. With the high M&A activity, actual results could fluctuate considerably in single years, but as a proxy and as an average assumption, we are confident that the company can continue to acquire attractive distressed assets for multiples of up to 1x sales. In our model, we are assuming that this will be financed via debt and own cash flows. Depending on the deal sizes, this could vary, but should then also result in much greater growth momentum.

Our DCF approach indicates upside of roughly 70%

Profitability should increase over time, at least at EBITDA level owing to synergies with the acquired assets and a unified overhead infrastructure. At EBIT level, the company will be burdened by D&A which, however, will be considerably driven by PPA amortization arising from acquisitions, i.e. cash flow will not be affected and the company will generate attractive cash flows. As a rule of thumb, the company roughly operates with an operating cash flow to EBITDA ratio of roughly 70-80%.

In our detailed planning phase, we are estimating an EBIT margin increase from 0.7% in 2019e to 7.1% in 2021e. After that, we are assuming a constant increase to our long-term assumption of 22%, which corresponds to an EBITDA margin of 30%.

Further model assumptions:

- **Working capital** should be at moderate level in the mid term, which is mainly driven by the recent acquisitions and their payments cycles, in which advertisers tend to pay for their ad impressions later than publishers are paid by the platform. This is more or less industry-standard and based on the market power and positioning of the different participants. This is unlikely to change to MGI's favour any time soon. But as the effects are limited anyway, our model puts working capital at 6.5% of sales in the mid term.
- **Capex** will be needed for the further development of games and platform technologies, but we are assuming a continuation of the current strategy with relatively high M&A activity. We are therefore expecting maintenance capex of about EUR 4m while roughly EUR 12–14m is assumed for inorganic growth initiatives. In our model, this reflects an acquisitions multiple of roughly 1x sales, which is rather conservative given the company's target range of 0.5x–1.0x.
- Our **beta** is 1.5 and is derived from factors such as financial strength, liquidity of the stock, cyclicality and transparency.
- For the time being, we are assuming a long-term debt ratio of 30% at an interest rate of 7%, which leads us to a **WACC of 8.5%**

DCF model

	Detailed forecast period			Transitional period										Term. Value
Figures in EUR m	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	
Sales	73.0	92.0	110.0	123.2	134.3	143.7	150.9	155.4	158.5	161.7	164.9	168.2	171.6	
Sales change	*61.2 %*	*26.0 %*	*19.6 %*	*12.0 %*	*9.0 %*	*7.0 %*	*5.0 %*	*3.0 %*	*2.0 %*	*2.0 %*	*2.0 %*	*2.0 %*	*2.0 %*	*2.0 %*
EBIT	1.0	3.5	13.0	17.2	22.8	28.7	33.2	34.2	33.3	32.3	33.0	33.6	34.3	
EBIT-margin	*1.4 %*	*3.8 %*	*11.8 %*	*14.0 %*	*17.0 %*	*20.0 %*	*22.0 %*	*22.0 %*	*21.0 %*	*20.0 %*	*20.0 %*	*20.0 %*	*20.0 %*	
Tax rate (EBT)	*0.0 %*	*0.0 %*	*8.3 %*	*10.0 %*	*12.0 %*	*15.0 %*	*18.0 %*	*22.0 %*	*25.0 %*	*27.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	
NOPAT	1.0	3.5	11.9	15.5	20.1	24.4	27.2	26.7	25.0	23.6	23.7	24.2	24.7	
Depreciation	14.0	14.0	15.0	16.0	16.1	15.8	15.1	14.0	12.7	12.9	13.2	13.5	13.7	
in % of Sales	*19.2 %*	*15.2 %*	*13.6 %*	*13.0 %*	*12.0 %*	*11.0 %*	*10.0 %*	*9.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	
Changes in provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Change in Liquidity from														
- Working Capital	-0.9	0.4	0.5	5.4	0.0	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.2	
- Capex	22.0	16.0	16.0	15.4	14.8	14.4	13.6	12.4	12.7	12.9	13.2	13.5	13.7	
Capex in % of Sales	*30.1 %*	*17.4 %*	*14.5 %*	*12.5 %*	*11.0 %*	*10.0 %*	*9.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Free Cash Flow (WACC Model)	-6.1	1.1	10.4	10.7	21.4	25.3	28.3	27.9	24.8	23.4	23.6	24.0	24.5	25
PV of FCF	-6.0	1.0	8.8	8.3	15.3	16.7	17.2	15.7	12.8	11.1	10.3	9.7	9.1	143
share of PVs	1.38 %			46.33 %										52.29 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	30.00 %	Financial Strength	1.50
Cost of debt (after tax)	4.9 %	Liquidity (share)	1.80
Market return	7.00 %	Cyclicality	1.20
Risk free rate	1.50 %	Transparency	1.30
		Others	2.00
WACC	**8.53 %**	**Beta**	**1.56**

Valuation (m)

Present values 2031e	130		
Terminal Value	143		
Financial liabilities	43		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	100		
Market val. of investments	0		
Liquidity	4	No. of shares (m)	70.0
Equity Value	**134**	**Value per share (EUR)**	**1.91**

Sensitivity Value per Share (EUR)

		Terminal Growth						
Beta	WACC	1.25 %	1.50 %	1.75 %	**2.00 %**	2.25 %	2.50 %	2.75 %
1.82	9.5 %	1.20	1.24	1.29	1.34	1.39	1.45	1.51
1.69	9.0 %	1.43	1.49	1.54	1.61	1.67	1.74	1.82
1.62	8.8 %	1.56	1.62	1.69	1.75	1.83	1.91	1.99
1.56	8.5 %	1.70	1.77	1.84	**1.91**	1.99	2.08	2.18
1.50	8.3 %	1.85	1.92	2.00	2.09	2.18	2.27	2.38
1.43	8.0 %	2.01	2.09	2.18	2.27	2.37	2.48	2.60
1.30	7.5 %	2.37	2.47	2.58	2.69	2.82	2.96	3.12

		Delta EBIT-margin						
Beta	WACC	-1.5 pp	-1.0 pp	-0.5 pp	**+0.0 pp**	+0.5 pp	+1.0 pp	+1.5 pp
1.82	9.5 %	1.04	1.14	1.24	1.34	1.44	1.54	1.64
1.69	9.0 %	1.28	1.39	1.50	1.61	1.71	1.82	1.93
1.62	8.8 %	1.42	1.53	1.64	1.75	1.87	1.98	2.09
1.56	8.5 %	1.57	1.68	1.80	**1.91**	2.03	2.14	2.26
1.50	8.3 %	1.73	1.85	1.97	2.09	2.21	2.33	2.45
1.43	8.0 %	1.90	2.02	2.15	2.27	2.40	2.52	2.65
1.30	7.5 %	2.29	2.42	2.56	2.69	2.83	2.96	3.10

- Our DCF approach is based on a detailled planning phase (19 -21), a transitional phase (22 -31), and a perpetuity term
- Further assumptions are a beta of 1.6, a WACC of 8.5%, and a long term EBIT-margin of 20%, which is rather conservative
- Long-term tax rate is assumed to be at 28%

Company & Products

Segments

B2C Gaming

The gaming segment consists of gamigo's B2C gaming offerings in which MGI holds a 53% stake. As of H1 2019, it represents roughly 70% of total revenues. The main revenue driver is a portfolio of 30+ well-established free-to-play massive multiplayer online games (MMOGs), which are monetised via in-game purchases for virtual goods. Access is free of charge and users are not obliged to make purchases but the game is so structured that purchases make it easier to win or enhance the gaming experience. The ratio of paying user is roughly between 7% and 10%. Virtual goods are offered in in-game e-commerce shops and can be paid for conventionally (credit card etc.) or with in-game currency, which is also paid for via conventional payment channels. Gamigo also offers 5,000+ casual games, which are mainly monetised by subscriptions and advertising. The user base is mainly located in Europe and the US, as are revenues with 49% in Europe and 42% in the US. The rest is South America and rest of the world. The distribution is mainly driven by PC online portals, such as gamigo.de, deutschland-spielt.de, or browser-games.de to name but a few. Furthermore, M&A is a considerable driver of segment growth as the company acquires distressed assets (games) and applies gamigo's infrastructure to leverage the existing user base.

Below we illustrated gamigo's top-10 games, which account for roughly 55% of the segment's revenues (as of H1 2019).

Top 10games characteristics

Name	Genre	IP status	Player Base
Trove	Action role-play	owned	15 million
ArcheAge	Fantasy	licensed (EU, NA)	
Desert Operations	Real-time strategy	owned	
Fiesta	Fantasy	owned	
Rift	Fantasy	owned	
Aura Kingdom	Fantasy	licensed	
Grand Fantasia	Fantasy	licensed	
Defiance	Shooter	owned	
Shaiya	Fantasy	owned	
Last Chaos	Fantasy/ Action	owned	3 million

Source: Trove, Last Chaos, Warburg Research

B2B Media and Advertising

Within this segment, MGI bundles its media and advertising activities, including Mediakraft and Adspree, which are consolidated under gamigo, but are reported in the Media and Advertising segment. The segment accounts for roughly 30% of revenues. The recent acquisitions of Applift, PubNative, and Reachhero are expected to have made a considerable contribution to the group's financial statements in H2 2019. Combined, the acquisitions account for roughly EUR 20m in sales p.a. This will increase the segment's share of revenues and reduce the dependency on gaming.

Mediakraft is a marketing agency with a focus on influencers, videos, and social-media marketing. It has its own Youtube-based influencer networks and also produces content. Adspree is a publisher and marketing agency for game publishers. Reachhero is an influencer platform and agency. Applift is a mobile ad-tech company (DSP) with a focus on user acquisition and re-engagement for apps. PubNative, as a subsidiary of Applift, is a mobile in-app monetisation ad-tech platform for publishers (SSP). The media segment has synergies with the games segment by supporting publishers/apps to generate users and to monetise activities in the best way possible. With its range of services, MGI is positioned along the whole value chain of advertising, linking advertisers with publishers.

Management

Remco Westermann, CEO and Chairman of Media and Games Invest Plc., as well as **CEO and chairman of gamigo group since 2012**: He has more than 25 years of experience in the "new media" market, with a focus on mobile and online entertainment. Previously he was the founder and chairman of the company Bob Mobile AG (later called CLIQ Digital AG). Prior to that, he co-founded ZED (a mobile services provider) and held leadership positions at Sonera, Balance Point and Rost & Co. He holds a Master Degree in Business Economics.

Paul Echt, CFO of Media and Games Invest and gamigo group, has more than eight years of experience as finance manager in the tech and finance industry, including positions at Unicredit Bank and Shopgate Inc. He has a degree in Law (LL.B.) and a Masters Degree in Finance.

Gary Coffey, CTO of Media and Games Invest and **CTO of gamigo group** since 2017**.** After completing his studies in computer applications in Ireland (Dublin), he worked at Bank of Ireland, HP, Norkom Technologies and BAE Systems. He is an expert in tech fields like infrastructure, development, engineering and business intelligence.

Jens Knauber, COO of gamigo group, has been responsible for the operating business of gamigo since 2012. He has a great deal of experience in the gaming industry and spent more than 15 years working for dtp entertainment AG as QA-Manager.

Stefan Rascher, CSO of gamigo group since 2018, as well as CEO of the B2B gamigo subsidiaries Mediakraft and adspree. His career included positions at Siemens, E-Plus, Quam and Google. His expertise lies in the areas of sales, marketing, management, entrepreneurship, e-commerce and telecoms.

Board

Tobias Weitzel, Non-executive Director of Media and Games Invest Plc. His expertise lies in the fields of political and economic journalism, PR, capital markets and crisis communication. He is Managing Director of BSK Becker + Schreiner Kommunikation GmbH and since 2012 Member of the Financial Experts Association e.V.

René Müller, Non-executive Director of Media and Games Invest Plc. He has more than 25 years of experience in international corporate finance. His career to date included a position at PE company Fortune Management Inc.

History

The Media and Games Invest Plc. is a holding company with two synergetic operative segments: gaming and media/advertising. All gaming activities are consolidated in the gamigo group (MGI holds a 53%-stake), while the media/advertising segment is operated by gamigo and directly via MGI's recent acquisitions Reachhero, Applift, and PubNative. More synergy generation is planned for this segment in combination with the newly acquired assets.

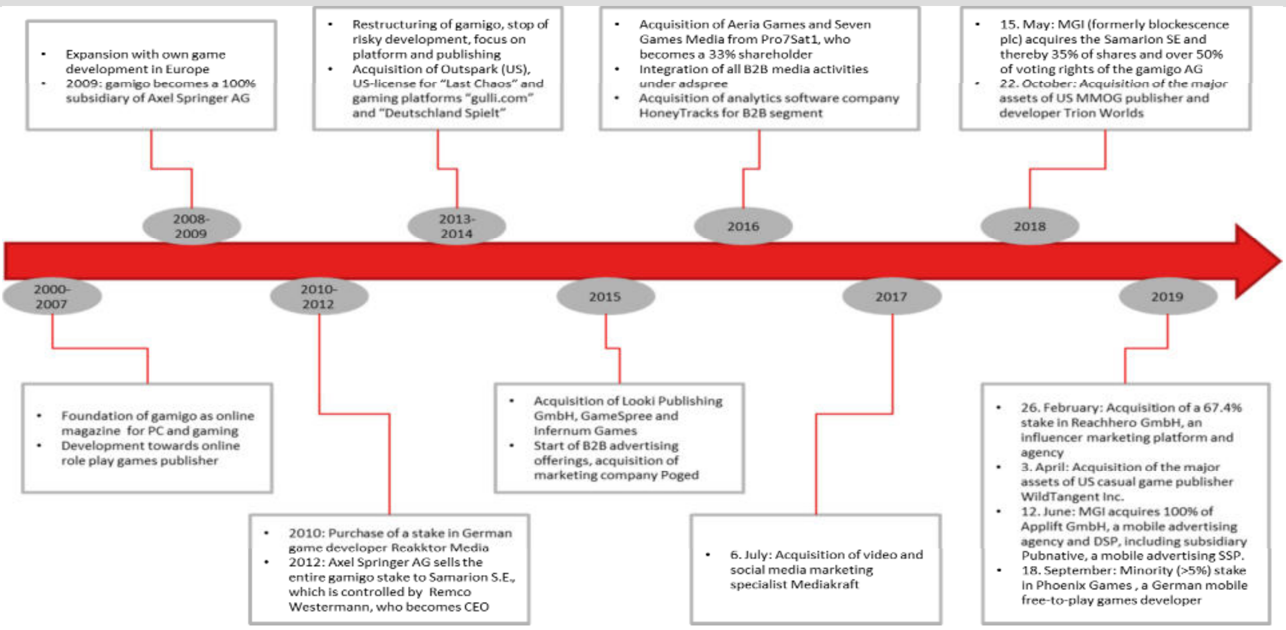
The gamigo group evolved from a gaming magazine to a game developer and publisher, when it was acquired by the Axel Springer group in 2009. The company was then sold to the Samarion S.E., which was owned by the current CEO Remco Westermann. The company then underwent a phase of restructuring. In-house game development was stopped and several companies were acquired including game publishers and B2B media and advertising companies. One of these acquisitions was aeria-games, formerly owned by ProSiebenSat1, which then became a shareholder and still holds a 33%-stake in gamigo.

In its current form, Media and Games Invest plc. emerged from the takeover of gamigo AG by blockescence plc., a strategic holding company registered and founded in Malta. A subsequent strategy shift was reflected in the renaming to Media and Games Invest plc. Important milestones in the development of Media and Games Invest plc. include:

Reverse IPO emerged in May 2018

- May 2018: The Solidate Real Estate Holding is renamed blockescence plc. and decides to divest the real estate business. Instead, it invests in the gaming and media sector and state-of-the-art technology, e.g. cloud, streaming and blockchain, to create further value and a competitive advantage. In this context, the company acquired a 35.5%-stake in gamigo AG with 53.05% of voting rights.
- February 2019: Acquisition of a 67.4% majority stake in ReachHero GmbH.
- June 2019: The company changes its name to Media and Games Invest plc. to put stronger emphasis on game publishing and advertising activities, following the acquisition of another 13.8%-stake in gamigo AG, bringing its ownership to 52.6% of shares in total and 66.9% of voting rights.
- June 2019: Acquisition of Applift (100%), including subsidiary PubNative.

Gamigo's / MAGI's historic Timeline

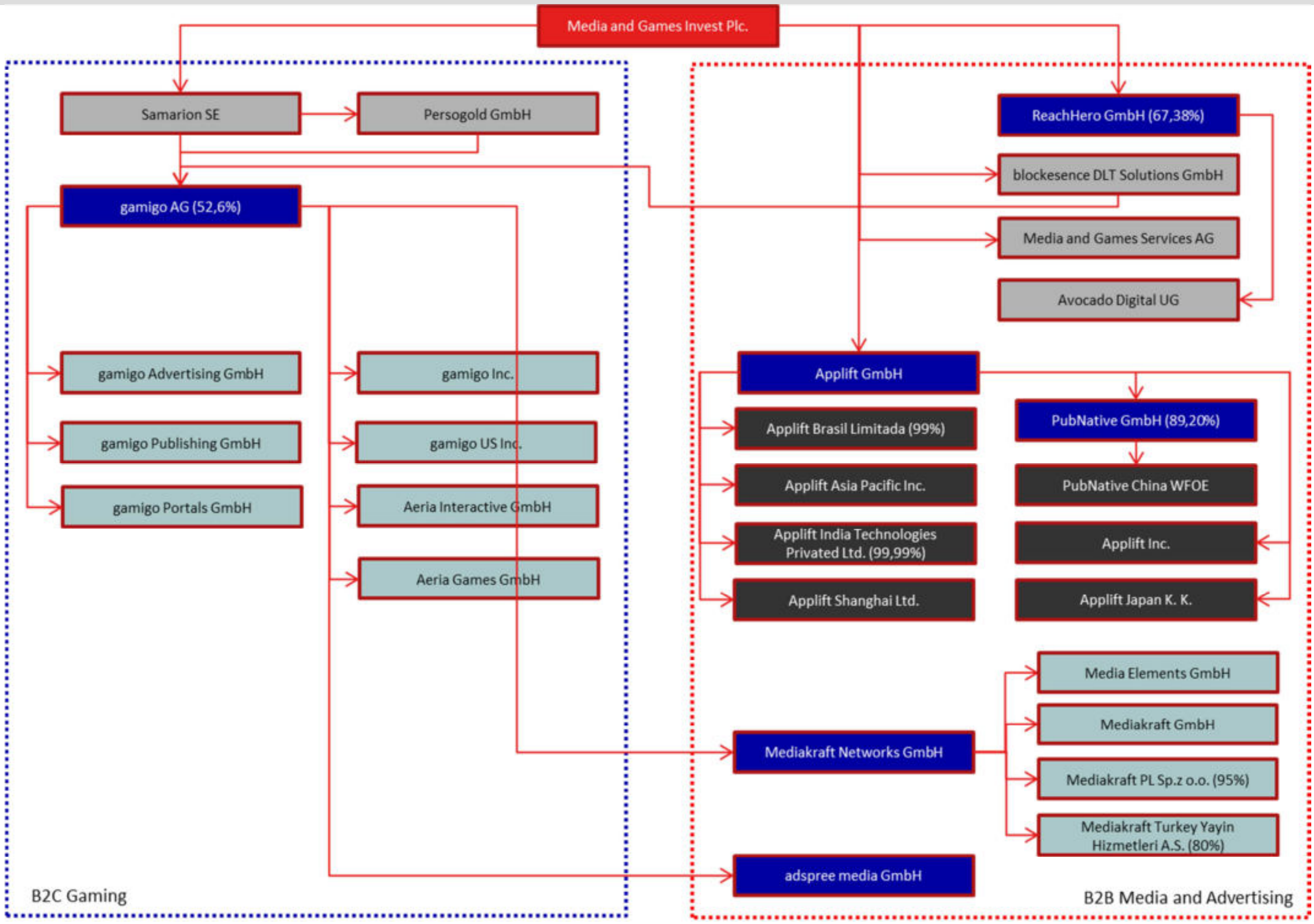


Source: Warburg Research

Media and Games Invest's enterprise structure

The graph below illustrates MGI's current enterprise structure. The company's gamigo stake of 52.6% is held via Samarion, the Persogold GmbH, and the blockescence DLT Solutions GmbH. The remaining gamigo stake is currently held by minority shareholders (14%), and ProSiebenSat 1 Media (33%), but MGI already indicated that it intends to fully acquire the stakes, depending on negotiations. Holdings below 100% are indicated by the percentage of ownership in brackets in the graph below.

MGI's holding structure

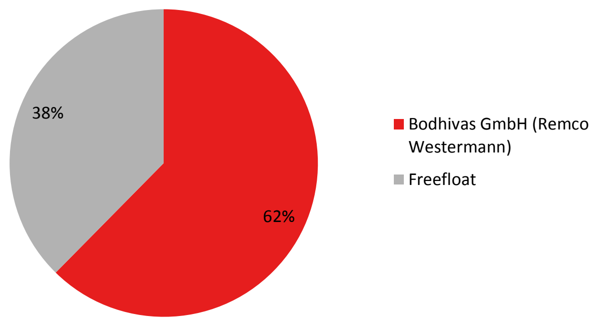


Source: Warburg Research

Shareholder structure

MGI's shareholder structure is dominated by the Bodhivas GmbH with 62.4% of outstanding shares. The rest is free float. The Bodhivas GmbH is controlled by CEO Remco Westermann, i.e. management interests are very much aligned with investors' interests.

MGI's shareholder structure



Source: Warburg Research

Glossary – ad-tech specific terms

The emergence of ad-tech as a new area of the advertising industry has given rise to some specialist jargon. Below, we provide a brief explanation of the most important terms and definitions widely used in the industry.

Advertisers	Global Fortune 500 brands like Coca-Cola, e-commerce companies, retailers like eBay, mobile app and game developers
Ad exchange	Platform for selling and buying online advertising inventory, facilitating the buying process between demand (advertisers, media agencies, ad networks) and supply (app developer, publishers)
Ad impression	Ad request is filled and an ad is delivered to the user, generating an ad impression.
Ad networks	Connects advertisers to websites that wish to host advertisements, aggregates ad space supply from a variety of similar publishers to make it more scalable and attractive and match it with advertiser demand.
Ad request	An ad request is made when the publisher sees an opportunity to show an app user an advertisement. The ad request includes information about the placement and the user that will see the ad. The developer's SSP (supply side platform) then sends this ad request to integrated ad networks and other demand partners that will then respond with one or more ads to show. If an ad is shown or "served" afterwards, the ad request is considered "filled".
Ad serving	Technology used to place ads in apps; allows publishers sell, manage and deliver their ad inventory to demand sources.
CPM	Cost per mille
CPC	Cost per click
CPV	Cost per view
DMPs	Data management platform: A warehouse used to store and analyse data generated from ad campaigns, ad impressions etc.; Used by

	publishers, ad exchanges, ad networks etc. for the purposes of ad targeting.
	Packages user data from publishers to make it more attractive (and accessible) for advertisers at scale and to allow advertisers (typically through DSPs) to target specific audience segments.
DSPs	Demand-side platform: Independent platforms that aggregate demand from advertisers and allow buyers of digital advertising to manage their campaigns and run them automatically on multiple ad exchanges over one interface.
eCPM	Effective cost per mille: Amount of revenue a developer receives for 1,000 impressions; calculated based on the amount of ad revenue divided by the number of impressions times 1,000. The value is used to compare performance of different ad formats, ad campaigns, providers etc.
Freemium apps	App can be installed and used free of charge, but users are charged for premium content and additional functionality on a voluntary basis.
Inventory	Amount of ad space a publisher has available to sell to an advertiser. Digital publishers sell inventory according to a variety of criteria, including per impression (CPMs) or predetermined actions such as video view (CPV) or clicks (CPC)
MAU	Monthly active user
Media agencies	Media agencies purchase media on behalf of advertisers, with the goal of communicating their messages to the right audiences at the best possible price.
Mediation	Access to a large number of demand sources. An SSP (supply side platform) mediation platform offers app developers integration, management and optimisation of ad networks.
Programmatic	The use of software to buy and sell digital advertising, allowing buyers and sellers to use complex delivery rules, targeting and optimisation algorithms to serve the right ad for every request.
Publishers	Small and large media companies offering internet content, news and entertainment, app developers of all types including games apps, communication apps and social communication apps.
RTB	Real-time bidding: Subcategory of programmatic buying; Practice of buying and selling of ad space in real time, on a per-impression basis.
SDK	Software development kit: Library of code that can be added to a software project to make certain functionalities available to the developer of that software project.
SSPs	Supply side platform: Software solution app developers can use to manage and optimise their monetisation strategies. SSPs tap into many sources of advertising demand and give developers tools to manage these demand sources centrally and dynamically.
	Independent platforms that aggregate inventory from publishers to expose it to advertisers with the goal of delivering the highest yield to the publisher.
Trading desks	Ad tech platform, geared towards advertisers and agencies, facilitating the buying of digital advertising, often through programmatic buying across multiple platforms.

DCF model

Figures in EUR m	Detailed forecast period 2019e	2020e	2021e	Transitional period 2022e	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	Term. Value
Sales	73.0	92.0	110.0	123.2	134.3	143.7	150.9	155.4	158.5	161.7	164.9	168.2	171.6	
Sales change	*61.2 %*	*26.0 %*	*19.6 %*	*12.0 %*	*9.0 %*	*7.0 %*	*5.0 %*	*3.0 %*	*2.0 %*	*2.0 %*	*2.0 %*	*2.0 %*	*2.0 %*	*2.0 %*
EBIT	1.0	3.5	13.0	17.2	22.8	28.7	33.2	34.2	33.3	32.3	33.0	33.6	34.3	
EBIT-margin	*1.4 %*	*3.8 %*	*11.8 %*	*14.0 %*	*17.0 %*	*20.0 %*	*22.0 %*	*22.0 %*	*21.0 %*	*20.0 %*	*20.0 %*	*20.0 %*	*20.0 %*	
Tax rate (EBT)	*0.0 %*	*0.0 %*	*8.3 %*	*10.0 %*	*12.0 %*	*15.0 %*	*18.0 %*	*22.0 %*	*25.0 %*	*27.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	
NOPAT	1.0	3.5	11.9	15.5	20.1	24.4	27.2	26.7	25.0	23.6	23.7	24.2	24.7	
Depreciation	14.0	14.0	15.0	16.0	16.1	15.8	15.1	14.0	12.7	12.9	13.2	13.5	13.7	
in % of Sales	*19.2 %*	*15.2 %*	*13.6 %*	*13.0 %*	*12.0 %*	*11.0 %*	*10.0 %*	*9.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	
Changes in provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Change in Liquidity from														
- Working Capital	-0.9	0.4	0.5	5.4	0.0	0.6	0.4	0.3	0.2	0.2	0.2	0.2	0.2	
- Capex	22.0	16.0	16.0	15.4	14.8	14.4	13.6	12.4	12.7	12.9	13.2	13.5	13.7	
Capex in % of Sales	*30.1 %*	*17.4 %*	*14.5 %*	*12.5 %*	*11.0 %*	*10.0 %*	*9.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	*8.0 %*	
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Free Cash Flow (WACC Model)	-6.1	1.1	10.4	10.7	21.4	25.3	28.3	27.9	24.8	23.4	23.6	24.0	24.5	25
PV of FCF	-6.0	1.0	8.8	8.3	15.3	16.7	17.2	15.7	12.8	11.1	10.3	9.7	9.1	143
share of PVs	1.38 %			46.33 %										52.29 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	30.00 %	Financial Strength	1.50
Cost of debt (after tax)	4.9 %	Liquidity (share)	1.80
Market return	7.00 %	Cyclicality	1.20
Risk free rate	1.50 %	Transparency	1.30
		Others	2.00
WACC	**8.53 %**	**Beta**	**1.56**

Valuation (m)

Present values 2031e	130		
Terminal Value	143		
Financial liabilities	43		
Pension liabilities	0		
Hybrid capital	0		
Minority interest	100		
Market val. of investments	0		
Liquidity	4	No. of shares (m)	70.0
Equity Value	**134**	**Value per share (EUR)**	**1.91**

Sensitivity Value per Share (EUR)

Beta	WACC	Terminal Growth 1.25 %	1.50 %	1.75 %	**2.00 %**	2.25 %	2.50 %	2.75 %
1.82	9.5 %	1.20	1.24	1.29	1.34	1.39	1.45	1.51
1.69	9.0 %	1.43	1.49	1.54	1.61	1.67	1.74	1.82
1.62	8.8 %	1.56	1.62	1.69	1.75	1.83	1.91	1.99
1.56	8.5 %	1.70	1.77	1.84	**1.91**	1.99	2.08	2.18
1.50	8.3 %	1.85	1.92	2.00	2.09	2.18	2.27	2.38
1.43	8.0 %	2.01	2.09	2.18	2.27	2.37	2.48	2.60
1.30	7.5 %	2.37	2.47	2.58	2.69	2.82	2.96	3.12

Beta	WACC	Delta EBIT-margin -1.5 pp	-1.0 pp	-0.5 pp	**+0.0 pp**	+0.5 pp	+1.0 pp	+1.5 pp
1.82	9.5 %	1.04	1.14	1.24	1.34	1.44	1.54	1.64
1.69	9.0 %	1.28	1.39	1.50	1.61	1.71	1.82	1.93
1.62	8.8 %	1.42	1.53	1.64	1.75	1.87	1.98	2.09
1.56	8.5 %	1.57	1.68	1.80	**1.91**	2.03	2.14	2.26
1.50	8.3 %	1.73	1.85	1.97	2.09	2.21	2.33	2.45
1.43	8.0 %	1.90	2.02	2.15	2.27	2.40	2.52	2.65
1.30	7.5 %	2.29	2.42	2.56	2.69	2.83	2.96	3.10

- Our DCF approach is based on a detailled planning phase (19 -21), a transitional phase (22 -31), and a perpetuity term
- Further assumptions are a beta of 1.6, a WACC of 8.5%, and a long term EBIT-margin of 20%, which is rather conservative
- Long-term tax rate is assumed to be at 28%

Valuation

	2016	2017	2018	2019e	2020e	2021e
Price / Book	n.a.	n.a.	n.a.	1.0 x	1.0 x	0.9 x
Book value per share ex intangibles	n.a.	n.a.	n.a.	-1.82	-1.86	-1.76
EV / Sales	n.a.	n.a.	n.a.	3.1 x	2.5 x	2.1 x
EV / EBITDA	n.a.	n.a.	n.a.	15.3 x	13.3 x	8.1 x
EV / EBIT	n.a.	n.a.	n.a.	229.1 x	66.5 x	17.5 x
EV / EBIT adj.*	n.a.	n.a.	n.a.	229.1 x	66.5 x	17.5 x
P / FCF	n.a.	n.a.	n.a.	n.a.	n.a.	14.0 x
P / E	n.a.	n.a.	n.a.	n.a.	n.a.	22.6 x
P / E adj.*	n.a.	n.a.	n.a.	n.a.	n.a.	22.6 x
Dividend Yield	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
FCF Potential Yield (on market EV)	n.a.	n.a.	n.a.	5.0 %	5.8 %	10.3 %

*Adjustments made for: -

Consolidated profit & loss

In EUR m	2016	2017	2018	2019e	2020e	2021e
Sales	**39.0**	**42.1**	**45.3**	**73.0**	**92.0**	**110.0**
Change Sales yoy	n.a.	8.0 %	7.6 %	61.2 %	26.0 %	19.6 %
Increase / decrease in inventory	0.0	0.0	0.0	0.0	0.0	0.0
Own work capitalised	2.2	3.6	4.2	8.5	9.5	10.0
Total Sales	**41.1**	**45.7**	**49.5**	**81.5**	**101.5**	**120.0**
Material expenses	17.3	16.2	17.6	28.5	36.5	41.0
Gross profit	**23.8**	**29.4**	**31.8**	**53.0**	**65.0**	**79.0**
Gross profit margin	*61.1 %*	*70.0 %*	*70.3 %*	*72.6 %*	*70.7 %*	*71.8 %*
Personnel expenses	10.5	13.9	14.7	29.0	38.0	41.0
Other operating income	0.6	2.4	6.7	3.0	3.0	3.0
Other operating expenses	11.3	10.9	12.7	12.0	12.5	13.0
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	**2.6**	**7.0**	**11.1**	**15.0**	**17.5**	**28.0**
Margin	*6.8 %*	*16.7 %*	*24.4 %*	*20.5 %*	*19.0 %*	*25.5 %*
Depreciation of fixed assets	1.1	0.7	1.5	2.0	2.0	2.5
EBITA	**1.6**	**6.3**	**9.6**	**13.0**	**15.5**	**25.5**
Amortisation of intangible assets	11.7	9.7	7.0	12.0	12.0	12.5
Goodwill amortisation	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	**-10.1**	**-3.4**	**2.6**	**1.0**	**3.5**	**13.0**
Margin	*-25.9 %*	*-8.0 %*	*5.7 %*	*1.4 %*	*3.8 %*	*11.8 %*
EBIT adj.	**-10.1**	**-3.4**	**2.6**	**1.0**	**3.5**	**13.0**
Interest income	0.0	0.0	0.0	0.1	0.1	0.0
Interest expenses	1.9	2.4	2.1	4.3	5.0	5.2
Other financial income (loss)	0.0	0.1	0.0	0.0	0.0	0.0
EBT	**-12.0**	**-5.7**	**0.5**	**-3.3**	**-1.5**	**7.8**
Margin	*-30.8 %*	*-13.5 %*	*1.1 %*	*-4.5 %*	*-1.6 %*	*7.1 %*
Total taxes	-2.9	-0.7	-1.1	0.0	0.0	0.7
Net income from continuing operations	**-9.1**	**-5.0**	**1.6**	**-3.3**	**-1.5**	**7.2**
Income from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0
Net income before minorities	**-9.1**	**-5.0**	**1.6**	**-3.3**	**-1.5**	**7.2**
Minority interest	0.0	0.0	0.1	-1.5	-0.7	3.4
Net income	**-9.1**	**-5.0**	**1.5**	**-1.8**	**-0.8**	**3.8**
Margin	*-23.4 %*	*-11.9 %*	*3.4 %*	*-2.4 %*	*-0.8 %*	*3.4 %*
Number of shares, average	n.a.	n.a.	n.a.	64.1	70.0	70.0
EPS	**n.a.**	**n.a.**	**n.a.**	**-0.03**	**-0.01**	**0.05**
EPS adj.	n.a.	n.a.	n.a.	-0.03	-0.01	0.05

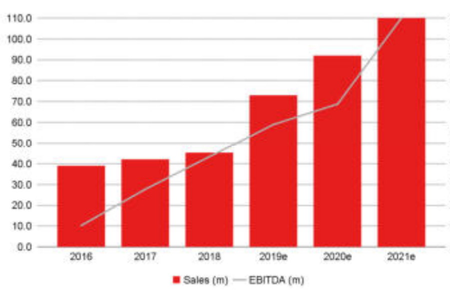
*Adjustments made for:

Guidance: n.a.

Financial Ratios

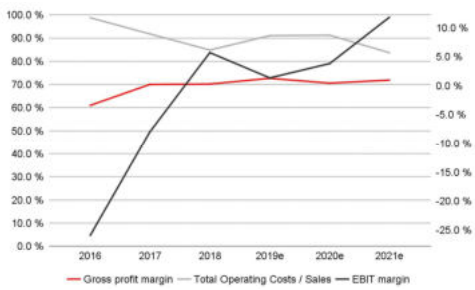
	2016	2017	2018	2019e	2020e	2021e
Total Operating Costs / Sales	98.8 %	91.8 %	84.8 %	91.1 %	91.3 %	83.6 %
Operating Leverage	n.a.	-8.4 x	n.a.	-1.0 x	9.6 x	13.9 x
EBITDA / Interest expenses	1.4 x	3.0 x	5.2 x	3.5 x	3.5 x	5.4 x
Tax rate (EBT)	24.3 %	11.9 %	-229.8 %	0.0 %	0.0 %	8.3 %
Dividend Payout Ratio	n.a.	n.a.	n.a.	0.0 %	0.0 %	0.0 %
Sales per Employee	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sales, EBITDA
in EUR m



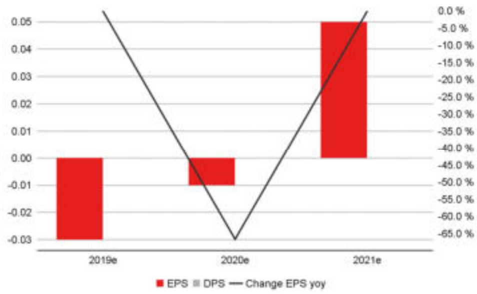
Source: Warburg Research

Operating Performance
in %



Source: Warburg Research

Performance per Share



Source: Warburg Research

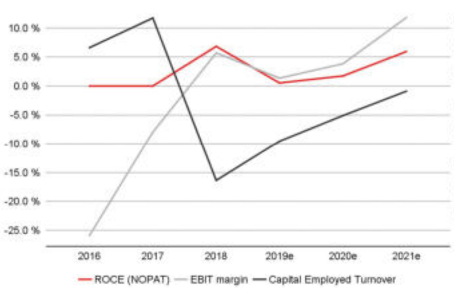
Consolidated balance sheet

In EUR m	2016	2017	2018	2019e	2020e	2021e
Assets						
Goodwill and other intangible assets	51.1	47.5	204.1	204.6	206.3	206.8
thereof other intangible assets	22.0	16.7	66.7	67.2	68.9	69.4
thereof Goodwill	28.9	28.9	133.8	133.8	133.8	133.8
Property, plant and equipment	2.3	1.7	4.2	6.2	7.2	7.7
Financial assets	0.0	0.0	5.4	5.4	5.4	5.4
Other long-term assets	1.6	0.4	0.0	0.0	0.0	0.0
Fixed assets	**55.1**	**49.5**	**213.7**	**216.2**	**218.9**	**219.9**
Inventories	0.0	0.0	0.0	0.7	0.9	1.1
Accounts receivable	4.9	4.9	11.8	17.0	21.4	25.6
Liquid assets	2.8	1.0	4.4	28.6	24.7	30.4
Other short-term assets	10.1	11.4	6.4	6.4	6.4	6.4
Current assets	**17.8**	**17.3**	**22.6**	**52.6**	**53.4**	**63.4**
Total Assets	**72.9**	**66.8**	**236.3**	**268.8**	**272.3**	**283.3**
Liabilities and shareholders' equity						
Subscribed capital	2.3	2.3	59.9	70.0	70.0	70.0
Capital reserve	48.2	48.2	4.3	5.5	5.5	5.5
Retained earnings	-18.6	-23.6	2.9	1.1	0.3	4.1
Other equity components	0.0	0.0	0.1	0.2	0.3	3.6
Shareholders' equity	31.9	26.8	67.2	76.9	76.2	83.3
Minority interest	0.0	-0.1	91.3	71.3	71.3	71.3
Total equity	**31.9**	**26.7**	**158.5**	**148.2**	**147.6**	**154.6**
Provisions	4.3	3.0	6.7	6.7	6.7	6.7
thereof provisions for pensions and similar obligations	0.0	0.0	0.0	0.0	0.0	0.0
Financial liabilities (total)	27.1	27.1	42.6	78.5	78.5	78.5
thereof short-term financial liabilities	0.9	7.0	3.6	3.5	3.5	3.5
Accounts payable	6.8	7.2	9.2	16.0	20.2	24.1
Other liabilities	2.7	2.7	19.3	19.4	19.4	19.4
Liabilities	**41.0**	**40.1**	**77.8**	**120.6**	**124.8**	**128.7**
Total liabilities and shareholders' equity	**72.9**	**66.8**	**236.3**	**268.8**	**272.3**	**283.3**

Financial Ratios

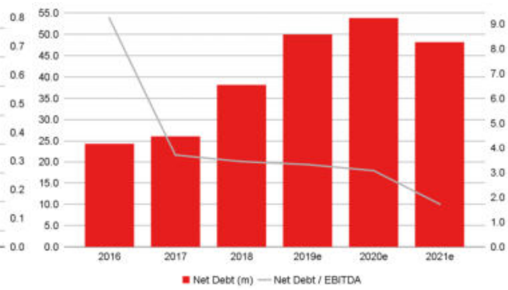
	2016	2017	2018	2019e	2020e	2021e
Efficiency of Capital Employment						
Operating Assets Turnover	90.0 x	-65.8 x	6.6 x	9.3 x	9.9 x	10.7 x
Capital Employed Turnover	0.7 x	0.8 x	0.2 x	0.4 x	0.5 x	0.5 x
ROA	-16.6 %	-10.1 %	0.7 %	-0.8 %	-0.4 %	1.7 %
Return on Capital						
ROCE (NOPAT)	n.a.	n.a.	6.8 %	0.5 %	1.8 %	5.9 %
ROE	-57.2 %	-17.0 %	3.3 %	-2.5 %	-1.0 %	4.8 %
Adj. ROE	-57.2 %	-17.0 %	3.3 %	-2.5 %	-1.0 %	4.8 %
Balance sheet quality						
Net Debt	24.3	26.1	38.1	49.9	53.8	48.1
Net Financial Debt	24.3	26.1	38.1	49.9	53.8	48.1
Net Gearing	76.3 %	97.6 %	24.0 %	33.7 %	36.5 %	31.1 %
Net Fin. Debt / EBITDA	923.9 %	370.8 %	345.0 %	332.9 %	307.3 %	171.9 %
Book Value / Share	n.a.	n.a.	n.a.	1.1	1.1	1.2
Book value per share ex intangibles	n.a.	n.a.	n.a.	-1.8	-1.9	-1.8

ROCE Development



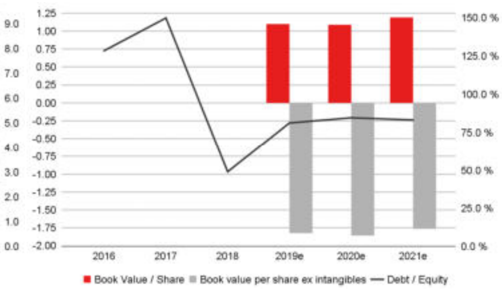
Source: Warburg Research

Net debt
in EUR m



Source: Warburg Research

Book Value per Share
in EUR



Source: Warburg Research

Consolidated cash flow statement

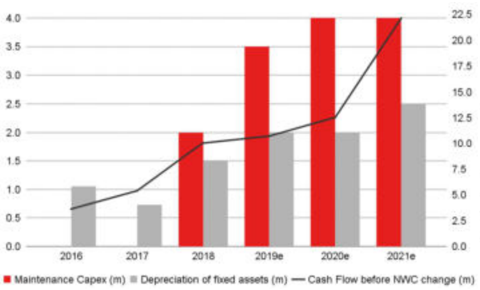
In EUR m	2016	2017	2018	2019e	2020e	2021e
Net income	-9.1	-5.0	1.6	-3.3	-1.5	7.2
Depreciation of fixed assets	1.1	0.7	1.5	2.0	2.0	2.5
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	11.7	9.7	7.0	12.0	12.0	12.5
Increase/decrease in long-term provisions	0.0	0.0	0.0	0.0	0.0	0.0
Other non-cash income and expenses	0.0	0.0	0.0	0.0	0.0	0.0
Cash Flow before NWC change	**3.7**	**5.4**	**10.1**	**10.8**	**12.6**	**22.2**
Increase / decrease in inventory	0.0	0.0	0.0	-0.7	-0.2	-0.2
Increase / decrease in accounts receivable	0.0	0.0	0.0	-5.2	-4.4	-4.2
Increase / decrease in accounts payable	0.0	0.0	0.0	6.8	4.2	3.9
Increase / decrease in other working capital positions	0.0	0.0	0.0	0.0	0.0	0.0
Increase / decrease in working capital (total)	0.0	0.0	0.0	0.9	-0.4	-0.5
Net cash provided by operating activities [1]	**3.7**	**5.4**	**10.1**	**11.7**	**12.2**	**21.7**
Investments in intangible assets	0.0	0.0	0.0	-11.0	-13.0	-13.0
Investments in property, plant and equipment	0.0	0.0	-9.0	-2.0	-3.0	-3.0
Payments for acquisitions	0.0	0.0	0.0	-9.5	0.0	0.0
Financial investments	0.0	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	0.0	0.0	0.0	0.0	0.0	0.0
Net cash provided by investing activities [2]	**0.0**	**0.0**	**-9.0**	**-22.5**	**-16.0**	**-16.0**
Change in financial liabilities	0.0	0.0	0.0	30.9	0.0	0.0
Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	0.0	0.0	0.0	9.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
Net cash provided by financing activities [3]	**0.0**	**0.0**	**0.0**	**39.9**	**0.0**	**0.0**
Change in liquid funds [1]+[2]+[3]	**3.7**	**5.4**	**1.1**	**29.1**	**-3.9**	**5.7**
Effects of exchange-rate changes on cash	0.0	0.0	0.0	0.0	0.0	0.0
Cash and cash equivalent at end of period	3.7	8.2	2.1	33.6	24.7	30.4

Financial Ratios

	2016	2017	2018	2019e	2020e	2021e
Cash Flow						
FCF	3.7	5.4	1.1	-1.3	-3.9	5.7
Free Cash Flow / Sales	9.4 %	12.8 %	2.4 %	-1.8 %	-4.2 %	5.1 %
Free Cash Flow Potential	5.5	7.7	10.2	11.5	13.5	23.4
Free Cash Flow / Net Profit	-40.0 %	-108.1 %	69.8 %	73.2 %	501.0 %	149.1 %
Interest Received / Avg. Cash	1.6 %	0.1 %	0.5 %	0.3 %	0.2 %	0.0 %
Interest Paid / Avg. Debt	14.1 %	8.7 %	6.1 %	7.1 %	6.4 %	6.6 %
Management of Funds						
Investment ratio	0.0 %	0.0 %	19.9 %	17.8 %	17.4 %	14.5 %
Maint. Capex / Sales	0.0 %	0.0 %	4.4 %	4.8 %	4.3 %	3.6 %
Capex / Dep	0.0 %	0.0 %	106.3 %	92.9 %	114.3 %	106.7 %
Avg. Working Capital / Sales	-2.4 %	-5.0 %	0.3 %	3.0 %	2.1 %	2.1 %
Trade Debtors / Trade Creditors	72.0 %	67.7 %	128.8 %	106.3 %	105.9 %	106.2 %
Inventory Turnover	n.a.	n.a.	n.a.	40.7 x	40.6 x	37.3 x
Receivables collection period (days)	46	42	95	85	85	85
Payables payment period (days)	143	162	190	205	202	215
Cash conversion cycle (Days)	n.a.	n.a.	n.a.	-111	-108	-120

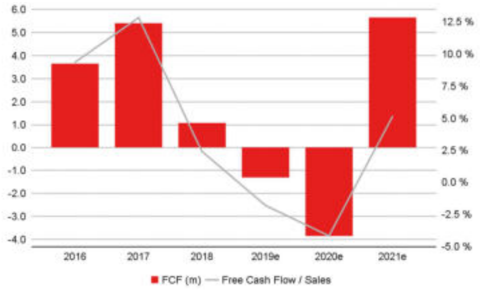
CAPEX and Cash Flow

in EUR m



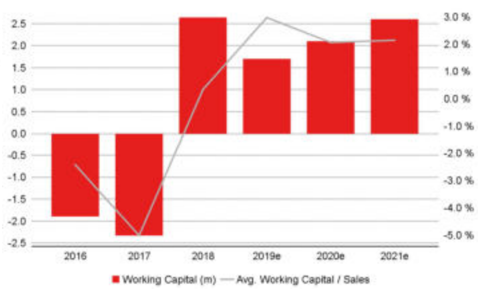
Source: Warburg Research

Free Cash Flow Generation



Source: Warburg Research

Working Capital



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Company	Disclosure	Link to the historical price targets and rating changes (last 12 months)
Media and Games Invest plc	5	http://www.mmwarburg.com/disclaimer/disclaimer_en/MT0000580101.htm

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Rating	Number of stocks	% of Universe
Buy	115	57
Hold	75	37
Sell	7	3
Rating suspended	5	2
Total	**202**	**100**

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING …

… taking into account only those companies which were provided with major investment services in the last twelve months.

Rating	Number of stocks	% of Universe
Buy	31	79
Hold	6	15
Sell	0	0
Rating suspended	2	5
Total	**39**	**100**

PRICE AND RATING HISTORY MEDIA AND GAMES INVEST PLC AS OF 23.01.2020

Markings in the chart show rating changes by Warburg Research GmbH in the last 12 months. Every marking details the date and closing price on the day of the rating change.

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