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INVESTMENT COMMITTEE PAPER ON KEYWORDS STUDIOS

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## **Abstract**

This project explores the leveraged buyout of Keywords Studios, a global leader in gaming outsourcing services. It evaluates the investment rationale, emphasizing the buy-and-build strategy, operational efficiency improvements driven by AI integration, and strategic geographic expansion. The financial analysis focuses on value creation drivers such as revenue growth, EBITDA margin improvements, cost synergies, and multiple arbitrage. Projected returns underscore the potential for significant value creation, culminating in an exit strategy through an IPO, strategic sale, or secondary sale. Keywords Studios' market leadership and adaptability to industry trends solidify its position as a lucrative private equity investment.

## **Keywords**

Private Equity, Leveraged Buyout, Keywords Studios, Value Creation, Valuation, Gaming Industry, AI Integration

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## **Group Part**

### **1. Introduction**

The gaming industry has experienced remarkable growth over the past decade, driven by technological advancements, expanding player demographics, and increasing demand for outsourcing services. Keywords Studios, a market leader with a comprehensive service portfolio and global presence, presents a compelling investment opportunity for private equity (PE). This report evaluates the viability of a leveraged buyout (LBO) of Keywords Studios, leveraging its strong historical performance, robust M&A track record, and alignment with industry trends, such as AI-driven operational enhancements. The analysis identifies key drivers of value creation and projects attractive returns, offering insights into strategic decision-making for achieving a successful exit.

### **2. Foundation of Analysis**

#### **2.1. Company Overview**

With more than 70 studios spread across 26 countries, Keywords Studios is a global outsourcing firm providing its clients services across three distinct business units. Create, Keywords Studios first division, covers the beginning of the development process and focuses on game development and art services and thus includes the creation of a storyline and narrative framework for the respective game as well as the design of characters and objects within the game world. Keywords Studios' second business division, Globalize, focusses on quality assurance and functional testing, audio production, and localizing the game to make it more appealing to players worldwide. Engage, the final business division, provides ongoing support to Keywords Studios clients after the game has been developed and released. This division specialises in marketing services as well as maintaining and increasing player engagement. Since the company's foundation in 1998, Keywords Studios has made over 65 acquisitions. This focus on M&A has expanded the company's services and reach, ensuring

Keywords Studios' competitiveness and adaptation to the fast-changing needs of their client base. This is accompanied by an expanding employee base, totaling more than 12,300 professionals and generating over €780m in revenue in 2023 across the Americas, Europe, Asia, and Oceania. Over the last years, Keywords Studios was able to grow significantly, profiting from COVID-19 and increasing their revenue from €326m in 2019 to €780m in 2023, reflecting a CAGR of 24.3%. The company achieved strong financial results in 2023, with an EBITDA of €109m, implying an EBITDA margin of 14.0%, and a net profit of €20m. Most of Keywords' revenue is generated from partnerships with top gaming companies such as Electronic Arts, Take-Two Interactive, Nintendo, Ubisoft, Riot Games, and Supercell. In 2023, Keywords Studios' top five clients alone accounted for 30.8% of its revenue. These collaborations often involve working on global game titles, reflecting Keywords' market-leading role in the outsourcing industry. Additionally, roughly 30-40% of the company's revenue is recurring, as a result of long-term partnerships based on trust and integration into the clients' workflows, allowing Keywords to contribute to the success of major franchises and reinforcing its reputation in the game development industry.

## **2.2. Market Overview**

Keywords Studios is a leading service provider to the gaming industry, deeply influenced by the sector's operations and evolution. The global gaming market is projected to reach €190bn by 2027, growing at a CAGR of 3.1% from 2024E to 2028E (Newzoo, 2024). The global player base is expected to increase from 3,422m in 2024E to 3,759m in 2027E, covering console, PC, and mobile gamers. This growth is driven by rising youth demographics, technological advancements, and a broader shift in media consumption toward gaming.

Geographically, the largest gaming markets by number of players are Asia-Pacific (1,809m), Middle East & Africa (559m), Europe (454m), Latin America (355m), and North America (244m) (Newzoo, 2024). High-growth regions include India (16.7% avg. CAGR), South

Korea (12.3% avg. CAGR), Norway (11.4% avg. CAGR), Sweden (10.9% avg. CAGR), and China (9.7% avg. CAGR). In India, growth is particularly fueled by the digital marketing market, a proxy for Keywords' Engage segment, which boasts a CAGR of 30.2% (Expert Market Research, s.d.).

These dynamics present significant opportunities for Keywords Studios, which derives most of its revenue from the Americas (39.8%), followed by Europe (31.6%), Asia-Pacific (10.9%), and Australasia (3.4%) (Keywords Studios, 2023). Despite its global footprint, Keywords Studios' addressable market differs from the total gaming market size, as it operates within the outsourcing services sector rather than game publishing. Keywords Studios focuses on the outsourced video game content creation segment, which represents a €38bn opportunity as of 2024E (Keywords Studios, 2023). This market spans the entire gaming value chain, from pre-production services like game development to post-production services such as player engagement.

Keywords Studios currently holds a 6% share of this outsourced market, far outpacing its closest competitors, who hold approximately 2% each (Keywords Studios, 2023). The company's leadership is driven by its ability to address the increasing complexity of game development as major gaming companies focus on core activities. The rise of mobile gaming and free-to-play models has further amplified demand for services like localization and player support, areas where Keywords Studios excels (Pwc, 2024).

The gaming outsourcing market is highly fragmented, with numerous service providers offering specialized services. Keywords Studios competes with firms such as Pole to Win (JP), Globant (AR), Room 8 Studios (CY), QLOC (PL), iXie (US), Lionbridge (US), Sumo Group (UK), Virtuos (SG), and Digital Hearts (JP). While these competitors vary in their industry focus and service offerings, Keywords Studios differentiates itself by providing the most integrated service portfolio in the gaming sector.

Key trends shaping the market include disruption driven by AI, the emergence of cloud gaming, and the growing demand for scalable service providers (Pwc, 2024). As the most integrated player in the market, Keywords Studios is well-positioned to leverage these trends, capitalize on its market leadership, and succeed in an industry that is evolving rapidly.

### **3. Formulation of the Investment Case**

#### **3.1. Investment Thesis**

Keywords Studios is an attractive target for a leveraged buyout case of a private equity fund, as the company is the market leader in the growing gaming service market, with a presence across North America, Europe and Asia at 3x size of the next competitor. The company acquired over 65 studios across 26 countries and follows a strong and continuous buy-and-build market consolidation strategy to further increase its market share. Additionally, Keywords has proven strong revenue growth with high average EBITDA margins of 16.5% on average (2020-2023), driven by increased demand in the gaming industry and solid customer relationships. With low historical debt levels and strong cash flow generation, Keywords presents a strong target for a leveraged buyout. Additionally, in terms of services offered with a proactive approach to implementing AI trends, Keywords is the leading one-stop service provider. The company has established agreements with leading game developers for award winning titles. Its strategic investment in four AI-driven tools underscores its commitment to aligning with future trends and positions it strongly to lead the industry's transition toward AI-driven business models. Long-standing partnerships with 24 of the top 25 global gaming companies and the top 10 mobile game companies ensure revenue generation and present solidified relationships with customers. Moreover, the company has an experienced, knowledgeable management team with deep industry knowledge. Lastly, Keywords has an AA MSCI ESG rating, showcasing its strong alignment with ESG principles including diversity, sustainable practices, and responsible

business operations, which supports long-term resilience and attractiveness to socially conscious investors.

### **3.2. Strategies for Value Enhancement**

Keywords Studios presents significant potential for value creation. Inorganic revenue growth is expected through a strong market consolidation strategy, which focuses on identifying well-aligned add-on acquisitions. Additionally, organic growth and cost efficiencies are projected through a comprehensive strategy aimed at transforming the traditional game development business model into a more AI-driven approach.

#### **3.2.1. Mergers and Acquisitions: A Buy-and-Build Approach**

Over twelve potential acquisition targets were screened, narrowing down to four with the strongest strategic fit and highest value-creation potential. The buy-and-build strategy focused on two main approaches. The first approach identified high growth segments. The segment Create was identified as the most profitable, contributing 43% of revenue in 2023 and having an adjusted EBITDA margin of 28%. Engage was also set as a focus as it has historically shown the highest revenue CAGR of 45.8% (2019-2023). Expanding these high growth segments through acquisitions of smaller studios in high-growth segments and niche-genres can help Keywords strengthen its core division, expand service offerings and capture new markets.

The second approach targeted high growth geographies, characterized by a high CAGR for Create and Engage markets, minimal or no current market share for Keywords or regions with a large and expanding player base. For Keywords, Asia offers substantial expansion potential, especially in South Korea and China, where extending Create and Engage services may leverage the regions enormous potential and boost market share. Additionally, with strong anticipated CAGRs and Keywords Studios' limited presence in Poland and Sweden presents substantial expansion prospects.

Based on these criteria, Winking Studios has been chosen as a strategic add-on. Headquartered in Singapore, Winking offers 2D/3D art, animation, and game development services, with operations in China, Taiwan, South Korea and the USA. The acquisition enables Keywords to expand its game development segment into high-growth markets, strengthen client relationships and enhance cross-selling opportunities to drive revenue growth.

Bloober Team, a video game developer specializing in the horror genre and headquartered in Poland, integrates cutting edge AI and VR technology. With operations in North America, Asia and Europe, this acquisition allows Keywords to expand its service offerings, tapping into the niche horror genre market. Additionally, Keywords can leverage AI and VR technologies to engage a new player base and elevate its technology expertise.

YGGDRAZIL is headquartered in Thailand and delivers animation services, premium graphics and game development services. Its operations are in Thailand, China, South Korea, USA and Japan. This add-on will allow Keywords to expand its service quality while expanding into high-growth markets.

MOBA Network, headquartered in Stockholm, Sweden, owns and operates major global gaming communities, offering platforms for gamers to connect, with operations in the US and UK. This acquisition strengthens Keywords' player engagement services, enhancing its offerings to existing clients.

The investment case envisions two acquisitions: Winking Studios and Bloober in 2025 and YGGDRAZIL and MOBA in 2026. Each target has been valued using comparable company and comparable transaction analysis to determine entry EBITDA multiples. Winking will be acquired at a 13.4x multiple for an EV of €71.63m, Bloober at 13.0x for an EV of €112.70m, YGGDRAZIL at 13.0x for €53.30m and MOBA at 13.9x for €127.98m. Each acquisition will be financed with 50% debt through an M&A facility and 50% equity.

Upon completion of each acquisition, a dedicated task force will execute a 150-day strategic plan to ensure smooth business integration and achieve anticipated value creation. For this, quarterly reviews will be conducted to track progress, with market expansion plans deployed after the first 100 days, followed by revenue synergy implementation after 150 days. After the integration, the value creation will be monitored continuously. The total projected inorganic revenue from all add-on acquisitions by 2030 is expected to reach €993.12m.

### **3.2.2. Integration of AI for Operational Optimization**

The gaming industry is undergoing a significant transformation, with AI reshaping traditional workflows and value chains. Automation is revolutionizing tasks such as localization, testing, and customer support, enabling services that are faster, more cost-effective, and scalable. For Keywords Studios, traditionally reliant on labor-intensive processes, embracing AI represents both a disruption risk and an opportunity to strengthen its position as a market innovator and leader.

To mitigate the risks and capitalize on the opportunities presented by AI, the second pillar of the value creation strategy involves transitioning to an AI-driven business model by leveraging three platforms: KantanAI, XLOC, and Helpshift. This strategy is designed to drive revenue growth, reduce costs, and enhance service quality, positioning Keywords Studios as a forward-thinking innovator in the gaming industry.

The first initiative focuses on the localization service line within the Globalize division, targeting revenue growth by integrating KantanAI's advanced translation capabilities with XLOC's content management system. This integration aims to optimize localization workflows by automating translation processes and centralizing content management, leading to faster delivery times and higher accuracy. By reducing delivery timelines by 40% and enhancing the quality of services, a 15% price premium can be justified. This initiative is

projected to generate €21m in additional revenue within the Globalize division over the investment horizon. To achieve these improvements and enhance capacity, €1m will be invested annually in R&D between 2025 and 2027.

The second initiative seeks to expand the deployment of Helpshift's automated player support platform among new and existing clients. By allocating €2m annually to sales and marketing between 2025 and 2030, the strategy emphasizes showcasing Helpshift's proven value through client case studies that highlight substantial cost savings and efficiency gains. The plan includes acquiring at least one major new gaming client each year who transitions their support services to Helpshift. This effort is expected to significantly boost Helpshift's contribution to the Engage division, increasing its revenue by €90m over the investment period while growing market share in player support services.

The third initiative aims to achieve substantial cost savings through enhanced automation in player support services. In 2024, Keywords employs approximately 2,640 player support agents, some of whom handle complex queries that cannot yet be fully managed by Helpshift. Through dedicated R&D efforts, supported by an annual €3m investment, the aim is to advance Helpshift's technology to increase automation from 60% to 80% by 2028. This development will allow for a gradual reduction in headcount to 90% of the level otherwise required without improved automation, reducing reliance on human agents. The initiative is projected to save €46m in personnel expenses over the investment period, driving substantial margin improvement in the Engage division.

Through these initiatives, Keywords Studios leverages AI to deliver transformative growth, operational efficiency, and cost optimization, ensuring a sustainable competitive advantage and reinforcing its position as a leader in the gaming services industry.

To ensure the successful execution of these AI-driven initiatives, the private equity fund will establish a dedicated AI Centre of Excellence (CoE) comprising industry-leading experts in AI

development, product management, and data analytics.

## **4. Financial Modelling and Exit Considerations**

### **4.1. Methodological Approaches to Valuation**

The valuation of Keywords Studios has been derived using a range of different valuation methods, including Discounted Cash Flows (DCF), the Sum of the Parts (SOTP), the Comparable Companies Analysis (CCA) and the Comparable Transaction Analysis (CTA). To ensure a balanced analysis, the methods have been weighed differently to account for limitation in each of the different valuation methods. The DCF was given 40% of the weighting, the SOTP 30%, while the CCA and CTA each accounted for 15%. Additionally, a range between the 25th and 75th percentile as presented in a football field in table 1 in the appendix has been chosen to present a fair valuation range for Keywords Studios.

Focusing first on intrinsic valuation methods and taking Keywords Studios' future cash flows from a long-term perspective into consideration, the DCF was based on a weighted average cost of capital (WACC) of 7.2% and a terminal growth rate of 2.3%. With that, the terminal growth rate is inline with the 10-year expected inflation rate for the United States of America, as North America represents the largest geographic source of revenue for Keywords Studios. In order to determine the exit multiple, the average EV/EBITDA of the next twelve months (NTM) for comparable companies was calculated at 9.6x. Both the Gordon Growth method as well as the Exit Multiple method have been weighted equally, to derive an average DCF based enterprise value for Keywords Studios of €2,746m. The Dividend Discount Model (DDM) calculated an Enterprise Value of €260m but was excluded from the final purchase price as the company operates in a sector, with limited dividend distributions.

In addition to intrinsic valuation methods, relative valuation methods were used, where the focus has been on the sum of the parts valuation, as this method deconstructed Keywords

Studios into its primary operating divisions, applying segment specific EBITDA multiples to each of the company's business divisions and as such yielding an enterprise value that accurately reflects segment specific potentials. This valuation method resulted in median EV/Revenue and EV/EBITDA multiples of 2.7x and 11.9x, respectively. The CCA resulted in median EV/Revenue, EV/EBITDA and P/E multiples of 1.3x, 8.8x and 20.3x, respectively. However, the global video games market continued to encounter difficulties in 2023, which highlights the necessity of interpreting comparable values with some caution as these multiples may undervalue future growth potential in a rebounding sector. Similarly to the CCA, the CTA faced limitations as only two relevant and comparable transactions in the past two years could have been considered for the analysis. Alongside earlier data, the CTA resulted in the widest valuation spread and highest multiples. With a median EV/Revenue multiple of 3.6x and a median EV/EBITDA multiple of 11.3x, the CTA implied a median valuation for Keywords Studios of €2,381m.

The final weighted average enterprise value for Keywords Studios, resulting from the weighted enterprise value derived from each valuation method, the resulting valuation for Keywords Studios was €2,203m, implying a fair share price of €26.06. This in return results in an implied weighted EV/EBITDA multiple of 15.3x for Keywords Studios based on all discussed intrinsic, market, and transaction-based valuation methods.

#### **4.2. Analysis of Capital Structure and LBO Modelling**

The acquisition of Keywords Studios will require a total investment of €2,289m. The organization of the capital structure used to finance the leveraged buyout was carefully evaluated, incorporating an analysis of the company's historical financial performance to assess its ability to sustain leverage, as well as prevailing market conditions. This comprehensive assessment ensured that the debt-to-equity ratio was optimized and thoroughly stress-tested to achieve financial resilience and operational flexibility.

The debt portion accounts for 40.9% of the total acquisition funding, equating to a leverage ratio of 6.5x Debt-to-EBITDA. This is closely aligned with current market conditions, which show 10-year lows in U.S. LBO loan leverage ratios at 5.9x Debt-to-EBITDA in 2023 (Bain & Company, 2024). The debt structure comprises Term Loan A, Term Loan B, and Term Loan C. A decision was made to exclude mezzanine debt due to its higher cost of capital and the suitability of senior debt in meeting financing needs. Interest rates for the debt tranches were derived using a 5-year swap rate of 4.1% (based on the 5-year U.S. Treasury rate as of 30/11/2024), combined with market research on median fixed-rate loans, resulting in rates of 7.0% for Term Loan A, 7.4% for Term Loan B, and 7.8% for Term Loan C. Targeted acquisitions will be financed with a combination of a dedicated M&A facility, contributing 50% of the required capital at the same interest terms as Term Loan C, and an equity contribution embedded in the equity instruments for the LBO of Keywords Studios.

The equity contribution constitutes €1,352m, representing 59.1% of the total capital structure. This is primarily composed of a Fixed Return Instrument (FRI) valued at €1,323m, carrying a fixed rate of 9.3% in line with average PIK coupon rates (e.g., 9.31% tracked on Bloomberg for similar fixed return securities). The FRI enables the deferral of cash interest payments, allowing operational cash flows to remain available for strategic investments and acquisitions during the holding period. Additionally, sweet equity of €4.4m is contributed by management, aligning their interests with those of the private equity sponsor and ensuring strong performance incentives. Transaction fees amounting to €66m and a minimum cash reserve of €20m for ongoing operations were also accounted for, alongside the enterprise value of €2,203m, resulting in total sources and uses of €2,289m.

The feasibility of this LBO is reinforced by the implementation of three financial covenants designed to ensure both financial discipline and operational flexibility. Net leverage was set to decline progressively over the investment horizon, beginning at 6.5x EBITDA and reducing to

manageable levels as the company deleverages through cash flow generation and EBITDA growth. Interest coverage was established to ensure sufficient EBITDA to cover interest expenses, with a minimum ratio of 1.0x, leaving comfortable headroom to tackle unforeseen challenges. Finally, the cash cover covenant was introduced to guarantee adequate free cash flow for servicing both interest payments and debt repayment, ensuring liquidity throughout the holding period. These covenants safeguard lender interests while providing the company with the financial latitude required to execute its acquisition-driven growth strategy.

### **4.3. Projection of Returns and Exit Options**

#### **4.3.1. Returns**

The investment in Keywords Studios has been projected over a six-year holding period, culminating in an exit in 2030E. At the exit, the company's enterprise value (EV) is expected to reach €6,187m, based on a forecasted EBITDA of €405m and an exit multiple of 15.3x. The total value created during the investment period is projected to be €4,877m, driven by four key components: revenue growth, EBITDA margin improvement, deleveraging, and multiple arbitrage.

Management is expected to receive significant returns on their investment in sweet equity. Their €4.372m contribution, representing 15% of ordinary shares, is projected to generate €556m by 2030E, corresponding to a multiple on money (MoM) of 127.1x and an internal rate of return (IRR) of 124.2%. Institutional investors, who will contribute €1,348m at entry in 2024E through a combination of a €1,323m shareholder loan and €25m in ordinary shares, are expected to achieve inflows of €5,587m at exit. This translates to a MoM of 3.6x and an IRR of 24.7%. Additional capital infusions of €192m are planned in 2025E (€96m) and 2026E (€94m) to support the company's growth strategy and operational improvements.

#### **4.3.2. Value Creation**

The breakdown of value creation shows that revenue growth is the largest contributor,

accounting for €2,459m or 50.4% of the total value. This growth is driven by a combination of organic expansion and the successful integration of add-on acquisitions, supported by AI-driven initiatives to enhance scalability and efficiency. EBITDA margin improvement contributes €856m, representing 17.5% of total value creation. This improvement is achieved through cost synergies, operational efficiencies, strategic pricing, and the impact of AI, which accounts for 50.9% of the EBITDA margin uplift. Deleveraging is expected to generate €876m, representing 18.6% of total value creation, as net debt decreases from €917m in 2024E to €41m by 2030E. This reduction is supported by robust free cash flow generation and disciplined debt repayment. Lastly, multiple arbitrage contributes €124m or 2.5% of total value creation. Add-ons acquired at lower EBITDA multiples are integrated into Keywords Studios, which commands a higher multiple of 15.3x. No multiple arbitrage is assumed for Keywords Studios itself, as the exit multiple equals the entry multiple.

#### **4.3.3. Sensitivity Analysis**

To assess the robustness of the investment, sensitivity analysis was conducted to evaluate the impact of variations in entry and exit multiples on returns. The results show that changes in the entry multiple have a more significant impact on the investment compared to changes in the exit multiple. Adjustments to the entry multiple yield a range of MoM between 3.1x and 4.4x and IRR between 21.4% and 29.0%, whereas changes to the exit multiple result in a narrower range, with MoM between 3.2x and 4.1x and IRR between 21.9% and 27.2%. A scenario using a high entry multiple of 17.3x and a low exit multiple of 13.3x would result in a MoM of 2.7x and an IRR of 18.8%, making the transaction less financially attractive. Conversely, a low entry multiple of 13.3x and a high exit multiple of 17.3x would deliver a MoM of 5.0x and an IRR of 31.7%, demonstrating the importance of negotiating favorable entry pricing and timing exits during favorable market conditions.

This analysis highlights the importance of entry valuations, operational enhancements, and

strategic exits in maximizing the returns for both management and institutional investors. By focusing on these factors, the investment case for Keywords Studios is well-positioned to deliver significant value despite prevailing macroeconomic uncertainties.

#### **4.3.4. Exit Options**

After successfully selecting a target, developing a business plan, acquiring the company, and working with Keywords to improve their equity story throughout the investment period, it is crucial to consider the exit options. The exit strategy for Keywords Studios considers three primary pathways: an initial public offering (IPO), a strategic sale, and a secondary sale. Each option has been evaluated based on its potential to maximize returns, the associated risks, and the market conditions likely to prevail at the time of exit in 2030E (Osborne Clarke, 2015). Alternative exit options are a Management Buyout (MBO), recapitalization, and liquidation (The Entrust Group, 2024).

#### **4.4. Areas for Due Diligence**

Due diligence is a crucial step in the investment process for any acquisition. It aims to expose potential risks, validate assumptions and deepen the understanding of factors driving the business. For Keywords Studios, the most important areas of due diligence are commercial, operational and financial.

The commercial due diligence will provide expert insights into market dynamics, growth rates, customer concentration, churn rates and the reliance on only a few clients. This will help assess potential dependencies on key accounts. Competitors will be analysed by using third-party consultants to get insights into competitive threats and further considerations for market entry and exit strategies

Operational due diligence is crucial to evaluate the risk of disruption by AI for Keywords. Industry experts will evaluate how AI advancements can replace or disrupt service offerings and will have an in-depth analysis of Keywords' current AI infrastructure.

The financial due diligence will validate assumptions in the financial model, ensuring that for example balance sheet items were classified correctly and data integrity is met. A legal, tax and environmental due diligence will be conducted as well but were deemed less critical for the investment decision.

A comprehensive due diligence is essential for the PE fund to understand past challenges of the company, to implement a mitigation strategy and uncover any potential red flags that could impact the investment decision.

## **Individual Parts**

### **5. Valuation (Maximilian Michaelis - 59357)**

The valuation of a company is a critical process in corporate finance that determines the economic value of a business. It serves as an important factor in key financial decisions which might range from investments, mergers and acquisitions, strategic planning, regulatory reporting to a Leveraged Buyout, as will be discussed in this thesis. The aim of valuing a company is to provide a clear, quantitative indication of a company's worth, enabling stakeholders to make more sophisticated decisions. Investors, both private and institutional, use valuations to assess whether a company is over- or undervalued and as a result to decide on potential investment strategies. Additionally, valuations are essential during negotiations in order to price the company at a fair market value.

#### **5.1. Intrinsic Valuation Methods**

Valuation methods can be broadly classified into intrinsic and relative approaches. Intrinsic valuation focuses on the inherent value of a company by analyzing its fundamental financial and operational characteristics. The Discounted Cash Flow analysis, which assesses the present value of a company's future cash flows, is the most common intrinsic valuation method. Another very prevalent method is the Dividend Discount Model, which assesses a

company's value by calculating the present worth of the company's expected future dividends, typically applied to listed firms with consistent dividend payouts. Intrinsic methods are particularly valuable for understanding a company's long-term value independent of market conditions.

### **5.1.1. Discounted Cash Flow (DCF)**

The DCF approach is a common method of company valuation found in corporate finance based on the discounting of future free cash flows (FCF). This method enables a precise valuation of a company by considering both operational and capital cost-related aspects. The DCF valuation is divided into two main phases: the explicit forecast phase, in which future cash flows are predicted in detail, and the calculation of the terminal value, which represents the value of the company after the end of the forecast period.

Firstly, a distinction must be made between unlevered and levered free cash flow. The levered FCF represents the cash flow available to equity holders after deduction of all interest on debt. The unlevered free cash flow reflects the operating cash flow of a company before deduction of interest expenses and is therefore available to all investors, both equity and debtholders. The unlevered FCF can be calculated as follows:

$$\begin{aligned} \textit{Unlevered FCF} \\ &= \textit{EBIT} \times (1 - \textit{tax rate}) + \textit{Depreciation \& Amortization} \\ &\quad - \textit{Capital Expenditure} - \Delta \textit{Net Working Capital} \end{aligned}$$

As a result, the unlevered FCF is the stronger preferred path in the DCF model as it ignores the company's capital structure, offering a more neutral valuation (Berk and DeMarzo 2017). In line with common market principles, the unlevered FCF has been used for the DCF valuation of Keywords Studios.

The second major component of a DCF valuation is the terminal value calculation, as this accounts for a major part of the company's enterprise value. The terminal value determines

the value of the company at the end of the explicit forecast period, over an infinite period. In general, there are two main methods usually used to determine the terminal value of a company. On one hand, the Gordon Growth method, focusing solely on intrinsic factors of the company and on the other hand the Exit Multiple method, which compares the company to other firms with industrial or geographical similarities.

Based on the assumption of constant cash flow growth in perpetuity, the terminal value using the Gordon Growth method is calculated as follows:

$$Terminal\ Value_{Gordon\ Growth} = \frac{FCF_{n+1}}{WACC - g}$$

where  $FCF_{n+1}$  refers to the expected free cash flow in the first year after the forecast phase,  $g$  denotes the terminal growth rate, mostly in line with the long-term inflation rate and  $WACC$  is the weighted average cost of capital (Gordon 1959). In contrast to deriving the terminal value by using the Gordon Growth formula, the Exit Multiple method uses an industry-specific multiple to calculate the terminal value:

$$Terminal\ Value_{Exit\ Multiple} = EBITDA \times EBITDA\ Multiple$$

The choice of multiple is based on market comparisons and thus enables an approximation of current market valuations (Damodaran 1995). A more detailed assessment of market-based valuation methods, including comparable companies, will be discussed in section 6.2. One of the central components within the DCF valuation is the calculation of the weighted average cost of capital of a specific company, which represents the required return on capital invested, both debt and equity (Rosenbaum and Pearl 2009). As a result, the  $WACC$  can be calculated as follows:

$$WACC = w_e \times r_e + w_d \times r_d \times (1 - tax\ rate)$$

with

$$w_e = \frac{Equity}{Equity + Debt} \quad \& \quad w_d = \frac{Debt}{Equity + Debt}$$

where  $r_e$  refers to the cost of equity, the amount the equity holders expect to receive in returns annually, and  $r_d$  the cost of debt, which reflects the costs that a company faces based on their credit profile (Rosenbaum and Pearl 2009).

To calculate the cost of equity, the Capital Asset Pricing Model (CAPM) is used most often. The underlying concept of this approach is that equity holders need to be compensated for the additional risk, most commonly referred to as systematic or non-diversifiable risk, compared to debt holders. This risk affects the market as a whole and cannot be eliminated by investors through diversification. The compensation for this risk takes the form of an additional premium, known as the market risk premium. This premium reflects the amount of market returns that exceed the risk-free rate  $r_f$ , which is a return achievable without taking on any risk at all. Normally, this risk-free rate aligns with the 10-Year US treasury yield. A company's level of systematic risk can generally be measured by its levered beta  $\beta_L$ , which quantifies the covariance between the company's stock price and overall market movements:

$$\beta_L = \frac{Cov(r_c, r_m)}{Var(r_m)}$$

where  $Cov(r_c, r_m)$  denotes the covariance between the returns of the company and the market, with  $r_c$  and  $r_m$  reflecting the company's and market returns and  $Var(r_m)$  reflects the variance of the market returns (Damodaran 1995). In regard to the valuation of Keywords Studios, the MarketVector MVESPOTR Global Video Gaming & eSports Index has been chosen as an appropriate benchmark to reflect the market. Following this, it is essential to unlever and relever the beta to adjust capital structure differences to isolate and then apply the systematic risk appropriately. To compare the intrinsic business risk, the systematic risk excluding leverage, across firms,  $\beta_U$  is unlevered:

$$\beta_U = \frac{\beta_L}{1 + \frac{Debt}{Equity} \times (1 - tax\ rate)}$$

With unlevering the beta, the impact of a company's leverage is eliminated and as such allows for better beta comparison across an industry. After determining an average unlevered beta from comparable firms,  $\beta_U$  is relevered using the target company's intended debt-to-equity ratio to reflect the systematic risk at the company's target capital structure (Rosenbaum and Pearl 2009):

$$\beta_{RL} = \beta_U \times \left(1 + \frac{Debt}{Equity} \times (1 - tax\ rate)\right)$$

Finally, the cost of equity can be calculated using the CAPM:

$$r_e = r_f + (\beta_{RL} \times (r_m - r_f))$$

where  $r_f$  is the risk-free rate,  $(r_m - r_f)$  is the market risk premium.

The other important factor within the weighted average cost of capital for a company is the cost of debt,  $r_d$ , calculated on the (implied) credit rating of the company as well as the associated credit risk spread. In case, that the company does not have a credit rating, an implied rating can be determined using the Altman Z score or Damodaran synthetic rating approach (Damodaran 2000). Both methods can then be applied to determine the associated credit spread corresponding to the calculated credit rating. The borrowing costs are then calculated as follows:

$$r_d = r_f + credit\ spread$$

In conclusion, the DCF approach allows for a substantiated valuation of companies by considering short-term operational elements as well as long-term growth assumptions. For Keywords Studios, this valuation method yielded an enterprise value for the Gordon Growth and Exit Multiple of €3,177m and €2,584m, respectively. Thereby, a WACC of 7.2% with a cost of equity of 8.3% and a cost of debt of 6.2% was assumed. The risk-free rate is equivalent to the 10-Year US treasury yield, as most of Keywords Studios revenue is generated in North America. The terminal growth rate used is in line with the 10-Year expected US inflation rate of 2.3%. However, it is important to understand that the result

derived from the DCF valuation is very sensitive to its underlying assumptions. Minor changes in the terminal growth rate have significant implications for the final calculated enterprise value.

### **5.1.2. Dividend Discount Model (DDM)**

The DDM is another valuation method used to estimate the intrinsic value of a company. It focusses on calculating the present value of projected future dividend payments to determine the company's equity value and ultimately the enterprise value. However, this model assumes that dividends represent the ultimate cash flow to shareholders, and their discounted sum provides a measure of a company's equity value.

In the case of Keywords Studios, the DDM calculation considered three distinct phases: the high-growth period, the transition period, and at last a stable period. During the high-growth period, dividend growth was projected at 33% annually, reflecting the highest historical performance as well as optimistic growth expectations. In the transition period, growth rates gradually declined to reach the terminal growth rate to represent the company's shift to a more mature and operational phase. Finally, in the stable period, the terminal growth rate of 2.3% was assumed, similar to the assumptions made in the DCF and based on the 10-Year expected inflation rate of the United States as North America is the geographic region with the highest revenue generation for Keywords Studios.

Using these inputs, the DDM calculated an enterprise value of €260m resulting in a price per share of €2.04. These values are based on a discount rate, for the DDM of 8.3%. The rate equals the cost of equity as dividends are directly attributed to equity holders and is derived from the Capital Asset Pricing Model of the DCF valuation.

However, while the DDM provides insights into the company's potential to generate shareholder returns, it is not the most appropriate method for evaluating a technology-driven business, such as Keywords Studios. In order to foster innovation and growth

effectively and maintain long-term competitiveness, technology companies are increasingly reinvesting their profits in research and development instead of distributing profits to their shareholders in the form of dividends. In 2023, Keywords Studios invested €3.1m in research and development, while distributing €2.2m in dividends (€0.02 per share). The DDM remains a useful valuation method but has limitations when applied to companies like Keywords Studios. As such, alternative valuation methods better aligned with the company's industry, such as Trading Multiples, have been prioritized in determining the final weighted average Enterprise Value for Keywords Studios. Accordingly, the dividend discount model is not being considered further.

## **5.2. Relative Valuation Methods**

In contrast to intrinsic valuation methods, relative valuation assesses a company's value by comparing it to similar firms or industry benchmarks. This valuation approach relies on market-based metrics. Sum of the parts valuation and comparable company analysis as well as comparable transaction analysis are commonly used methods to relatively value a company as they are providing insights into how the market values similar businesses. While relative valuation offers a quick and market-aligned perspective, it may not capture the unique aspects of a company as effectively as intrinsic methods.

### **5.2.1. Sum of the Parts (SOTP)**

Sum of the Parts analysis is a valuation method used to assess the worth of a company by evaluating each of its distinct business segments or subsidiaries separately. Rather than treating the company as a single, uniform entity, the SOTP valuation accounts for different divisions operating in varying markets and facing unique and distinct growth trajectories. By using appropriate valuation multiples, such as EV/EBITDA or EV/Revenue, for each segment and if necessary, incorporating adjustments for segment-specific risks, synergies, or any other strategic considerations, it becomes possible to derive an aggregate enterprise

value, which more accurately reflects the company's overall worth and future potential (Chlomou and Demirakos 2020).

Conducting a SOTP valuation begins with identifying and isolating each division's financial metrics, growth prospects, and risk profiles. These factors are consequently benchmarked against comparable companies relevant to that specific segment's industry. Keywords Studios operates through three business divisions: Create, Globalize, and Engage. After deriving a suitable peer group for every single business segment (see table 3 in the appendix), valuation multiples were applied to the company's projected 2024 figures. For the Create division, with expected revenues of €407m and EBITDA of €88m, average multiples of 4.4x EV/Revenue and 18.9x EV/EBITDA yield an enterprise value for Keyword Studios Create division of about €1,717m. The Globalize division, forecasted at €276m in revenue and €40m in EBITDA, is valued at 1.1x EV/Revenue and 10.4x EV/EBITDA, resulting in an enterprise value of approximately €358m. For the Engage division, based on revenue of €191m and EBITDA of €17m, multiples of 1.7x EV/Revenue and 13.6x EV/EBITDA suggest an enterprise value of roughly €280m. By applying the chosen multiples, the value contribution of each division is estimated independently. The resulting figures are aggregated to establish a group enterprise value, which captures the sum of the company's individual operating segments. For Keywords Studios, this valuation approach yields a total enterprise value of €2,355m. Adjustments can be made to account for holding company discounts, intercompany transactions, or corporate overhead costs that are not directly associated with any single business division (Chlomou and Demirakos 2020).

The Sum of the Parts valuation provides a more granular perspective, especially for conglomerates or multi-business entities, by evaluating each division independently and thereby identifying both segments that offer substantial growth potential and those that may

be underperforming. It can also reveal opportunities for strategic realignment, such as spin-offs, divestitures, or targeted investments. However, the quality of the SOTP outcome depends on the availability of robust data on segment-level and comparable peers, as well as the accuracy of any necessary adjustments. When used in combination with other valuation methods, including market-based approaches such as the CCA, SOTP provides a more granular understanding of a company's intrinsic value and the drivers of its long-term performance (Chlomou and Demirakos 2020).

### **5.2.2. Comparable Company Analysis (CCA)**

Comparable Company Analysis, similar to the Sum of the Parts valuation, builds on the principles of relative valuation by estimating a company's value based on market data from firms that share similar characteristics, i.e. size, industry and geography. This approach relies on identifying a peer group which is closely aligned to the before mentioned similarities to account for geographic focus, industry dynamics, and operational profiles, ensuring that factors such as revenue generation, growth prospects, profitability, and capital structure are reasonably comparable. As illustrated in table 4 in the appendix for the case of Keywords Studios, the selected peer group, which reflects these considerations, provides the reference point for determining valuation multiples, most commonly EV/Revenue, EV/EBITDA, and EV/EBIT or Price/Earnings. In practice, EV/EBITDA tends to serve as the most influential multiple, as it minimizes the impact of differing accounting standards, financing structures and approximates operating cash flow (Rosenbaum and Pearl 2009). Once these multiples are derived from the peer group, they are applied to the target company's financial data to estimate an enterprise value, or in the case of the Price/Earnings multiple an equity value, that reflects current market sentiment and expectations regarding growth and risk.

As indicated by the median multiples derived from the selected peer group (see table 4 in

the appendix), the CCA for Keywords Studios provides the following multiples. Excluding statistical outliers, the median figures result in approximately 1.3x EV/Revenue, 8.8x EV/EBITDA, and 20.3x Price/Earnings. Applying these multiples to the Keywords Studio's projected financial performance results in a range for the company's enterprise value. More specifically, the EV/Revenue benchmark yields an implied enterprise value of roughly €1,129m, while the EV/EBITDA approach indicates a value closer to €1,273m. Using the Price/Earnings ratio, the implied enterprise value for Keywords Studios results in approximately €1,013m. This valuation method offers several advantages, including reliance on up-to-date market sentiment. However, there are inherent limitations, as the valuation outcome might be susceptible to market distortions, particularly during periods of irrationality, and the scarcity of suitable peers in niche markets.

### **5.2.3. Comparable Transaction Analysis (CTA)**

The Comparable Transaction Analysis, often referred to as Precedent Transaction Analysis, is another relative valuation method that focuses on prices paid in historical M&A transactions involving companies with similar characteristics. Rather than relying on trading values of publicly listed firms, this approach uses observed transaction multiples to estimate the value of the target company. The logic behind the CTA is that the amount buyers have historically paid under comparable conditions, considering factors similar to the CCA such as geographic market, industry segment, growth potential, and operating margins, can serve as a benchmark for current valuations (Damodaran 1995).

To implement the CTA, a set of transactions of a target peer group is identified. Whenever feasible, particular attention is given to selecting transactions that took place under broadly comparable market conditions, as macroeconomic or sector-specific trends can significantly influence deal valuations. However, a limiting factor is the scarcity of recent and truly comparable transactions, which reduces the depth of the peer set and can

complicate direct comparisons due to variations in deal structure, timing, and buyer or seller motivations (Berk and DeMarzo 2017). In the case of Keywords Studios, the CTA relies on just two relevant comparable transactions from the past two years, supplemented by earlier transactions, to approximate the company's relative valuation. Once this peer group of transactions has been established, the relevant multiples similar to the SOTP or CCA valuation, such as EV/Revenue and EV/EBITDA are calculated per deal. These transaction-specific multiples are then applied to the target company's financials, yielding an enterprise value that reflects what informed buyers were willing to pay for similar companies in the recent past. The median EV/Revenue and EV/EBITDA multiples for Keywords Studios of 3.6x and 11.3x respectively, yield an enterprise value of approximately €3,134m based on EV/Revenue and €1,629m based on EV/EBITDA. The CTA offers several benefits to the other relative valuation methods, including the incorporation of control premiums and other deal-specific factors, which are often not accounted for in standard trading multiples. Additionally, the CTA can capture the value of synergies and strategic considerations that shape the final transaction price. Despite this, as mentioned before, the number of truly comparable transactions may be limited. Nevertheless, when a sufficiently robust set of precedent transactions is available, the CTA provides a valuable market-based perspective that, when used alongside other valuation techniques, contributes valuably to a more comprehensive evaluation of the target's worth (Berk and DeMarzo 2017).

### **5.3. Football Field Valuation Summary**

In practice, financial analysts often combine intrinsic and relative approaches to arrive at a well-rounded valuation. Each method provides distinct advantages, and their integration can mitigate individual limitations. To effectively present the range of valuation outcomes, market participants frequently utilize a football field chart, which visually consolidates the various valuation estimates derived from different valuation methods used. The football

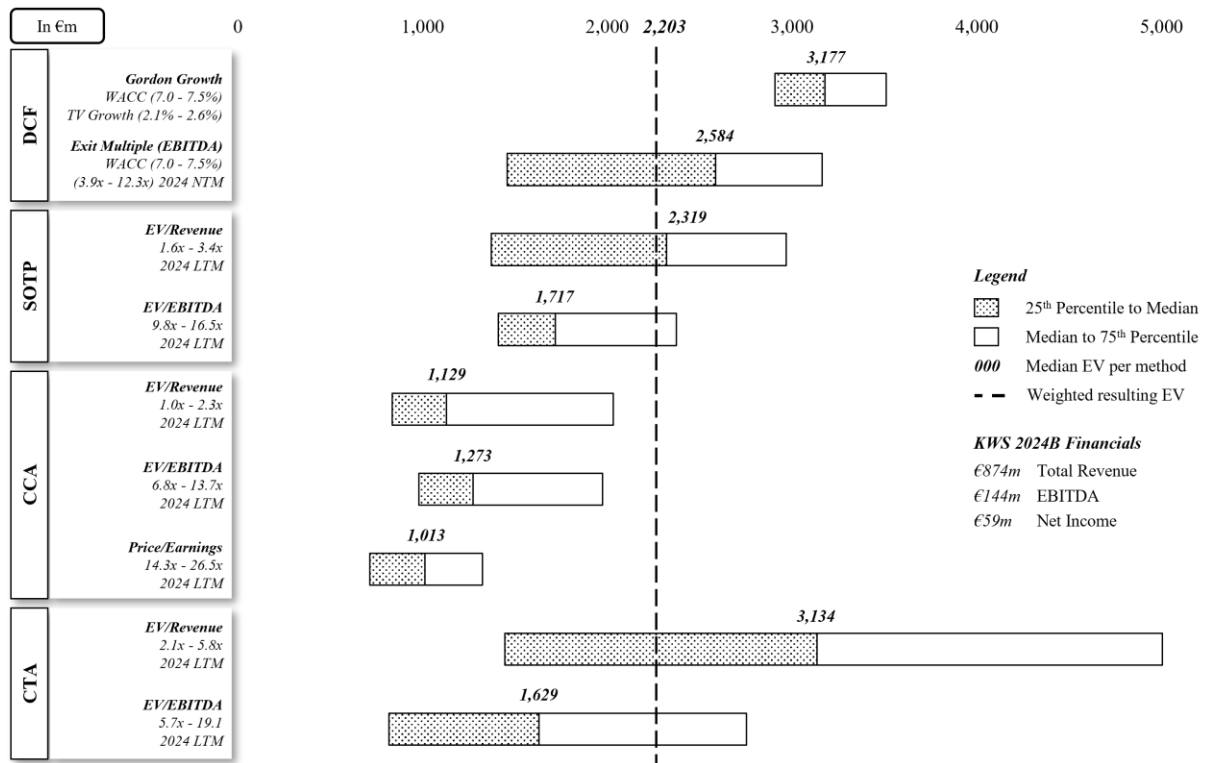
field for Keywords Studios can be seen in table 1 in the appendix. This visualization allows for an intuitive comparison of the valuation ranges from the discussed methods, providing a clear overview of where the target company stands relative to its peers and transaction benchmarks, while also including the results derived from the intrinsic valuation. By using a football field chart, it can be ensured that the assessment of a company's valuation is both accurate and contextually relevant, ultimately supporting the decision-making process within M&A or LBO deals.

#### **5.4. Conclusion**

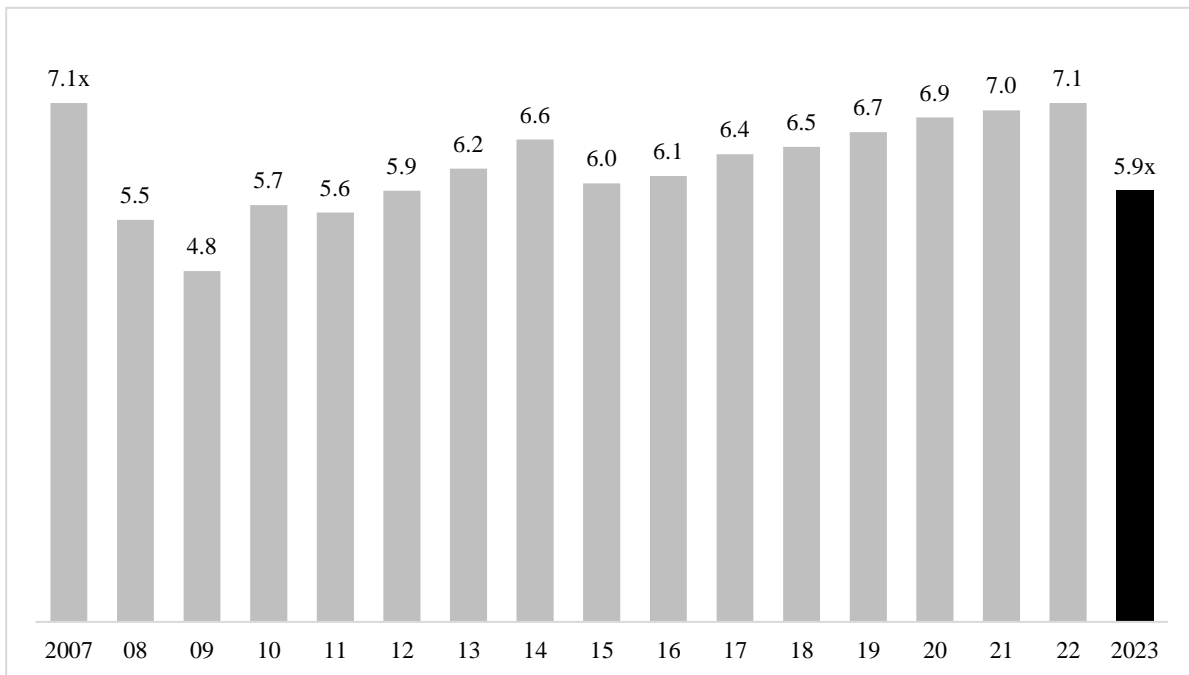
In conclusion, the valuation of Keywords Studios was achieved through a balanced integration of the discussed valuation methods, with weight allocations of 30% to the Discounted Cash Flow valuation, 40% to the Sum of the Parts valuation, 15% to the Comparable Company Analysis and the remaining 15% to the Comparable Transaction Analysis. Specifically, the DCF was equally weighted between the Growth Gordon and Exit Multiple approaches, SOTP was divided between EV/Revenue and EV/EBITDA multiples, CCA encompassed EV/Revenue, EV/EBITDA, and Price/Earnings ratios, and CTA was allocated to EV/Revenue and EV/EBITDA. This weighted aggregation culminated in a final weighted average enterprise value of €2,203m for Keywords Studios, implying a weighted EBITDA multiple of 15.3x. By integrating both intrinsic and relative valuation methods, the outcome ensures to be a robust and thorough assessment of Keywords Studios' worth.

## Appendix

**Table 1: Keywords Studios Football Field**



**Table 2: Debt multiple fell to a 10-year low as interest rates rise**



Source: LSEG, Bain & Company: Global Private Equity Report 2024

**Table 3: Keywords Studios SOTP Peer Group**

Company Name	Country	Enterprise Value in `000€	Revenue in `000€	EBITDA in `000€	EV/Revenues	EV/EBITDA	Price/Earnings
<b>Create</b>							
CD Projekt	Poland	3,454,514	347,925	134,158	9.9x	25.7x	27.2x
Electronic Arts	United States	38,841,978	8,168,299	2,140,911	4.8x	18.1x	29.8x
Krafton	South Korea	7,387,547	1,637,872	726,095	4.5x	10.2x	19.3x
Nintendo	Japan	51,769,213	11,939,521	3,904,948	4.3x	13.3x	20.3x
Paradox Interactive	Sweden	1,410,603	266,804	94,515	5.3x	14.9x	28.2x
Square Enix	Japan	2,377,254	2,544,789	286,463	0.9x	8.3x	38.9x
Take Two Interactive	United States	32,372,150	5,778,515	548,190	5.6x	59.1x	-
Team17 Group	United Kingdom	486,836	218,952	49,904	2.2x	9.8x	-
Ubisoft	France	4,527,994	2,681,431	434,879	1.7x	10.4x	16.5x
<b>Globalize</b>							
Bandai Namco	Japan	11,498,193	7,120,635	1,114,636	1.6x	10.3x	16.8x
Pole to Win (PTW)	Japan	92,331	301,178	9,139	0.3x	10.1x	-
RWS Holdings	United Kingdom	803,388	831,867	65,479	1.0x	12.3x	-
Sony	Japan	137,345,355	80,722,736	15,552,711	1.7x	8.8x	17.9x
ZOO Digital	United Kingdom	40,798	43,155	(2,650)	0.9x	-	-
<b>Engage</b>							
Azerion Group	Netherlands	329,533	555,000	42,900	0.6x	7.7x	-
Criteo	France	2,125,617	1,795,641	346,296	1.2x	6.1x	23.5x
DeNA	Japan	1,081,905	976,480	51,416	1.1x	21.0x	-
Devolver Digital	United States	137,507	99,808	(7,021)	1.4x	-	-
Digital Turbine	United States	483,441	453,463	(151,869)	1.1x	-	-
Flexion Group	United Kingdom	32,945	99,376	4,213	0.3x	7.8x	-
Gamania Digital Entertainment	India	375,578	340,796	42,559	1.1x	8.8x	22.9x
Maginte	United States	2,582,216	609,877	110,469	4.2x	23.4x	Outlier
Ströer	Germany	4,397,056	2,026,909	595,276	2.2x	7.4x	23.8x
TechTarget	United States	954,117	218,345	63,242	4.4x	15.1x	-
<b>Create</b>							
<b>Median</b>		<b>4,527,994</b>	<b>2,544,789</b>	<b>434,879</b>	<b>4.5x</b>	<b>13.3x</b>	<b>27.2x</b>
<b>Average</b>		<b>15,847,565</b>	<b>3,731,568</b>	<b>924,451</b>	<b>4.4x</b>	<b>18.9x</b>	<b>25.7x</b>
<b>Globalize</b>							
<b>Median</b>		<b>803,388</b>	<b>831,867</b>	<b>65,479</b>	<b>1.0x</b>	<b>10.2x</b>	<b>17.4x</b>
<b>Average</b>		<b>29,956,013</b>	<b>17,803,914</b>	<b>3,347,863</b>	<b>1.1x</b>	<b>10.4x</b>	<b>17.4x</b>
<b>Engage</b>							
<b>Median</b>		<b>718,779</b>	<b>504,231</b>	<b>47,158</b>	<b>1.1x</b>	<b>8.8x</b>	<b>23.5x</b>
<b>Average</b>		<b>1,282,344</b>	<b>716,842</b>	<b>110,930</b>	<b>1.7x</b>	<b>13.6x</b>	<b>23.4x</b>

Source: Bloomberg

**Table 4: Keywords Studios CCA Peer Group**

Company Name	Country	Enterprise Value in '000€	Revenue in '000€	EBITDA in '000€	EV/Revenues	EV/EBITDA	Price/Earnings
<b>America</b>							
Devolver Digital	United States	137,507	99,808	(7,021)	1.4x	-	-
Digital Turbine	United States	483,441	453,463	(151,869)	1.1x	-	-
East Side Games	Canada	43,855	66,647	11,018	0.7x	4.0x	20.3x
Electronic Arts	United States	38,841,978	8,168,299	2,140,911	4.8x	18.1x	29.8x
Maginte	United States	2,582,216	609,877	110,469	4.2x	23.4x	Outlier
Take Two Interactive	United States	32,372,150	5,778,515	548,190	5.6x	59.1x	-
<b>Europe</b>							
Azerion Group	Netherlands	329,533	555,000	42,900	0.6x	7.7x	-
CD Projekt	Poland	3,454,514	347,925	134,158	9.9x	25.7x	27.2x
CI Games	Poland	89,233	69,779	12,098	1.3x	7.4x	23.2x
Criteo	France	2,125,617	1,795,641	346,296	1.2x	6.1x	23.5x
Digital Bros	Italy	198,321	121,844	38,670	1.6x	5.1x	-
EG7	Sweden	85,226	194,864	35,646	0.4x	2.4x	14.7x
Flexion Group	United Kingdom	32,945	99,376	4,213	0.3x	7.8x	-
G5 Entertainment	Sweden	65,675	128,541	11,234	0.5x	5.8x	7.8x
GDEV	Cyprus	389,944	490,832	46,664	0.8x	8.4x	12.4x
Modern Times Group	Sweden	782,048	603,171	158,246	1.3x	4.9x	98.4x
Nacon	France	228,781	195,404	8,101	1.2x	28.2x	6.1x
Paradox Interactive	Sweden	1,410,603	266,804	94,515	5.3x	14.9x	28.2x
RWS Holdings	United Kingdom	803,388	831,867	65,479	1.0x	12.3x	-
Starbreeze AB	Sweden	23,764	67,079	26,032	0.4x	0.9x	2.1x
Stillfront Group	Sweden	917,934	759,689	135,346	1.2x	6.8x	-
Ströer	Germany	4,397,056	2,026,909	595,276	2.2x	7.4x	23.8x
Team17 Group	United Kingdom	486,836	218,952	49,904	2.2x	9.8x	-
Ten Square Games	Poland	121,628	114,931	29,597	1.1x	4.1x	62.7x
Thunderful Group	Sweden	81,985	284,195	13,502	0.3x	6.1x	-
Ubisoft	France	4,527,994	2,681,431	434,879	1.7x	10.4x	16.5x
ZOO Digital	United Kingdom	40,798	43,155	(2,650)	0.9x	-	-
<b>Asia</b>							
37 Games	China	3,199,916	2,622,778	409,603	1.2x	7.8x	11.5x
Bandai Namco	Japan	11,498,193	7,120,635	1,114,636	1.6x	10.3x	16.8x
CMGE Technology Group	India	390,052	396,965	18,255	1.0x	21.4x	-
DeNA	Japan	1,081,905	976,480	51,416	1.1x	21.0x	-
Gamania Digital Entertainment	India	375,578	340,796	42,559	1.1x	8.8x	22.9x
International Games System	Taiwan	5,917,966	507,791	274,149	11.7x	21.6x	27.8x
JoyCity	South Korea	170,020	121,844	24,088	1.4x	7.1x	20.6x

Kakao Games	South Korea	1,857,580	821,583	131,458	2.3x	14.1x	-
Kingnet Network	China	2,609,492	695,310	242,500	3.8x	10.8x	12.8x
Konami Holdings	Japan	9,087,205	2,573,198	739,381	3.5x	12.3x	26.5x
Krafton	South Korea	7,387,547	1,637,872	726,095	4.5x	10.2x	19.3x
NC Soft	South Korea	1,764,685	1,365,560	151,441	1.3x	11.7x	23.5x
Nintendo	Japan	51,769,213	11,939,521	3,904,948	4.3x	13.3x	20.3x
Playtika	Israel	4,744,462	2,767,414	696,174	1.7x	6.8x	14.3x
Pole to Win (PTW)	Japan	92,331	301,178	9,139	0.3x	10.1x	-
Sony	Japan	137,345,355	80,722,736	15,552,711	1.7x	8.8x	17.9x
Square Enix	Japan	2,377,254	2,544,789	286,463	0.9x	8.3x	38.9x
WeMade Entertainment	South Korea	1,293,512	540,629	(64,919)	2.4x	-	-
Zengames Technology	India	109,098	313,683	125,517	0.3x	0.9x	3.7x
<b>Total Median</b>		<b>917,934</b>	<b>507,791</b>	<b>65,479</b>	<b>1.3x</b>	<b>8.8x</b>	<b>20.3x</b>
<i>Median America</i>		954,117	453,463	63,242	4.2x	18.1x	25.1x
<i>Median Europe</i>		329,533	266,804	42,900	1.2x	7.4x	23.2x
<i>Median Asia</i>		2,377,254	976,480	242,500	1.6x	10.2x	19.8x
<b>Total Average</b>		<b>7,214,477</b>	<b>3,097,938</b>	<b>626,184</b>	<b>2.2x</b>	<b>11.8x</b>	<b>23.2x</b>
<i>Average America</i>		10,773,609	2,199,279	387,848	3.2x	23.9x	25.1x
<i>Average Europe</i>		980,658	566,542	108,576	1.7x	9.1x	26.7x
<i>Average Asia</i>		12,793,230	6,226,882	1,286,085	2.4x	11.4x	19.8x

Source: Bloomberg

**Table 5: Keywords Studios CTA Peer Group**

Announcement	Target	Target Country	Bidder	Enterprise Value in '000€	Revenue in '000€	EBITDA in '000€	EV/Revenue	EV/EBITDA
11.11.2024	Plarium	Israel	Modern Times Group	573,980	567,500	126,831	1.01x	4.53x
01.11.2023	System Era Softworks	USA	Devolver Digital	37,570	6,417	3,484	5.67x	10.44x
17.04.2023	Rovio Entertainment Oyj	Finland	SEGA; Sega Sammy	540,947	317,723	41,349	1.70x	13.08x
13.05.2022	Capcom (2.06% Stake)	Japan	Capcom	4,195,494	812,675	341,865	5.11x	12.16x
10.05.2022	Nintendo (0.77% Stake)	Japan	Nintendo	36,950	12,799	4,525	3.03x	8.58x
16.02.2022	DAEDALIC Entertainment	Germany	Nacon	53,000	17,344	9,374	3.06x	5.65x
13.01.2022	astragon Entertainment	Germany	Team17 Group	100,000	16,916	7,534	5.91x	13.27x
13.12.2021	Azerion Holding	Netherlands	Azerion Group	863,823	195,000	26,000	4.43x	33.22x
15.09.2021	Bad Pixel	Russia	tinyBuild.	14,499	-	2,457	-	5.71x
27.05.2021	Merge Games	United Kingdom	Maximum Entertainment	14,511	14,336	3,218	1.01x	4.51x
22.04.2021	Climax Studios	United Kingdom	Keywords Studios	49,642	-	4,813	-	10.00x
09.02.2021	Just For Games	France	Maximum Entertainment	14,000	29,800	3,900	0.47x	3.59x
14.12.2020	Codemasters Group	United Kingdom	Electronic Arts	983,397	85,921	48,062	11.76x	21.03x
30.09.2020	Pipeworks.	USA	Sumo Group	84,869	13,204	2,141	6.72x	41.46x

17.09.2020	Heavy Iron Studios	USA	Keywords Studios	11,267	4,853	899	2.46x	13.30x
26.08.2020	Big Blue Bubble	Canada	Enad Global 7	48,705	7,867	2,141	6.51x	22.33x
09.07.2020	Epic Games	USA	KKR; Sony; BlackRock; etc.	15,281,336	3,746,989	651,262	4.12x	23.70x
<b>Median</b>				<b>68,934</b>	<b>23,572</b>	<b>7,798</b>	<b>3.59x</b>	<b>11.30x</b>
<b>Average</b>				<b>3,324,657</b>	<b>1,165,791</b>	<b>322,700</b>	<b>4.03x</b>	<b>13.88x</b>

*Source: Bloomberg, MergerMarket*

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