15 March 2023

Keywords Studios PLC ("Keywords Studios", "Keywords", the "Group")

Full Year Results for the year to 31 December 2022

Strong growth and cash generation

Keywords Studios, the international technical and creative services provider to the global video games and entertainment industries, today announces its full year results for the year to 31 December 2022.

Financial Overview:

Results for the year ended 31 December		2022	2021	Change
Group revenue		**€ 690.7m**	**€ 512.2m**	**+ 34.8%**
Organic Revenue growth	1	**+ 21.8%**	**+ 19.0%**	
Adjusted EBITDA	2	**€ 146.9m**	**€ 110.1m**	**+ 33.4%**
Adjusted EBITDA margin		21.3%	21.5%	
EBITDA	2	€ 120.9m	€ 85.7m	+ 41.1%
Adjusted operating profit	3	**€ 114.6m**	**€ 88.4m**	**+ 29.6%**
Adjusted operating profit margin		16.6%	17.3%	
Operating profit		€ 71.8m	€ 50.4m	+ 42.5%
Adjusted profit before tax	4	**€ 112.0m**	**€ 86.0m**	**+ 30.2%**
Adjusted profit before tax margin		16.2%	16.8%	
Profit before tax		€ 68.0m	€ 48.0m	+ 41.7%
Adjusted earnings per share	5	**113.50c**	**89.24c**	**+ 27.2%**
Earnings per share		61.54c	45.16c	+ 36.3%
Final dividend per share		**1.60p**	**1.45p**	
Adjusted cash conversion rate	6	**100.1%**	**107.3%**	
Net cash / (net debt)		**€ 81.8m**	**€ 105.6m**	

Finance and Operating Highlights:

Strong 2022 performance reflecting healthy underlying demand

- Group revenue up 34.8% to €690.7m (2021: €512.2m), driven by sustained demand for high quality content and a continuing trend towards external service provision.
- Organic Revenue growth of 21.8%, with good contributions across all service lines.
- Adjusted profit before tax rose 30.2% to €112.0m, with Adjusted PBT margin of 16.2% (2021: 16.8%), in line with guidance, as foreign exchange benefits were offset by the cost of the transition out of Russia and post-COVID-19 costs.
- Adjusted Cash Conversion rate of 100.1%, lower than 2021 (107.3%), but ahead of guidance.
- Adjusted Free Cash Flow[7] of €112.1m (2021: €92.3m) resulted in net cash of €81.8m (2021: €105.6m), despite €116.4m net cash spend on acquisitions.
- Final dividend of 1.60p per share, an increase of 10% (2021 final dividend: 1.45p), bringing the total dividend in respect of 2022 to 2.37p, an increase of 10% (2021 total dividend: 2.15p)

Strategic Highlights:

Delivering against strategy to drive long-term sustainable growth

- Enhancing our technology platform through both acquisition and increased adoption of technologies across the business, supporting the scalability of the business over time.
- Excellent progress on developing strategic partnerships with key clients.
- Simplified organisation structure supporting employee engagement, collaboration and talent acquisition.

- Delivered five acquisitions for a total maximum consideration of €140 million, strengthening our Create, Engage and technology offerings and capabilities.
- Tangible progress against responsible business goals, renewing partnership with Women in Games, enhancing employee engagement, formalising our diversity, equity, inclusion and belonging roadmap and reducing GHG intensity by 16%

Current trading and outlook

- Trading in the current year has started well, in line with our outlook for the year.
- Expect robust demand for content generation, with our diversified client base, geographical reach, and skew to high-quality games, positioning us well to navigate volatility in the scheduling of certain projects.
- Well placed to increase market share, with the potential for the current industry backdrop to accelerate the trend to external service provision.
- Well-funded to continue to deliver on our value accretive acquisition strategy with a healthy number of M&A opportunities in the pipeline.

Bertrand Bodson, Chief Executive Officer of Keywords Studios, commented:

"We delivered an excellent performance in 2022, demonstrating the strength of our platform and the dedication and hard work of the 12,000 people within Keywords. Whilst mindful of the increasing uncertainty within the broader industry and potential for foreign exchange movements, we are excited about the opportunity ahead with our business model, highly diversified client base, adoption of technology and geographic reach. We are increasingly well positioned to support our clients in generating engaging content for their leading franchises and trading has started well, in line with our expectations for the year.

We expect to continue to see robust demand for content generation as our clients seek to capture the imagination of the three billion gamers globally. We continue to have a healthy pipeline of acquisition opportunities to broaden our capabilities, geographic footprint and service offerings. This, together with our organic growth, will enable us to continue to grow market share, and build upon our position as the partner of choice for the global video games industry, and beyond."

Presentation and Webcast

A presentation of the full results will be made to analysts at 9.00am this morning and the live webcast can be accessed via this link:

https://brrmedia.news/Keywords_Studios_FY

To register for dial in access, or for any enquiries, please contact MHP Group on keywords@mhpgroup.com.

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About Keywords Studios (www.keywordsstudios.com)

Keywords Studios is an international technical and creative services provider to the global video games and entertainment industries. Established in 1998, and now with over 70 facilities in 26 countries strategically located in Asia, Australia, the Americas, and Europe, it provides services across the entire content development life cycle through its Create, Globalize and Engage service lines to a large blue-chip client base across the globe.

Keywords Studios has a strong market position, providing services to 24 of the top 25 most prominent games companies. Across the games and entertainment industry, clients include Activision Blizzard, Bandai Namco, Bethesda, Electronic Arts, Epic Games, Konami, Microsoft, Netflix, Riot Games, Square Enix, Supercell, TakeTwo, Tencent and Ubisoft. Recent titles worked on include Elden Ring, Star Wars Jedi: Fallen Order, Valorant, League of Legends, Fortnite, Clash Royale and Doom Eternal. Keywords Studios is listed on AIM, the London Stock Exchange regulated market (KWS.L).

The Group reports a number of alternative performance measures (APMs) to present the financial performance of the business which are not GAAP measures as defined by International Financial Reporting Standards (IFRS). The Directors believe these measures provide valuable additional information for the users of the financial information to understand the underlying trading performance of the business. In particular, adjusted profit measures are used to provide the users of the financial statements a clear understanding of the underlying profitability of the business over time. For full definitions and explanations of these measures and a reconciliation to the most directly referenceable IFRS line item, please refer to the APMs section at end of the statement.

[1] *Organic revenue at constant exchange rates is calculated by adjusting the prior year revenues, adding pre-acquisition revenues for the corresponding period of ownership, and applying the 2021 foreign exchange rates to both years, when translating studio results into the euro reporting currency.*

[2] *EBITDA comprises Operating profit as reported in the Consolidated statement of comprehensive income, adjusted for amortisation of intangible assets, depreciation and impairment, and deducting bank charges. Adjusted EBITDA comprises EBITDA, adjusted for share-based payments expense, costs of acquisition and integration and non-controlling interest. In order to present the measure consistently year-on-year, the impact of other income is also excluded.*

[3] *Adjusted operating profit consists of the Operating profit as reported in the Consolidated statement of comprehensive income, adjusted for share-based payments expense, costs of acquisition and integration, and amortisation of intangible assets. In order to present the measure consistently year-on-year, the impact of other income is also excluded.*

[4] *Adjusted profit before tax comprises Profit before taxation as reported in the Consolidated statement of comprehensive income, adjusted for share-based payments expense, costs of acquisition and integration, amortisation of intangible assets, non-controlling interest, foreign exchange gains and losses, and unwinding of discounted liabilities. In order to present the measure consistently year-on-year, the impact of other income is also excluded.*

[5] *The Adjusted earnings per share comprises the Adjusted profit after tax divided by the non-diluted weighted average number of shares as reported. The Adjusted profit after tax comprises the Adjusted profit before tax, less the Taxation expense as reported in the Consolidated statement of comprehensive income, adjusted for the tax impact of the adjusting items in arriving at Adjusted profit before tax.*

[6] *The Adjusted cash conversion rate is the Adjusted free cash flow as a percentage of the Adjusted profit before tax.*

[7] *Adjusted free cash flow is a measure of cash flow adjusting for capital expenditure that is supporting growth in future periods (as measured by capital expenditure in excess of maintenance capital expenditure).*

[8] *As at 14 March 2023, company compiled analysts' forecasts gave a consensus for FY 2023 of €816m of revenue (range: €809-827m) and €123m of adjusted profit before tax (range: €122-125m).*

Chairman's Statement

This is my tenth and will be my last Chairman's statement since I joined Keywords just before the IPO in July 2013, and what a journey it has been!

I can look back on those 10 years with a combination of pride and respect – pride for having overseen such a remarkable journey from a small company with three studios and a turnover of just €16m to where it is today at the very centre of the video games industry, and respect for all the people who made it happen.

This last year, 2022, has, in many ways, been the most rewarding of all. Finding a new CEO is always a hazardous enterprise, especially given the unplanned circumstances of the retirement of Andrew Day, who had been the driving force behind the growth of Keywords until ill-health forced him to stand down. We were fortunate to have real strength in depth across our leadership team, allowing time to undertake a comprehensive process to appoint a high calibre successor with the requisite experience and expertise.

In Bertrand Bodson we have found the embodiment of everything for which I was looking for, with the enthusiasm, energy, understated charisma and ambition to lead Keywords through the next phase of its development; the aim is simply for Keywords to become an ever more integral part of the industry which it serves. Rarely has the passing of a mantle been achieved with such panache.

For many companies 2022 was a difficult year. I think it says much for the resilience of the video games industry and Keywords' positioning within it that we are able to report another record year of results, with revenue growth of ~35% and with the cash generation of the business continuing to impress. For an acquisitive business this crucial dynamic is a fundamental aspect of the business model.

Acquisition activity continued apace with five high-quality acquisitions spread across each of our service lines. Perhaps to me the most pleasing aspect of the acquisitions was the greater influence of technology, which will contribute to keeping us at the forefront of our industry.

Earlier, I referred to the major influence of Bertrand in creating a new sense of ambition within the business. The areas identified in collaboration with senior management formed the basis for the evolved strategy set out at the capital markets day in June 2022, and involves:

- A shift to more of a strategic partner relationship with clients.
- A focus on enhancing service delivery through greater use of technology.
- Increased coordination of activities between service lines through the concept of a "One Keywords" mindset.
- Talent management.

Also more analysis has been undertaken on attractive adjacent industries where gaming technologies are already, or likely to have a major future role and where the technology/expertise is already embedded throughout Keywords. Media and Entertainment is a natural area to target but the management team has been careful to balance the natural attraction of expanding our overall target market with opportunities to extend its position as the leading service provider to the video games industry. As Keywords still represents less than 10% of the growing market of provision of external services to the video games industry, there remains ample scope for Keywords to continue its own exciting growth trajectory, within this market.

From the foregoing it will be apparent that, in my opinion, the Keywords business is better positioned than it was a year earlier, with a clear strategy to take the business forward. What is more, the senior leadership team under Bertrand has a far stronger sense of cohesion and common purpose. As already announced, Jon Hauck is taking on the position of COO having operated alongside Bertrand for most of the year and assisted in the streamlining of the operational structures at the senior management level. During this period Jon has also continued as CFO (helped immensely by the finance team) and has been in charge of M&A. Our search for a CFO continues, and the comprehensive process has identified a range of highly qualified candidates for the role.

Success doesn't happen by chance and during 2022 some hurdles have had to be overcome. Not least of these has been the necessary relocation of our Russian-based game development operation – now largely completed with new centres established in Serbia, Armenia and Malta – a major accomplishment. For all that has been achieved overall, great credit must go to the senior management personnel throughout the organisation and, of course, every employee who has put in such effort. My thanks are extended to you all.

I also want to pay tribute to my fellow Directors who have been a great support to the executives under Bertrand and to me as Chairman. Working with these talented and hard-working people has been immensely satisfying and great fun. Together we have visited a number of studios, including Dublin, Milan and Tokyo, and benefited from the insights provided by the local teams – in turn, I hope we have given something back.

Finally, and with a certain sense of sadness (but knowing the time is right for a change), I hand over the Keywords torch to Don Robert, my successor as Chairman. I pass to him, Bertrand, and all Keywordians, my good wishes and all good fortune for the next phase in the life of Keywords, now in its 25th year. During my 10-year tenure as Chairman most of the relevant statistics have multiplied by at least 20 times – so no pressure, Don!

Ross Graham

Chairman

CEO Statement

2022 marked my first full year as CEO of Keywords, and what a year it was. We delivered extremely strong growth and continued to build out our platform, furthering our position at the forefront of the industry and delivering the solutions our clients require to support the success of their games.

In June, we set out our evolved strategy to take the business to the next level, and have made great initial progress delivering against those ambitions. We also unveiled a new, simplified structure to strengthen collaboration across our Group, sharpened our focus on technology, and welcomed five high-quality businesses with over 300 employees, providing further scale and new capabilities to build out our platform. None of this would have been possible without the tireless efforts of our 12,000 Keywordians who consistently Imagine More to deliver high-quality, engaging content and services for our clients.

I spent a considerable part of 2022 visiting our studios across the world with other members of the management team; between us, we have been to Keywords businesses across four continents. Having the opportunity to visit the vast majority of our teams has confirmed to me the fantastic culture and leadership across the organisation and given me great insight into the incredible energy and enthusiasm of our people across the globe. I've also immersed myself in the industry, as coming from a digital but non-gaming background, it was important for me to develop a deeper understanding of the complexities of such a vibrant industry. I thank those who have given their time to support me in this endeavour, and of course, our clients for trusting us to work on their precious content.

I also wholeheartedly extend my thanks to Ross Graham, our departing Chairman, who has offered tremendous guidance to me in my first 12 months. Ross has been with Keywords since the very beginning of our life as a public company, and it is with sadness that we see him retire. Ross has been an exemplary guardian of the business, and we cannot thank him enough for all that he has given to Keywords over the last 10 years. We wish him a long and happy retirement. Whilst we are sad to see Ross go, we are delighted that he is being replaced by someone as experienced and talented as Don Robert. His success in scaling global technology businesses will be invaluable for us as we look to imagine more for this business. I look forward to working with him over the coming years.

Performance

2022 was another exceptional year. We delivered revenues of €690.7m, representing growth of 34.8%, with organic revenue growth of 21.8%, helped by foreign exchange movements. We also saw a good margin performance with adjusted profit before tax of €112.0m (profit before tax was €68.0m), a margin of 16.2%. As guided, this margin was lower than the 16.8% that we delivered in 2021, as a number of cost savings made due to COVID-19 naturally dissipated, and we incurred meaningful costs relating to the change in operating environment around our single Russia based business, and our subsequent relocation of staff and operations out of the country. Together, these costs offset the benefit from the strong US dollar on our margins.

During the year we consolidated our eight service lines into a more simplified structure of just three; Create, Globalize and Engage. All three service lines, which will be discussed in more detail later in this report, demonstrated good growth against the previous year which had benefited strongly from post COVID-19 trends. Organic growth was particularly pleasing in our Create and Globalize businesses, driven by strong demand for our services. We also delivered excellent cash generation in the year, which supported our ongoing M&A activities. Our adjusted free cash flow of €112.1m meant that despite spending €116.4m on acquisitions, the total of the cash component of both the current and previous years' transactions, we ended the year with net cash of €81.8m, providing a solid foundation for future M&A. This demonstrates the highly cash generative nature of this business, with cash conversion of 100.1% for the year, ahead of our guidance of 80%.

Market opportunity

Whilst 2023 has so far seen mixed news from the video games industry, we must not forget the industry's journey in recent years. The video gaming sector is larger than the media and entertainment industry and has grown by over 25% since the start of the pandemic.

In 2022, the industry consolidated gains it had made and, due to a lighter release schedule, changes to mobile privacy and the availability of out-of-home entertainment once again, shrank slightly compared to 2021. Despite this, we continue to see industry forecasts for strong growth over the medium term, with video games continuing to offer incredibly good value on a per-hour of entertainment basis, compared to other forms of entertainment.

In the content generation segment of the industry, where we focus, we believe demand remains robust as our clients seek to continue to engage and captivate consumers. Demand for high quality, engaging games, which our business is skewed towards, is still very strong as evidenced by record sales across some of the industry's key franchises over the important holiday period.

The ongoing shift towards live operations, where games are nurtured through regular content updates, will also mean there will be increasing demand for new content from consumers that publishers and developers will have to meet; we will be there to support them.

The trend towards external partnering within the industry is ongoing as it becomes increasingly complex and challenging to bring a game to market. This growing complexity, combined with a shortage of industry talent, means that publishers are increasingly leaning on trusted large-scale partners like us to help them.

We are by far the largest player in our space, and yet remain at only a 6% share of a highly fragmented market. We believe that we have a significant opportunity to continue to take market share organically, as larger developers and publishers will want to work with larger providers with geographic scale, and to consolidate through our successful acquisition programme.

Delivering against evolved strategy

As I detailed at our capital markets day in June, we have set out an evolved strategy which seeks to build on the highly successful platform created over the last few years. The aim of this is to better position the business to serve our clients by enhancing collaboration and the use of technology across our platform.

In addition, we are seeking to build our talent pool, not only by attracting some of the best talent in the industry, but also by retaining and developing key talent ourselves.

We also believe that there is a significant opportunity in markets closely adjacent to gaming in which the technologies we already use are increasingly being deployed; with a key focus on the media and entertainment space.

Across each of these areas we have dedicated project teams who are embedding key initiatives and workstreams across the organisation in collaboration with our leaders. Taking the core elements of the evolved strategy in turn:

Strategic partnerships

We are working hard to shift our relationships with key clients from tactical to strategic partnerships. In this way, we can provide more value for our clients and expand the range of services that they utilise from across our business.
During the year, we initiated strategic partner reviews with our key clients, where senior members from each side can come together for open discussions about how we can work together over the longer term. This process, which is ongoing, has already significantly improved our clients' understanding of how we can support their growth, and in turn is improving our visibility of activity.

We have also increased our specialist resourcing within the service lines, so that we are better able to respond to client needs with a more holistic offering. I have spent a significant portion of my time obsessively getting to know our clients and their leadership teams. We believe that having both a bottom-up, as well as a top-down approach, will best support long-term relationship building and value creation.

Technology

The technology landscape continues to evolve at a rapid pace, and we must continue to adopt new technologies into our workstreams to remain at the forefront of the industry. Having a background in digital, it was immediately clear to me that Keywords has an opportunity to better utilise the technology that exists within the business, both to enhance its internal systems and provide more comprehensive customer solutions. This will also support the scalability of the business longer-term and ensure we maintain our leadership in the industry. Through utilising existing technologies more, as we have with the KantanAI partnership with Microsoft, and bringing exciting new technologies into the Group through the acquisitions of Mighty Games and Helpshift, we have already made real progress. Both of these acquisitions complement our existing offerings and enable us to broaden our solutions for our clients.

To support our adoption of technology, we have created a standalone innovation team, which is scouring both our business to surface innovations within individual studios, and the broader industry, to ensure that we are able to continually enhance our client offering and ways of working within our business.

One Keywords

Through our One Keywords initiative we are seeking to galvanise and leverage the Group's culture of entrepreneurism and collaboration. We have already seen tangible benefits from the simplification of our structure, which helps us to serve our clients more effectively and ensure employees get the full benefit of being part of the wider Group.

With the support of our new solution architects, we have been able to go to our clients with broader offerings from across many studios, something that was previously difficult to achieve. We have also refreshed our executive team and brought in new talent to lead our Engage business, drive our technology strategy and hired our first Chief People and Culture Officer. In addition, we have launched a studio hub model to allow studio heads to participate in and have a voice at leadership events.

We have also refreshed our previous set of company values, by putting in place a simple set of five leadership principles, which are designed as a practical tool to be applied to everyday working life:

- Power of Partnership
- One Keywords
- Raise the Game
- Embrace an Open World
- Trust through Transparency

These are guiding actions which create the conditions for us to collaborate, and Imagine More for our partners, ourselves, the games industry and beyond, whilst supporting the individual cultures that exist within each of our studios and service lines.

Talent and capabilities

We have enhanced our engagement with our 12,000 employees, establishing global town halls, a key communicators network to empower regional management and consistent messaging across the group. We have also added dedicated resource to address some of the industry's key issues, such as diversity, equity, inclusion and belonging.

We have also put in place dedicated teams to support talent acquisition in an industry where this remains a challenge, yet is critical to our growth trajectory. Internally, we are seeking to develop our talent by expanding our in-game academies and boot camps which offer the opportunity for people to enter or progress within the industry. Longer-term, we are building a pipeline of talent, specifically in India, where we have an agreement with the government to expand our Academy, which is currently focused on art, into game development, taking advantage of the quantity of high-quality engineering talent emerging from Indian universities.

Adjacent markets

Gaming remains our core market, and one in which we see huge opportunity for growth over the coming years. It is still a highly fragmented market, and our focus remains on ensuring we grow our market leading position. However, gaming technologies are increasingly being utilised in other industries, primarily media and entertainment, where virtual production and visual effects (VFX) are increasingly using game engine technology. We believe this shift will present opportunities for us and we are looking at ways to capture these opportunities over time. We already serve elements of this market through our Globalize business, primarily providing dubbing and subtitling services to companies such as Netflix, and have seen strong growth during the year.

The trend towards live operations, with the aim of keeping a game live and engaging consumers for as long as possible, has continued during the year. Across Keywords, we are able to support clients as they nurture games to stay live, and we continue to augment the Group to deliver the right offering for clients in this regard. We have also started to explore ways in which we can service clients in respect of longer-term opportunities such as the metaverse where we see emerging opportunities for the Group.

M&A

Complementary to the five pillars of our strategy is our M&A approach, which has added significant value to the business over the past ten years and something we believe is a key differentiator for us. In 2022, we completed five high-quality acquisitions in the US, Australia, Canada and Italy, meaning we have now completed over 60 transactions in the past 10 years. In that time, we have carefully deployed almost €600m on M&A, predominantly funded from free cash generation, systematically expanding our initial localization and testing offering, into the only service provider able to deliver across the full game development cycle.

We continue to take a strategic approach to M&A and are looking to extend our capabilities and geographical reach in our Create and Engage service lines, as well as scaling our technology offering and exploring opportunities to enter adjacent markets. During 2022, three acquisitions were game development studios (Forgotten Empires, Smoking Gun and Mighty Games), with Mighty Games also bringing an automated testing technology solution, and one in marketing (LabCom). We also acquired Helpshift, which has developed a market leading software-as-a-service customer support automation tool to resolve customer issues in real-time within its clients' mobile apps and complements our Player Support offering within the Engage service line. In early 2023 we acquired 47 Communications, a leading US-based PR and communications agency to further enhance Engage's marketing and PR offering.

Russia

Sadly, the humanitarian crisis in Ukraine is ongoing. At the start of 2022, we had one game development studio, Sperasoft, with offices in Russia and Poland, which was purely working for international gaming businesses, rather than serving domestic Russian clients. In discussion with our clients and to support colleagues, in the first half of 2022 we commenced relocating the majority of our people and work from Russia to alternative locations, including Poland, together with Serbia, Armenia and Malta, where we have established new operations.

This was a major project, requiring cross functional support and a project team which has dedicated considerable time and resource to making this transition as smooth as possible for all, with the second half of 2022 having been the key transition phase. Their efforts enabled us to relocate over 400 people from Russia by the year-end to the new locations in Europe, a true example of what is possible when teams come together in adversity and look for long term solutions. We have already started to organically grow our headcount in the new locations, with client work having transitioned to alternative locations successfully. In H1 2023, we will continue to look to transition further staff out of Russia, before closing our operations.

Responsible Business

Our responsible business agenda is centred around five key areas; our people, planet, community and our clients, underpinned by our commitment to good governance and ethics.

During the year we continued to make good progress with these priorities. In an organisation of over 12,000 people, our people are our largest and most valuable asset and rightly have high expectations of us. A good culture, in which our people feel rewarded, trusted, and included, is critical for our long-term success. We believe that having a diverse workforce is the best way to provide highly creative solutions for our clients and have made meaningful progress in establishing this. We have renewed our partnership with Women in Games after a successful first year of our ambassador programme and have a full schedule of events planned for 2023.

In 2022, the Group was composed of 26% women, 73% men, with according to current data, a collective 1% of colleagues identifying as non-binary or declining to disclose their gender (2021: 25%/74%/1%). Our support functions have a more balanced split of women and men (44% and 55%, respectively, with 1% non-binary/not disclosed).

Gender diversity, and addressing under-representation remain a focus for the Group and Board both across our business and the wider industry. Following changes to Board composition during the year, the percentage of women Directors on the Board at year-end of 29% was marginally lower than in 2021 (30%). We continue to apply inclusive appointment processes, in line with our Board Diversity Policy.

Internally we have created a three-year roadmap with dedicated resourcing to provide more structure to our diversity, equity, inclusion and belonging (DEIB) initiatives and believe we will start to see tangible benefits from this as we go forward. We have also continued to win best workplace awards across the globe, demonstrating the efforts made to make sure Keywords is a great place to work for all.

We have made positive steps in our Sustainable Studios initiative to identify the areas where we can reduce our impact on the planet, something of importance to all our stakeholders. During our review, we identified moving to renewable energy supplies, wherever possible, as having the most significant positive impact, and we are exploring this on a studio-by-studio basis. We made progress in switching tariffs to renewable providers, with 16 of our studios now on green tariffs. Going forward, we will also ensure that all new office and studio space meets modern environmental building requirements.

We are working towards a target of reducing the intensity of our emissions (tonnes of CO_2e per €m of revenue) by 50% by 2030 and in 2022, achieved a 16% reduction. In the meantime, we have continued to expand the greenhouse gas inventory that we report against and during the year, we have offset our 2021 operational emissions through a highly respected carbon offset project in Tanzania.

We have also continued to make a positive impact through our Keywords Cares initiative, which is an annual central fund which can be applied to match funds raised by our local teams. This year our teams raised over €45,000 for a range of causes across the globe, undertaking our first global initiative in November. It was great to see so many different activities taking place across the Group, with over 35 different charitable and community activities being completed, more than double the number in 2021.

Outlook

We delivered an excellent performance in 2022, demonstrating the strength of our platform and the dedication and hard work of the 12,000 people within Keywords.

Whilst mindful of the increasing uncertainty within the broader industry and potential for foreign exchange movements, we are excited about the opportunity ahead with our business model, highly diversified client base, adoption of technology and geographic reach. We are increasingly well positioned to support our clients in generating engaging content for their leading franchises and trading has started well, in line with our expectations for the year.

We expect to continue to see robust demand for content generation as our clients seek to capture the imagination of the three billion gamers globally. We continue to have a healthy pipeline of acquisition opportunities to broaden our capabilities, geographic footprint and service offerings. This, together with our organic growth, will enable us to continue to grow market share, and build upon our position as the partner of choice for the global video games industry, and beyond.

Bertrand Bodson

Chief Executive Officer

Service Line Review

Create

The Create service line combines Art Services and Game Development to deliver a range of services to clients and partners globally. It represents around 3,500 people in 23 studios across 42 cities.

	2022	2021	Change
Revenue €m	**275.5**	188.2	46.4%
Organic Revenue growth %			25.9%
Adjusted EBITDA €m	**69.7**	49.7	40.2%
Adjusted EBITDA margin %	**25.3%**	26.4%	

2022 Performance

Create performed strongly during the year, with total revenues up by 46.4% to €275.5m (2021: €188.2m). Organic Revenue, which excludes the impact of acquisitions, grew by 25.9%, as the service line continued to benefit from the strong industry demand for new content creation and the increasing complexity of games.

The performance was driven by strong growth in a number of Create studios, with increased headcount enabling our game development studios to take on more work and meet demand, with the UK and Australia seeing strong growth in particular. In Art Services, we continued to experience very strong performance in Quebec and in our Indian business. We have also begun to benefit from the increased collaboration between Art Services and Game Development, with studios increasingly utilising each other's services to support the needs of clients.

Due to the industry-wide shortage of talent within the game development and art sectors, we have established a dedicated talent acquisition team to complement local efforts and have started a number of local talent development initiatives. These combined efforts, together with our extensive geographic footprint allowing us to hire from around the world, has meant that we have been able to meaningfully grow our Create team during the period, and better support our clients.

Despite Game Development being the most directly affected by the situation in Ukraine, the scale and broad footprint of the business has meant that the service line continued to perform well during the period. During the year, we started to relocate people and work from our single Russia-based business, Sperasoft, to alternative locations in Europe. Sperasoft purely works for international gaming businesses, rather than serving domestic Russian clients. The majority of this transition took place in the second half of the year, and in total we have moved over 400 people to new locations as of the year end. The situation in Ukraine meant that our initial growth plans for Sperasoft, that had been resourced, could not be fulfilled, and the focus for the year was on completing existing projects and undertaking the transition. This had a meaningful impact on profitability of the business. Due to the successful transition, and pace of new hires in the new locations, we are now able to start to take on new projects and as well as continuing to support our existing clients. In H1 2023, we will continue to look to transition further staff out of Russia, before closing our operations. As a result, we will continue to incur costs from the transition into the year, as well as a modest one-off charge relating to the closure.

Revenues derived from Russia represented 3.8% of Group revenues (€26.3m), down from 5.7% in 2021 and in December 2022 represented just 1.7% of Group revenues.

Adjusted EBITDA in Create grew 40.2% to €69.7m in 2022 (2021: €49.7m), with the Adjusted EBITDA margin of 25.3% in 2022 lower than the previous period (2021: 26.4%) due to the impact of the transition of people and work from Russia in the second half of the year. This was largely offset by the benefit of foreign exchange movements.

We welcomed three new Game Development studios this year, Forgotten Empires, the small game development team at Mighty Games and Smoking Gun Interactive. Each of the acquisitions bring different skills and capabilities to our business. Forgotten Empires brings extensive experience in real-time strategy games. Smoking Gun has a long track record in developing highly rated, cross platform games and gives access to talent in Vancouver, a game development hub. The Mighty Games team also support the scaling of our broader Australian business.

The market opportunity and outlook

The video games market remains robust, with strong player engagement on major platforms and titles. Whilst there is potential for large publishers to have a narrower focus on major titles, we continue to believe there will be a focus on the generation of new content to ensure that players remain engaged for longer.

We expect continued robust demand across our Create service line, as the industry remains capacity constrained in terms of access to highly-skilled talent as games continue to increase in complexity. This has meant that clients are increasingly seeking external support to deliver the required, engaging content for their projects. While we are starting to see a more cautious approach to investment in new games at the beginning of the year, the Create service line remains resilient, due to the quality of our studios and talent, its strong client relationships globally, and the mix of franchises we work on.

Globalize

Globalize brings together our Audio, Testing and Localization businesses to create a global business with around 5,000 people in 32 studios across 27 cities.

	2022	2021	Change
Revenue €m	**300.9**	231.9	29.8%
Organic Revenue growth %			23.4%
Adjusted EBITDA €m	**61.6**	47.4	30.0%
Adjusted EBITDA margin %	**20.5%**	20.4%	

2022 Performance

Globalize performed well in 2022 with total revenues up by 29.8% to €300.9m (2021: €231.9m). Organic Revenue, which excludes the impact of acquisitions, grew by 23.4%.

Each of the lines of business within Globalize performed well during the year, and our increased scale and footprint meant we were well positioned to capitalise on the industry's healthy demand for post-production services, despite it being a slower period for new launches.

In Functional Testing we saw strong growth, as our Polish operations relocated to a new state-of-the-art facility enabling increased recruitment, and Montreal performed well. We also benefitted from several large testing contracts in the second half of the year that we were able to fulfil due to our scale and footprint. Our broad footprint across different time zones allows clients access to a global workflow, and access to different cost to serve models. This enables us to continue to mitigate the impact of increasing costs, with considered pricing adjustments. Our footprint also provides the opportunity to grow our talent base and maintain high-quality output for our clients.

Mighty Games was added to the portfolio to be able to offer automated games testing solutions and expertise to our clients. This acquisition illustrates our commitment to utilise technology to provide more value-added services to our client base and stay at the forefront of our industry.

In Localization, performance was also strong as we benefited from the deployment of a specific AI driven text localization workflow in H1 for a key client. Audio localization saw a good second half of the year, which offset weaker H1 performance from delays to certain projects. Our Audio media and entertainment business continued to grow rapidly as we expanded our capabilities and relationships with several large industry players, including Netflix.

Adjusted EBITDA in Globalize grew 30.0% to €61.6m in 2022 (2021: €47.4m), with the Adjusted EBITDA margin maintained at 20.5% in 2022 compared to 20.4% in 2021.

The market opportunity and outlook

During the year we saw the trend towards external service provision continue across each of our Globalize lines of business. We believe that even in a more constrained market environment this trend will continue over the medium term, as the opportunity to move from fixed to variable costs for certain functions will become more attractive for clients. Due to the scale of the service line we are now able to meet the needs of our largest clients, across the globe, and in a rapid manner, which should further enable us to capture increasing demand across the service line.

Engage

Our Engage service line brings together our Marketing Services and Player Support businesses to create a holistic offering focused on player engagement, encompassing around 2,500 people in 29 studios across 23 cities.

	2022	2021	Change
Revenue €m	**114.3**	92.1	24.1%
Organic Revenue growth %			9.7%
Adjusted EBITDA €m	**15.6**	13.0	20.0%
Adjusted EBITDA margin %	**13.6%**	14.1%	

2022 Performance

Engage saw robust growth during the year, with revenues up by 24.1% to €114.3m (2021: €92.1m). Organic Revenue, which excludes the impact of acquisitions, grew by 9.7%.

Player Support performed strongly across the year, with the addition of a number of new clients and healthy growth across our top clients. Social Media and Trust and Safety Services also continue to grow and are developing into a key part of our offering. In December, we were delighted to announce the acquisition of Helpshift, which will transform our player support business into a unique market leading holistic offering for our clients. Helpshift, brings a market leading customer support automation tool to resolve customer issues in real-time within its clients' mobile apps, which together with our existing player support capabilities, and KantanAI machine translation capability, will create an unrivalled player support offering for customers.

Our Marketing studios delivered a more modest performance, in part due to the exceptional performance in 2021, during which the business experienced significant growth of over 150% and organic growth of ~34%. In addition, the 2022 performance was impacted by some client-specific project delays and cancellations, particularly in our North American studios. In December, we were pleased to extend the geographic spread of our PR offering, with the acquisition of LabCom in Italy, complementing our UK-based PR agency, Indigo Pearl and the January 2023 acquisition of 47 Communications in the US opens up opportunities in the world's largest gaming market. Increasingly, our marketing studios are collaborating to provide broader solutions to clients as well as working with player support to provide a holistic offering.

Adjusted EBITDA grew 20.0% to €15.6m in 2022 (2021: €13.0m), with the 2022 Adjusted EBITDA margin of 13.6% slightly behind the previous year period (2021: 14.1%).

The market opportunity and outlook

Our ambition for Engage is to create the next generation of connected companies that encompass the marketing, communications, and player-centred aspects of the games industry. This will enable us to offer a holistic solution focused on driving and maintaining player engagement with our clients' games. We will continue to broaden our marketing offerings, both geographically and to ensure that we have all of the capabilities our global clients need.

In Player Support, the nature of the business means that clients need to focus on keeping players engaged and supported within their games. The Helpshift acquisition, whilst early in its integration, provides an exciting opportunity to scale our business, by providing a market-leading solution for clients, although it will take the majority of 2023 before we believe we will be able to demonstrate meaningful traction with clients due to the longer sales cycle in this segment. As highlighted previously, the successful integration of KantanAI, our Machine Translation solution, into Player Support, provides further opportunities for the business to provide cost effective and high-quality solutions to meet industry needs.

Financial and operating overview

Revenue

Revenue for 2022 increased by 34.8% to €690.7m (2021: €512.2m). This performance included the impact of acquisitions in 2021 and 2022 and an ~8% benefit from the impact of currency movements, when translating studio results from local currency into the euro reporting currency, and particularly the strengthening of the US dollar.

Organic Revenue growth (which adjusts for the impact of acquisitions) was 21.8%. This was driven by a strong performance across all service lines, against the comparative period in 2021, particularly in our Create and Globalize Service Lines. Excluding the impact of currency, when converting amounts billed by studios in US dollars into local currency, organic revenue growth would have been approximately 3% lower. Further details of the trading performances of each of the Service Lines are provided in the Service Line Review.

Gross profit and margin

Gross profit in 2022 was €267.3m (2021: €200.1m) representing an increase of 33.6%. The gross margin of 38.7% was broadly in line with 2021 (39.1%). While currency movements mentioned above were also supportive to margins, the uplift was predominantly offset by the cost and disruption of building up our capacity in new locations to migrate work previously performed within Russia, to outside of the country.

Operating costs

Adjusted operating costs increased by 33.8% to €120.4m (2021: €90.0m), reflecting the larger Group, but at 17.4% of revenue were slightly lower than 2021 (17.6%). This was driven by continued good cost control, as the Group looked to manage the impact of increased travel and business development costs as these activities increased with the easing of COVID-19 restrictions.

EBITDA

EBITDA increased 41.1% to €120.9m (2021: €85.7m). Adjusted EBITDA increased 33.4% to €146.9m compared with €110.1m for 2021. The Adjusted EBITDA margin in 2022 of 21.3% was marginally lower than 2021 (21.5%) reflecting the lower gross margin.

Net finance costs

Net finance costs were €1.4m higher at €3.8m (2021: €2.4m), primarily driven by a €1.0m increase in the unwinding of discounted liabilities relating to deferred consideration.

Alternative performance measures (APMs)

The Group reports a number of APMs to present the financial performance of the business which are not GAAP measures as defined by IFRS. The Directors believe these measures provide valuable additional information for the users of the financial information to understand the underlying trading performance of the business. In particular, adjusted profit measures are used to provide the users of the financial statements a clear understanding of the underlying profitability of the business over time. A breakdown of the adjusting factors is provided in the table below:

	2022 €m	2021 €m
Share-based payments expense	**18.7**	16.4
Costs of acquisition and integration	**8.4**	8.0
Amortisation of intangible assets	**16.8**	13.7
Foreign exchange and other items	**0.1**	-
Total	**44.0**	38.1

1.14m options were granted under incentive plans in 2022. This, together with grants from previous years, has resulted in a non-cash share-based payments expense of €18.7m in 2022 (2021: €16.4m).

One-off costs associated with the acquisition and integration of businesses amounted to €8.4m (2021: €8.0m). Amortisation of intangible assets increased by €3.1m to €16.8m (2021: €13.7m) reflecting the recent levels of acquisition activity.

Foreign exchange and other items amounted to a net loss of €0.1m (2021: €nil). This includes €2.9m for the unwinding of discounted liabilities on deferred consideration (2021: €1.9m) offset by a net foreign exchange gain of €1.7m (2021: €2.0m) and other income of €1.1m (2021: €nil). Keywords does not hedge foreign currency exposures in relation to net current assets. While more material movements in foreign exchange can be impactful on revenues and expenses, the net impact on the Group's results of movements in exchange rates and the foreign exchange gains and losses incurred during the year mainly relate to the effect of translating net current assets held in foreign currencies.

A more detailed explanation of the measures used together with a reconciliation to the corresponding GAAP measures is provided in the APMs section at the end of the report.

Profit before taxation

Profit before tax increased by €20.0m (+41.7% year-on-year) to €68.0m (2021: €48.0m). Adjusted profit before tax, which adjusts for the items described in the APMs section above increased by €26.0m (+30.2% year-on-year) to €112.0m compared with €86.0m in 2021. This reflects a small reduction in Adjusted profit before tax margin of 0.6% points to 16.2% (2021: 16.8%). This was due to costs and disruption associated with the relocation of our Russia-based operations to outside of the country, which impacted margins by ~2% points, together with the return of travel, business development and return to office costs (~1%) post COVID-19. Largely offsetting these was a ~2.5% point margin benefit from foreign exchange, particularly the strong US dollar during the period as we invoice more than 50% of our sales in US dollars.

Taxation

The tax charge increased by €6.7m to €20.6m (2021: €13.9m) largely reflecting the increase in the Profit before tax of the business. After adjusting for the items noted in the APMs section above and the tax impact arising on these items, the Adjusted effective tax rate for 2022 was 22.0%, slightly higher than the rate of 21.6% in 2021.

Earnings per share

Basic earnings per share increased by 36.3% to 61.54c (2021: 45.16c) primarily reflecting the 38.9% increase in the statutory Profit after tax. Adjusted earnings per share which adjusts for the items noted in the APMs section above and the tax impact arising on these items was 113.50c (2021: 89.24c), representing an increase of 27.2%, with the rise in Adjusted profit before tax of 30.2% partially offset by a 1.9% increase in the basic weighted average number of shares.

Cash flow and net debt

The Group generated Adjusted EBITDA of €146.9m in 2022, an increase of €36.8m from €110.1m in 2021. There was a €3.6m outflow in respect of the amounts due for Multi-Media Tax Credits (MMTCs) and Video Game Tax Credits (VGTRs), lower than 2021, as we saw a return to more normal phasing of payments in H2 2022. MMTCs and VGTRs are subsidies that are recognised as work is performed but are typically paid in the second half of the following year. Other working capital saw an inflow of €0.6m, a €10.7m change from 2021, mainly due to an increase in accrued income associated with the strong performance of the business at the end of the year offset by a reduction in debtor days.

Investment in property, plant and equipment increased by €7.6m to €27.0m (2021: €19.4m) as we continued to invest in growing the business. Property lease payments of principal of €11.4m were 14.0% higher than the prior period (2021: €10.0m) mainly related to acquisitions in the period.

Operating cash flows of €105.0m were ahead of 2021 (€87.2m), primarily due to the €36.8m increase in Adjusted EBITDA, partially offset by the change in working capital.

	2022 €m	2021 €m	Change €m
Adjusted EBITDA	**146.9**	110.1	36.8
MMTC and VGTR	**(3.6)**	(4.5)	0.9
Working capital and other items	**0.6**	11.3	(10.7)
Capex – property, plant and equipment (PPE)	**(27.0)**	(19.4)	(7.6)
Capex – intangible assets	**(0.5)**	(0.3)	(0.2)
Payments of principal on lease liabilities	**(11.4)**	(10.0)	(1.4)
Operating cash flows	**105.0**	87.2	17.8
Net interest paid	**(1.5)**	(2.7)	1.2
Free cash flow before tax	**103.5**	84.5	19.0
Tax	**(17.5)**	(23.9)	6.4
Free cash flow	**86.0**	60.6	25.4
M&A – acquisition spend	**(113.3)**	(63.1)	(50.2)
M&A – acquisition and integration costs	**(3.1)**	(2.4)	(0.7)
Other income and other items	**1.6**	–	1.6
Dividends paid	**(2.0)**	(0.6)	(1.4)
Shares issued for cash	**6.8**	5.3	1.5
Underlying increase / (decrease) in net cash / (debt)	**(24.0)**	(0.2)	(23.8)
FX and other items	**0.2**	2.9	(2.7)
Increase in net cash / (debt)	**(23.8)**	2.7	(26.5)
Opening net cash / (debt)	**105.6**	102.9	
Closing net cash / (debt)	**81.8**	105.6	

There was a €6.4m reduction in cash tax paid to €17.5m (2021: €23.9m) as payment schedules return to a more normal pattern following pandemic related timing differences in 2021. Net interest payments, which largely relate to fees on the Revolving Credit Facillity (RCF), were €1.5m compared to €2.7m in 2021.

This resulted in Free cash flow of €86.0m, €25.4m ahead of 2021 (€60.6m). Adjusted free cash flow, which adjusts for capital expenditure that is supporting growth in future periods was €112.1m in 2022, ahead of 2021 (€92.3m). The Adjusted cash conversion rate of 100.1% was below 2021 (107.3%), but ahead of our guidance for the year of 80%.

Cash spent on acquisitions totalled €116.4m, of which €25.8m was in respect of the cash component of prior year acquisitions and €3.1m was in relation to acquisition and integration costs. This was €50.9m higher than the spend in 2021 due to the timing of acquisitions.

This resulted in a reduction in net cash of €23.8m in 2022, leading to closing net cash of €81.8m (2021: €105.6m).

Balance sheet and liquidity

The Group funds itself primarily through cash generation and a syndicated RCF of €150m that matures in December 2024. The RCF includes an accordion option to increase the facility up to €200m and an option to extend the term by two further one-year periods (both subject to lender consent). During the year the first one-year extension was exercised. The majority of Group borrowings are subject to two financial covenants that are calculated in accordance with the facility agreement:

Leverage: Maximum Total Net Borrowings to Adjusted EBITDA ratio of three times; and

Interest cover: Minimum Adjusted Operating Profit to Net Finance Costs ratio of four times.

The Group entered the year with a strong balance sheet, with net cash (excluding IFRS 16 leases) of €105.6m as at 31 December 2021. Following €116.4m of cash deployed in the period to support the Group's value accretive M&A programme, at the end of 2022, Keywords had net cash (excluding IFRS 16 leases) of €81.8m and undrawn committed facilities of €150m. The Group has no exposure to Silicon Valley Bank.

Capital Allocation

The Board's progressive dividend policy seeks to reflect the Group's continued growth in earnings and strong cash generation, balanced with the need to retain the resources to fund growth opportunities, particularly M&A, in line with our strategy.

Following the interim dividend payment of 0.77p per share in September 2022, the Board has recommended a final dividend of 1.60p per share, which will make the total dividend for the year ended 31 December 2022 of 2.37p per share, an increase of 10% over the 2021 full year dividend (2021: 2.15p per share).

Subject to shareholder approval at the 2023 Annual General Meeting, the final dividend will be paid on 30 June 2023 to all shareholders on the register at 2 June 2023 and the shares will trade ex-dividend on 1 June 2023 The final dividend payment will represent a total cost of approximately €1.4m of cash resources subject to currency fluctuations.

Keywords has authorised the Link Market Services Trustees Limited ('Link') to operate a Dividend Reinvestment Plan (DRIP) for the Group's shareholders for the final dividend and going forward, to provide greater flexibility for shareholders to manage their dividends. Instructions for shareholders on how to apply for the DRIP will be included in communications regarding the final dividend, and any queries regarding the DRIP should be directed to Link.

The Group also intends to use its Employee Benefit Trust to undertake market purchases of Company shares in H1 2023, amounting to an aggregate of up to €5m, in order to satisfy future exercises of LTIPs or stock options pursuant to the relevant share plan.

Guidance for 2023

We have made a good start to 2023, with trading in line with our expectations for the year. As previously guided, we continue to expect organic growth to moderate from 2022 levels but remain above the medium-term guidance of 10%+.

Adjusted profit before tax margin normalised during 2022 and is expected to remain around 15% in 2023 as previously guided, excluding the potential impact of any debt we take on in the future to fund acquisitions. Moving forward, and against a backdrop of higher interest rates globally, we will focus future guidance on Adjusted Operating Profit, which historically has been very similar to Adjusted PBT, and we expect this to be around 15% in 2023.

During 2022, we benefited from the strength of the US dollar and are mindful that there remains potential volatility in the foreign exchange markets beyond our control that may impact on our performance through the year. The transition out of Russia will also continue during 2023 and will result in a modest one-off charge relating to the closure of our operations in the country.

The Adjusted Effective Tax rate is expected to be in line with the 2022 rate of ~22%. We are anticipating capex to be slightly ahead of 2022 relative to revenue, reflecting continued expansionary capex and investment in our platform to support future growth, with an overall Adjusted Cash Conversion rate of at least 80%.

Jon Hauck
Chief Financial Officer

Consolidated statement of comprehensive income

	Note	Years ended 31 December 2022 €'000	2021 €'000
Revenue from contracts with customers	4	**690,718**	512,200
Cost of sales	5	**(423,452)**	(312,086)
Gross profit		**267,266**	200,114
Other income	5	**1,098**	-
Share-based payments expense	23	**(18,678)**	(16,394)
Costs of acquisition and integration	5	**(8,413)**	(7,972)
Amortisation of intangible assets	11	**(16,810)**	(13,688)
Total of items excluded from adjusted profit measures		**(43,901)**	(38,054)
Other administration expenses		**(152,653)**	(111,695)
Administrative expenses		**(196,554)**	(149,749)
Operating profit		**71,810**	50,365
Financing income	6	**1,986**	2,045
Financing cost	6	**(5,814)**	(4,427)
Profit before taxation		**67,982**	47,983
Taxation	7	**(20,612)**	(13,875)
Profit after taxation		**47,370**	34,108
Other comprehensive income:			
Items that will not be reclassified subsequently to profit or loss			
Actuarial gain / (loss) on defined benefit plans	20	**286**	27
Items that may be reclassified subsequently to profit or loss			
Exchange gain / (loss) in net investment in foreign operations		**(7,947)**	8,228
Exchange gain / (loss) on translation of foreign operations		**6,144**	14,581
Non-controlling interest; recycled on disposal of subsidiary		**162**	-
Total comprehensive income / (expense)		**46,015**	56,944
Profit / (loss) for the period attributable to:			
Owners of the parent		**47,415**	34,175
Non-controlling interest		**(45)**	(67)
		47,370	34,108
Total comprehensive income / (expense) attributable to:			
Owners of the parent		**46,015**	57,011
Non-controlling interest		**-**	(67)
		46,015	56,944
Earnings per share		**€ cent**	€ cent
Basic earnings per ordinary share	8	**61.54**	45.16
Diluted earnings per ordinary share	8	**58.86**	42.98

The notes 1 to 29 form an integral part of these consolidated financial statements.

On behalf of the Board

Bertrand Bodson
Director
15 March 2023

Jon Hauck
Director

Consolidated statement of financial position

	Note	**2022 €'000**	2021 €'000
Non-current assets			
Intangible assets	11	**469,953**	353,943
Right of use assets	12	**37,672**	35,991
Property, plant and equipment	13	**44,784**	36,018
Deferred tax assets	21	**22,757**	21,468
Investments	14	**175**	175
		575,341	447,595
Current assets			
Cash and cash equivalents		**81,886**	105,710
Trade receivables	15	**81,563**	68,067
Other receivables	16	**61,415**	49,110
Corporation tax recoverable		**6,503**	6,764
		231,367	229,651
Current liabilities			
Trade payables		**15,878**	11,122
Other payables	17	**139,355**	108,423
Loans and borrowings	18	**45**	81
Corporation tax liabilities		**22,028**	12,635
Lease liabilities	19	**12,414**	11,217
		189,720	143,478
Net current assets / (liabilities)		**41,647**	86,173
Non-current liabilities			
Other payables	17	**18,308**	18,254
Employee defined benefit plans	20	**2,861**	3,088
Loans and borrowings	18	**6**	48
Deferred tax liabilities	21	**8,617**	13,840
Lease liabilities	19	**30,105**	26,418
		59,897	61,648
Net assets		**557,091**	472,120
Equity			
Share capital	22	**924**	904
Share capital - to be issued	22	**2,467**	2,185
Share premium	22	**47,021**	38,549
Merger reserve	22	**286,655**	273,677
Foreign exchange reserve		**11,018**	12,821
Shares held in Employee Benefit Trust ("EBT")	22	**-**	(1,997)
Share-based payments reserve		**65,379**	48,193
Retained earnings		**143,627**	97,905
		557,091	472,237
Non-controlling interest		**-**	(117)
Total equity		**557,091**	472,120

The notes 1 - 29 form an integral part of these consolidated financial statements. The financial statements were approved and authorised for issue by the Board on 15 March 2023.

On behalf of the Board

Bertrand Bodson
Director
15 March 2023

Jon Hauck
Director

Consolidated statement of changes in equity

	Share capital	Share capital - to be issued	Share premium	Merger reserve	Foreign exchange reserve	Shares held in EBT	Share-based payments reserve	Retained earnings	Total attributable to owners of parent	Non-controlling interest	Total equity
	€'000	€'000	€'000	€'000	€'000	€'000	€'000	€'000	€'000	€'000	€'000
At 01 January 2021	879	13,047	22,951	250,276	(9,988)	(1,997)	31,799	64,318	371,285	(50)	371,235
Profit / (loss) for the period	-	-	-	-	-	-	-	34,175	34,175	(67)	34,108
Other comprehensive income	-	-	-	-	22,809	-	-	27	22,836	-	22,836
Total comprehensive income for the period	-	-	-	-	22,809	-	-	34,202	57,011	(67)	56,944
Contributions by and contributions to the owners:											
Share-based payments expense	-	-	-	-	-	-	16,394	-	16,394	-	16,394
Share options exercised	11	-	4,929	-	-	-	-	-	4,940	-	4,940
Employee Share Purchase Plan	-	-	398	-	-	-	-	-	398	-	398
Dividends	-	-	-	-	-	-	-	(615)	(615)	-	(615)
Acquisition-related issuance of shares	14	(10,862)	10,271	23,401	-	-	-	-	22,824	-	22,824
Contributions by and contributions to the owners	25	(10,862)	15,598	23,401	-	-	16,394	(615)	43,941	-	43,941
At 31 December 2021	**904**	**2,185**	**38,549**	**273,677**	**12,821**	**(1,997)**	**48,193**	**97,905**	**472,237**	**(117)**	**472,120**
Profit / (loss) for the period	-	-	-	-	-	-	-	47,415	47,415	(45)	**47,370**
Recycled on disposal of subsidiary	-	-	-	-	-	-	-	-	-	162	**162**
Other comprehensive income	-	-	-	-	(1,803)	-	-	286	(1,517)	-	**(1,517)**
Total comprehensive income for the period	-	-	-	-	(1,803)	-	-	47,701	45,898	117	**46,015**
Contributions by and contributions to the owners:											
Share-based payments expense	-	-	-	-	-	-	18,577	-	18,577	-	**18,577**
Share options exercised	14	-	5,862	-	-	1,997	(1,492)	-	6,381	-	**6,381**
Employee Share Purchase Plan	-	-	909	-	-	-	101	-	1,010	-	**1,010**
Dividends	-	-	-	-	-	-	-	(1,979)	(1,979)	-	**(1,979)**
Acquisition-related issuance of shares	6	282	1,701	12,978	-	-	-	-	14,967	-	**14,967**
Contributions by and contributions to the owners	20	282	8,472	12,978	-	1,997	17,186	(1,979)	38,956	-	**38,956**
At 31 December 2022	**924**	**2,467**	**47,021**	**286,655**	**11,018**	**-**	**65,379**	**143,627**	**557,091**	**-**	**557,091**

Consolidated statement of cash flows

	Note	Years ended 31 December 2022 €'000	2021 €'000
Cash flows from operating activities			
Profit after taxation		**47,370**	34,108
Income and expenses not affecting operating cash flows			
Depreciation - property, plant and equipment	13	**18,365**	11,661
Depreciation and impairment - right of use assets	12	**14,585**	10,473
Amortisation and impairment of intangible assets	11	**16,810**	13,688
Taxation	7	**20,612**	13,875
Share-based payments expense	23	**18,678**	16,394
Fair value adjustments to contingent consideration	5	**2,282**	5,567
Unwinding of discounted liabilities - deferred consideration	6	**2,922**	1,882
Unwinding of discounted liabilities - lease liabilities	6	**969**	985
Interest receivable	6	**(309)**	(62)
Fair value adjustments to employee defined benefit plans	20	**514**	419
Interest expense	6	**1,261**	1,040
Unrealised foreign exchange (gain) / loss		**766**	583
		97,455	76,505
Changes in operating assets and liabilities			
Decrease / (increase) in trade receivables		**(11,771)**	(15,117)
Decrease / (increase) in MMTC and VGTR receivable		**(3,591)**	(4,502)
Decrease / (increase) in other receivables		**(6,457)**	3,341
(Decrease) / increase in accruals, trade and other payables		**18,785**	20,158
		(3,034)	3,880
Taxation paid		**(17,505)**	(23,948)
Net cash generated by / (used in) operating activities		**124,286**	90,545
Cash flows from investing activities			
Current year acquisition of subsidiaries net of cash acquired	27	**(87,494)**	(48,697)
Settlement of deferred liabilities on acquisitions	17	**(25,800)**	(14,393)
Acquisition of property, plant and equipment	13	**(27,007)**	(19,360)
Investment in intangible assets	11	**(501)**	(315)
Other investment	14	**-**	(175)
Interest received		**309**	62
Net cash generated by / (used in) investing activities		**(140,493)**	(82,878)
Cash flows from financing activities			
Cash proceeds, where EBT shares were utilised for the exercise of share options	22	**505**	-
Repayment of loans	18	**(79)**	(80)
Payments of principal on lease liabilities		**(11,361)**	(9,953)
Interest paid on principal of lease liabilities	6	**(969)**	(985)
Dividends paid		**(1,979)**	(615)
Shares issued for cash	22	**6,785**	5,338
Interest paid		**(828)**	(1,753)
Net cash generated by / (used in) financing activities		**(7,926)**	(8,048)
Increase / (decrease) in cash and cash equivalents		**(24,133)**	(381)
Exchange gain / (loss) on cash and cash equivalents		**309**	3,021
Cash and cash equivalents at beginning of the period		**105,710**	103,070
Cash and cash equivalents at end of the period		**81,886**	105,710

Notes forming part of the consolidated financial statements

1 Basis of Preparation

Keywords Studios plc (the "Company") is a company incorporated in the United Kingdom. The consolidated financial statements include the financial statements of the Company and its subsidiaries (the "Group") made up to 31 December 2022.

The consolidated financial statements have been prepared in accordance with UK-adopted international accounting standards, and in conformity with the requirements of the Companies Act 2006.

Unless otherwise stated, the financial statements have been prepared in thousands ('000) and the financial statements are presented in euro (€) which is the functional currency of the Company.

Going Concern Basis of Accounting

After making enquiries, the Directors consider it appropriate to continue to adopt the going concern basis in preparing the Consolidated and Company financial statements. In doing so, the Directors have considered the following:

- The net cash position of the Group
- The strong cash flow performance of the Group through the year;
- The continued demand for the Group's services;
- The ability to operate most of its services in a work from home model where studios are temporarily closed;
- The historical resilience of the broader video games industry in times of economic downturn; and
- The ability of the Group to flex its cost base in response to a reduction in trading activity.

The Directors have also considered the Group's strong liquidity position with net cash of €81.8m as at 31 December 2022, and committed undrawn facilities of €150m under the Revolving Credit Facility ("RCF").

The Directors have applied downside sensitivities to the Group's cash flow projections to assess the Group's resilience to adverse outcomes. This assessment included a reasonable worst-case scenario in which the Group's principal risks manifest to a severe but plausible level. Even under the most severe case, the Group would have sufficient liquidity and remain within its banking covenants. The Directors have a reasonable expectation that the Company and the Group have adequate resources to continue to operate and meet liabilities as they fall due for the foreseeable future, a period considered to be at least twelve months from the date of these financial statements and therefore the going concern basis of preparation continues to be appropriate.

New Standards, Interpretations and Amendments effective 01 January 2022

A number of new amendments and interpretations to accounting standards are effective from 01 January 2022 including:

- Onerous Contracts – Cost of Fulfilling a Contract - amendments to IAS 37;
- Property, Plant and Equipment: Proceeds before Intended Use - amendments to IAS 16;
- Annual Improvements to IFRS Standards 2018-2020 - amendments to IFRS 1, IFRS 9, IFRS 16 and IAS 41; and
- References to Conceptual Framework - amendments to IFRS 3.

These amendments and interpretations have not resulted in in any Group accounting policy changes, and have not had a material effect on the Group's financial statements.

Other accounting pronouncements which have become effective from 01 January 2022 have not had a material impact on the Group.

New Standards, Interpretations and Amendments not yet effective

There are a number of standards, amendments to standards, and interpretations which have been issued by the IASB that are effective in future accounting periods that the Group has decided not to adopt early.

The following amendments effective for the period beginning 01 January 2023 are expected to be impactful on the Group moving forward:

- Disclosure of Accounting Policies (Amendments to IAS 1 and IFRS Practice Statement 2): These amendments relate to the application of materiality in relation to the disclosure of accounting policies, requiring companies to disclose their material accounting policies rather than their significant accounting policies, clarifying that accounting policies related to immaterial transactions, other events or conditions are themselves immaterial and as such need not be disclosed; and clarifying that not all accounting policies that relate to material transactions, other events or conditions are themselves material to a company's financial statements. The Board will consider these amendments in the context of the 2023 Annual Report.
- Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments to IAS 12): Amendments effective 01 January 2023, narrow the scope of the initial recognition exemption so that it does not apply to transactions that give rise to equal and offsetting temporary differences e.g. Right of use assets and Lease liabilities. As a result in 2023, deferred tax assets and liabilities associated with leases will need to be recognised gross from the beginning of the earliest comparative period presented, with any cumulative effect recognised as an adjustment to retained earnings or other components of equity at that date. The estimated impact of adoption based on the carrying value of Right of Use Assets and Lease Liabilities at 31 December 2022 would result in additional Deferred tax assets of €9.6m and Deferred tax liabilities of €8.4m being recognised.

Other amendments effective for the period beginning 01 January 2023:

- Classification of Liabilities as Current or Non-current – Amendments to IAS 1;
- Definition of Accounting Estimate – Amendments to IAS 8

The Group does not expect these other amendments, or any other standards issued by the IASB but not yet effective, to have a material impact on the Group.

2 Significant Accounting Policies

Basis of Consolidation
Where the Company has control over an investee, it is classified as a subsidiary. The Company controls an investee if all three of the following elements are present: power over the investee, exposure to variable returns from the investee, and the ability of the investor to use its power to affect those variable returns. Control is reassessed whenever facts and circumstances indicate that there may be a change in any of these elements of control.

De-facto control exists in situations where the Company has the practical ability to direct the relevant activities of the investee without holding the majority of the voting rights. In determining whether de-facto control exists, the Company considers all relevant facts and circumstances, including:

- The size of the Company's voting rights relative to both the size and dispersion of other parties who hold voting rights;
- Substantive potential voting rights held by the Company and by other parties;
- Other contractual arrangements; and
- Historic patterns in voting attendance.

The consolidated financial statements present the results of the Company and its subsidiaries ("the Group") as if they formed a single entity. Intercompany transactions and balances between Group companies are eliminated in full.

Business Combinations
The consolidated financial statements incorporate the results of business combinations using the purchase method. The results of acquired operations are included in the consolidated financial statements from the date on which control is obtained. They are consolidated until the date on which control ceases. In the Consolidated statement of financial position, the acquired identifiable assets, liabilities and contingent liabilities are initially recognised at their fair values at the acquisition date. If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the valuation of the fair value of assets and liabilities acquired is still in progress. Those provisional amounts are adjusted when additional information is obtained about facts and circumstances which would have affected the amounts recognised as of that date, and any adjustments to the provisional values allocated to the consideration, identifiable assets or liabilities (and contingent liabilities, if relevant) are made within the measurement period, a period of no more than one year from the acquisition date.

Any contingent consideration payable is recognised at fair value at the acquisition date and is split between current liabilities and long-term liabilities depending on when it is due. The fair value of contingent consideration at acquisition date is arrived at through discounting the expected payment (based on scenario modelling) to present value. In general, in order for contingent consideration to become payable, pre-defined profit and / or revenue targets must be exceeded. At each balance sheet date, the fair value of the contingent consideration is revalued, with the expected pay-out determined separately in respect of each individual acquisition and any change recognised in the statement of comprehensive income.

For deferred consideration which is to be provided for by the issue of a fixed number of shares at a future defined date, where there is no obligation on Keywords to offer a variable number of shares, the deferred consideration is classified as an equity arrangement and the value of the shares is fixed at the date of the acquisition. Deferred consideration may also be in the form of cash consideration payable at a future defined date. Such consideration is recognised at fair value at the acquisition date and is split between current liabilities and non-current liabilities depending on when it is due.

Intangible Assets
The Group's Intangible Assets comprise Goodwill, Customer Relationships and Other Intangible Assets.

Goodwill
Goodwill represents the excess of the cost of a business combination over the total acquisition date fair value of the identifiable assets, liabilities and contingent liabilities acquired. The cost comprises the fair value of assets given, liabilities assumed and equity instruments issued, plus the amount of any non-controlling interests in the acquiree plus, if the business combination is achieved in stages, the fair value of the existing equity interest in the acquiree. Contingent consideration is included at fair value on the acquisition date and, in the case of contingent consideration classified as a financial liability, re-measured subsequently through the profit and loss. Acquisition-related costs are recognised immediately as an expense in the periods in which the costs are incurred and the services are received. Goodwill is capitalised as an intangible asset with any impairment in carrying value being charged to the consolidated statement of comprehensive income.

Customer Relationships
Intangible assets, separately identified from goodwill acquired as part of a business combination (mainly Customer Relationships), are initially stated at fair value. The fair value attributed is determined by discounting the expected future cash flows generated from the net margin of the business from the main customers taken on at acquisition. The assets are amortised on a straight-line basis (to administration expenses) over their useful economic lives (typically five years is deemed appropriate, however, this is re-examined for each acquisition).

Other Intangible Assets
Other intangible assets include Intellectual Property and Music Licences, both acquired and internally developed. Other intangible assets are recognised as assets where it is probable that the use of the asset will generate future economic benefits and where the costs of the asset can be determined reliably. Other intangible assets that are acquired by the Group are stated at cost less accumulated amortization (see below) and impairment losses, if any. Subsequent expenditures on capitalised intangible assets are capitalised only when they increase the future economic benefits embodied in the specific assets to which they relate. All other expenditure is expensed as incurred. Other intangible assets with definite useful lives are amortised from the date they are available for use on a straight-line basis over their useful lives, being the estimated period over which the Group will use the assets. Residual amounts, useful lives and the amortization methods are reviewed at the end of every accounting period.

Development costs are capitalised as an intangible asset if all of the following criteria are met:

- The technical feasibility of completing the intangible asset so that it will be available for use or sale;
- The intention to complete the intangible asset and use or sell it;
- The ability to use or sell the intangible asset;
- The asset will generate probable future economic benefits and demonstrate the existence of a market or the usefulness of the intangible asset if it is to be used internally;
- The availability of adequate technical, financial and other resources to complete the development and to use or sell it; and
- The ability to measure reliably the expenditure attributable to the intangible asset during its development.

Following initial recognition of the development expenditure as an intangible asset, the cost model is applied requiring the intangible asset to be carried at cost, less any accumulated amortization and accumulated impairment losses. The intangible asset is amortised on a straight-line basis over the period of its expected benefit, starting from the date of full commercial use of the product. During the period of development, the asset is tested for impairment annually. If specific events indicate that impairment of an item of intangible asset may have taken place, the item's recoverability is assessed by comparing its carrying amount with its recoverable amount. The recoverable amount is the higher of the fair value net of disposal costs and the value in use.

Impairment

Impairment tests on goodwill and other intangible assets with indefinite useful economic lives are undertaken annually at the financial year end. Other non-financial assets are subject to impairment tests whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. Where the carrying value of an asset exceeds its recoverable amount (i.e. the higher of value in use and fair value less costs to sell), the asset is written down accordingly.

Where it is not possible to estimate the recoverable amount of an individual asset, the impairment test is carried out on the smallest group of assets to which it belongs for which there are separately identifiable cash flows; its cash generating units ("CGUs"). Goodwill is allocated on initial recognition to each of the Group's CGUs that are expected to benefit from a business combination that gives rise to the goodwill.

Impairment charges are included in profit or loss, except to the extent they reverse gains previously recognised in other comprehensive income. An impairment loss recognised for goodwill is not reversed.

Investments

Investments are held at cost where the Group does not have control and is not able to exercise significant influence over the investee.

Cash and Cash Equivalents

For the purpose of presentation in the Statements of financial position and on the Statements of cash flows, cash and cash equivalents include cash on hand and on call deposits with financial institutions.

Foreign Currency

The consolidated financial statements are presented in euro, which is the presentation currency of the Group and the functional currency of the Parent Company.

Transactions entered into by Group entities in a currency other than the currency of the primary economic environment in which they operate (their "functional currency") are recorded at the rates ruling when the transactions occur. Foreign currency monetary assets and liabilities are translated at the rates ruling at the reporting date. Exchange differences arising on the retranslation of unsettled monetary assets and liabilities are recognised immediately in profit or loss.

On consolidation, the results of overseas operations are translated into euro at rates approximating when the transactions took place. All assets and liabilities of overseas operations, including goodwill arising on the acquisition of those operations, are translated at the rate ruling at the reporting date. Exchange differences arising on translating the opening net assets at opening rate and the results of overseas operations at actual rate are recognised in other comprehensive income and accumulated in the foreign exchange reserve.

Exchange differences recognised in profit or loss in Group entities' separate financial statements on the translation of long-term items forming part of the Group's net investment in the overseas operation concerned are classified to other comprehensive income and accumulated in the foreign exchange reserve on consolidation. On disposal of a foreign operation, the cumulative exchange differences recognised in the foreign exchange reserve relating to that operation up to the date of disposal are transferred to the consolidated statement of comprehensive income as part of the profit or loss on disposal.

Revenue from Contracts with Customers

Contracts are typically for services, performing agreed-upon tasks for a customer and can be time-and-materials or milestone based. Most contracts are short term in duration (generally less than one month); however, milestone based contracts can be longer term and extend to several months (or in some cases over a year). Where there are multiple performance obligations outlined in a contract, each performance obligation is separately assessed, the transaction price is allocated to each obligation, and related revenues are recognised as services or assets are transferred to the customer. Performance obligations are typically satisfied over time, as the majority of contracts meet the criteria outlined in IFRS 15 paragraph 35 (a) and (c).

Due to the nature of the services provided and the competitive nature of the market, contracts generally allocate specific transaction prices to separate performance obligations. Individual services or individual milestones generally involve extensive commercial negotiation to arrive at the specific agreed-upon tasks, and the related pricing outlined in the contract. Such negotiations extend further for milestone based contracts to also include the criteria involved in the periodic and regular process of milestone acceptance by the customer. Such criteria may involve qualitative, as well as quantitative measures and judgements.

In measuring progress towards complete satisfaction of performance obligations, the input method is considered to be the most appropriate method to depict the underlying nature of the contracts with customers, the interactive way the service is delivered and projects are managed with the customer. For time-and-materials contracts, other than tracking and valuing time expended, significant judgement is not normally involved. For milestone based contracts, progress is generally measured based on the proportion of contract costs incurred at the balance sheet date, (e.g. worked days) relative to the total estimated costs of the contract, involving estimates of the cost to completion etc. Added to this, significant judgement can be involved in measuring progress towards customer acceptance of the milestone. Significant judgement may also be involved where circumstances arise that may change the original estimates of revenues, costs or extent of progress towards complete satisfaction of the performance obligations. In such circumstances estimates are revised. These revisions may result in increases or decreases in revenue or costs and are reflected in income in the period in which the circumstances that give rise to the revision became known. When the outcome of a contract cannot be measured reliably, contract revenue is recognised only to the extent that milestones have been accepted by the customer. Contract costs are recognised as incurred. When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognised immediately.

Revenue recognised represents the consideration received or receivable, net of sales taxes, rebates discounts and after eliminating intercompany sales. Revenue is recognised only where it is probable that consideration will be received. Where consideration is received and the related revenue has not been recognised, the consideration received is recognised as a contract liability (Deferred Revenue), until either revenue is recognised or the consideration is refunded.

Revenue is derived from eight main service groupings:

- Art Creation – Art Creation services relate to the production of graphical art assets for inclusion in the video game, including concept art creation along with 2D and 3D art asset production and animation. Contracts can be either time-and-materials based or milestone based, with performance obligations satisfied over time. Contracts are generally short term in duration; however, for longer contracts the input method is used to measure progress (e.g. worked days relative to the total expected inputs). Time-and-materials based contract revenue is recognised as the related services are rendered. For milestone based contracts where progress can be measured reliably towards complete satisfaction of the performance obligation, revenue is recognised using the input method to measure progress. Where progress cannot be measured reliably, revenue is recognised on milestone acceptance.
- Marketing – Marketing services include game trailers, marketing art and materials, PR and full brand campaign strategies. Contracts can be either time-and-materials based or milestone based, with performance obligations satisfied over time. Contracts are generally short term in duration; however, for longer contracts the input method is used to measure progress. Time-and-materials based contract revenue is recognised as the related services are rendered. For milestone based contracts where progress can be measured reliably towards complete satisfaction of the performance obligation, revenue is recognised using the input method to measure progress. Where progress cannot be measured reliably, revenue is recognised on milestone acceptance.
- Game Development – Game Development relates to software engineering services which are integrated with client processes to develop video games. Contracts can be either time-and-materials based or milestone based, with performance obligations satisfied over time. Contracts are generally longer term in duration. Time-and-materials based contract revenue is recognised as the related services are rendered. For milestone based contracts where progress can be measured reliably towards complete satisfaction of the performance obligation, revenue is recognised using the input method to measure progress. Where progress cannot be measured reliably, revenue is recognised on milestone acceptance.
- Audio – Audio services relate to the audio production process for computer games and includes script translation, actor selection and talent management through pre-production, audio direction, recording, and post-production, including native language quality assurance of the recordings. Audio contracts may also involve music licensing or selling music soundtracks. Audio service contracts are typically milestone based, with performance obligations satisfied over time. Audio services contracts are generally short term in duration; however, for longer contracts where progress towards complete satisfaction of the performance obligation can be measured reliably, revenue is recognised using the input method to measure progress. Where progress cannot be measured reliably, audio services revenue is recognised on milestone acceptance. Music licensing and music soundtracks performance obligations are assessed separately, and related revenue is recognised on licence inception and on delivery of the soundtracks, respectively.
- Functional Testing – Functional Testing relates to quality assurance services provided to game producers to ensure games function as required. Contracts are typically time-and-materials based and performance obligations are satisfied over time. Contracts are generally short term in duration. Revenue is recognised as the related services are rendered.
- Localization – Localization services relate to translation and cultural adaptation of in-game text and audio scripts across multiple game platforms and genres. Contracts are typically time-and-materials based and performance obligations are satisfied over time. Contracts are generally short term in duration; however, for longer contracts the input method is used to measure progress. Localization contracts may also involve licensing translation software as a service. Such revenue is assessed separately. Revenue is recognised as the related services are rendered.
- Localization Testing – Localization Testing involves testing the linguistic correctness and cultural acceptability of computer games. Contracts are typically time-and-materials based and performance obligations are satisfied over time. Contracts are generally short term in duration. Revenue is recognised as the related services are rendered.
- Player Support – Player Support relates to the live operations support services such as community management, player support and associated services provided to producers of games to ensure that consumers have a positive user experience. Contracts are typically time-and-materials based and performance obligations are satisfied over time. Contracts are generally long term in duration. Player Support contracts may also involve digital support platform software as a service. Revenue is recognised as the related services are rendered.

Multimedia Tax Credits / Video Game Tax Relief

The multimedia tax credits ("MMTC") received in Canada and video games tax relief ("VGTR") in the UK are tax credits related to staff costs. Tax credits are recognised as income over the periods necessary to match the credit on a systematic basis with the costs that it is intended to compensate. Thus, credits are taken as a deduction against direct costs each period, but typically paid in the following financial year once the claims have been submitted and agreed. The nature of the grants is such that they are not dependent on taxable profits, and are recognised (under IAS 20), at their fair value when there is a reasonable assurance that the grant will be received and all attaching conditions have been complied with.

Share-based Payments

The Company issues equity-settled share-based payments to certain employees and Directors under a Share Option Scheme and a Long-Term Incentive Plan ("LTIP"). Conditional awards under the rules of the LTIP Plan ("Salary Shares") are also issued to certain employees and Directors.

The fair value determined at the grant date is expensed on a straight-line basis over the vesting period. Other than continuous service, grants do not have non-market-based vesting conditions. At each reporting date the Company adjusts for unvested forfeitures and the impact is recognised in profit or loss, with a corresponding adjustment to equity reserves. The Company has no legal or constructive obligation to repurchase or settle the options in cash.

Additional employer costs, including social security taxes, in respect of options and awards are expensed over the vesting period with a corresponding liability recognised. The liability recognised depends on the number of options that are expected to be exercised, and the liability is adjusted by reference to the fair value of the options at the end of each reporting period.

Where share-based payments are issued to employees of subsidiary companies, the annual cost of the options are recharged to the subsidiary company through an inter-company recharge.

Employee Share Purchase Plan

In 2021, the Group introduced an Employee Share Purchase Plan ("ESPP"). The ESPP allows individual employees the possibility to save up to €500 monthly and acquire KWS shares discounted by 10% on the market price at the date of purchase. The plan has bi-annual purchase periods, with share-based benefits expensed within the period.

Share Option Plan

These are measured at fair value on the grant date using a Black-Scholes option pricing model which calculates the fair value of an option by using the vesting period, the expected volatility of the share price, the current share price, the exercise price and the risk-free interest rate. The fair value of the option is amortised over the vesting period, with one-third of the options vesting after two years, one-third after three years, and the balance vesting after four years. The only vesting condition is continuous service. There is no requirement to revalue the option at any subsequent date.

LTIP
The exercise of LTIP awards is subject to the Company's share price (stock symbol: KWS) performance versus the designated Share Index in terms of shareholder return over a three-year period. For the awards granted up to 2015, one-third of the share options vested if the Company exceeded the Total Shareholder Returns ("TSR") of the Numis Small Cap Index (excluding Investment Trusts) by 10%, two-thirds if the TSR exceeded the Index by 20% and full vesting if the TSR exceeded the Index by 30%. This was amended for the 2016 and 2017 awards to 100% vesting if the shareholder return exceeds the Index by 45%, and a pro-rated return between 10% if the TSR matches the Index, to 100% if the TSR exceeds the Index by 45%. The scheme was further amended in 2018 to 100% vesting if the TSR exceeds the Index by 20%, and a pro-rated return between 10% and 100% if the TSR exceeds the Index by between 0% and 20%. In 2019, the benchmark Index was amended for future grants to be the FTSE Small Cap Index, with the same performance conditions as 2018. In 2021, the benchmark Index was amended to be the FTSE250 Index (excluding investment trusts) and threshold vesting (25% of the award) will be earned for TSR in line with the Index and full vesting will be earned for exceeding the Index TSR by 20% over the performance period. A pro-rated return will be earned between 25% and 100% if the TSR exceeds the Index by between 0% and 20%.

These are measured at fair value, taking into account market vesting conditions but not non-market vesting conditions, at the date of grant, measured by using the Monte Carlo binomial model.

Salary Shares
Salary shares are measured at fair value on the grant date. As the only vesting condition is continuous service, the fair value of the shares is amortised over the vesting period.

Dividend Distribution
Final dividends are recorded in the Group's financial statements in the period in which they are approved by the Group's shareholders. Interim dividends are recognised when paid.

Income Taxes and Deferred Taxation
Provision for income taxes is calculated in accordance with the tax legislations and applicable tax rates in force at the reporting date in the countries in which the Group companies have been incorporated.

Deferred tax assets and liabilities are recognised where the carrying amount of an asset or liability in the consolidated statement of financial position differs from its tax base, except for differences arising on:

- The initial recognition of an asset or liability in a transaction which is not a business combination and at the time of the transaction affects neither accounting or taxable profit; and
- Investments in subsidiaries and jointly controlled entities where the Group is able to control the timing of the reversal of the difference and it is probable that the difference will not reverse in the foreseeable future.

The amount of the asset or liability is determined using tax rates that have been enacted or substantively enacted by the reporting date and are expected to apply when the deferred tax liabilities / (assets) are settled / (recovered).

Deferred tax assets and liabilities are offset when the Group has a legally enforceable right to offset current tax assets and liabilities and the deferred tax assets and liabilities relate to taxes levied by the same tax authority on either:

- The same taxable Group company; or
- Different Group entities which intend either to settle current tax assets and liabilities on a net basis, or to realise the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax assets or liabilities are expected to be settled or recovered.

Property, Plant and Equipment
Property, plant and equipment comprise computers, leasehold improvements, and office furniture and equipment, and are stated at cost less accumulated depreciation. Carrying amounts are reviewed for impairment whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. Where the carrying amount of an asset is greater than its estimated recoverable amount, it is written down immediately to its recoverable amount.

Property, plant and equipment acquired through business combinations are valued at fair value on the date of acquisition.

Depreciation is calculated to write off the cost of fixed assets on a straight-line basis over the expected useful lives of the assets concerned. The principal annual rates used for this purpose are:

Computers and software	3 - 5 years
Office furniture and equipment	10 years
Leasehold improvements	over the length of the lease

Gains and losses on disposals are determined by comparing proceeds with carrying amount and are included in the Consolidated statement of comprehensive income.

Financial Assets
The Group's most significant financial assets comprise trade and other receivables and cash and cash equivalents in the Consolidated statement of financial position, whereas the Company's most significant financial assets comprise inter-group receivables.

Trade Receivables
Trade receivables, which principally represent amounts due from customers, are recognised at amortised cost as they meet the IFRS 9 classification test of being held to collect, and the cash flow characteristics represent solely payments of principal and interest. The Group's impairment methodology is in line with the requirements of IFRS 9. The simplified approach to providing for expected credit losses has been applied to trade receivables, which requires the use of a lifetime expected loss provision.

Cash and Cash Equivalents
Cash and cash equivalents comprise cash in hand, deposits held on call with banks and other short-term highly liquid investments. Where cash is on deposit with maturity dates greater than three months, it is disclosed as short-term investments.

Accrued Income from Contracts with Customers
Accrued income from contracts with customers, arising from Revenue from Contracts with Customers, is recognised in accordance with our Revenue Recognition policy, as discussed separately in this note. The Group applies the simplified approach to assessing expected credit losses in relation to such assets, as their maturities are less than twelve months. Based upon the recoverability of contract assets at year end, no significant expected credit loss provision has been applied.

Share Capital
Financial instruments issued by the Group are treated as equity only to the extent that they do not meet the definition of a financial liability. The Group's ordinary shares are classified as equity instruments.

Financial Liabilities
Contingent consideration is initially recognised at fair value and subsequently re-measured through the profit and loss. Trade payables, bank borrowings and other monetary liabilities are initially recognised at fair value and subsequently carried at amortised cost using the effective interest rate method.

Leased Assets
A lease is defined as 'a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration'.

At lease commencement date, the Group recognises a right of use asset and a lease liability on the balance sheet. The right of use asset is measured at cost, which is made up of the initial measurement of the lease liability, any initial direct costs incurred by the Group, an estimate of any costs to dismantle and remove the asset at the end of the lease, and any lease payments made in advance of the lease commencement date (net of any incentives received).

The Group depreciates the right of use assets on a straight-line basis from the lease commencement date to the earlier of the end of the useful life of the right of use asset or the end of the lease term. The Group also assesses the right of use asset for impairment when such indicators exist. At the commencement date, the Group measures the lease liability at the present value of the lease payments unpaid at that date, discounted using the interest rate implicit in the lease if that rate is readily available or at the Group's incremental borrowing rate.

Lease payments included in the measurement of the lease liability are made up of fixed payments (including in-substance fixed), variable payments based on an index or rate, amounts expected to be payable under a residual value guarantee, and payments arising from purchase and extension options reasonably certain to be exercised.

Subsequent to initial measurement, the liability will be reduced for payments made and increased for interest. It is remeasured to reflect any reassessment or modification, or if there are changes to in-substance fixed payments. When the lease liability is remeasured, the corresponding adjustment is reflected in the right of use asset, or profit and loss if the right of use asset is already reduced to zero.

The Group has elected to account for short-term leases and leases of low-value assets using the practical expedients. Instead of recognising a right of use asset and lease liability, the payments in relation to these are recognised as an expense in profit or loss on a straight-line basis over the lease term.

The Group has applied judgement to determine the lease term for contracts in which it is a lessee that include renewal options. The assessment of whether the Group is reasonably certain to exercise such options impacts the lease term, which significantly affects the lease liabilities and right of use assets recognised.

Employee Benefit Trust
Ordinary shares purchased by the Employee Benefit Trust on behalf of the parent company under the Terms of the Share Option Plan are deducted from equity on the face of the Consolidated statement of financial position. No gain or loss is recognised in relation to the purchase, sale, issue or cancellation of the parent company's ordinary shares.

3 Critical Accounting Estimates and Judgements

The Group makes certain estimates and assumptions regarding the future. Estimates and judgements are continually evaluated based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. In the future, actual experience may differ from these estimates and assumptions.

Judgements
The judgements, apart from those involving estimations, that management have made in the process of applying the Group's accounting policies and that have the most significant effect on the amounts recognised in the financial statements, are outlined below.

- **Group**
  - **Functional Currency**: The Directors have considered the requirements of IAS 21 in determining the currency that most faithfully represents the economic effects of the underlying transactions, events and conditions to determine the functional currency. Detailed consideration has been given to both the Primary and Secondary Indicators in forming this conclusion. The Primary Indicators relate to revenues, regulation, competitive forces and costs, while the Secondary Indicators are primarily concerned with financing the business and the currency in which receipts from operating activities are usually retained. With a mix of currencies dominating the indicators, there is no clear single currency that influences the Group; however, the euro remains marginally the most dominant when all factors are considered. Therefore, the Directors consider the euro as the currency that most faithfully represents the economic effects of the underlying transactions, events and conditions.
  - **Business Combinations (Customer relationships)**: When acquiring a business, the Group is required to identify and recognise intangible assets, the determination of which requires a significant degree of judgement. Acquisitions may also result in intangible benefits being brought into the Group, some of which qualify for recognition as intangible assets while other such benefits do not meet the recognition requirements of IFRS and therefore form part of goodwill. Customer relationships are

recognised as separate assets where revenues are recurring in nature and material revenues have been generated with the customer for a continuous period of three years. For the Game Development service line, the key asset acquired is typically "know-how", an asset that is not readily measurable and thus intrinsically linked to goodwill. Relationships are typically fixed term contract based rather than relationship based. Therefore, neither customer contracts nor customer relationships are typically recognised on the acquisition of a Game Development business.

- **IFRS 16 Leases:** The Group has determined that the Group's incremental borrowing rate is the appropriate rate to use to discount lease liabilities. The Group has applied judgement to determine the lease term for contracts in which it is a lessee that include renewal options. The assessment of whether the Group is reasonably certain to exercise such options impacts the lease term, which significantly affects the lease liabilities and right of use assets recognised.
- **Business Combinations (Put and call options over Non-controlling interest):** The Group acquired an 85% interest in Tantalus in March 2021, with the sellers retaining a minority shareholding. The shareholder agreement (signed with the purchase agreement) includes put and call options ("the Forward") that require the sellers to sell, or require the Group to buy, the remaining 15% shareholding in three years using a pre-determined valuation methodology linked to post-acquisition performance. IFRS 3 does not provide specific guidance on how such contracts should be accounted for in a business combination. The Board determined, taking into consideration all the contracts' terms and conditions, that the impact of the Forward put the Group in a similar position as if the Group had acquired a 100% interest in the subsidiary on the acquisition date, with deferred contingent consideration payable at a future date. In doing so, the Board considered whether the risks and rewards of ownership reside with the Non-controlling interest or had effectively transferred to the Group, and concluded that the Non-controlling interest arising on the acquisition had been extinguished by a combination of the Forward and other conditions in the agreements. Therefore, the Group has accounted for the acquisition as if a 100% interest was acquired on acquisition, accounting for the initial investment and the Forward as a single linked transaction in which 100% control is gained, with the Forward recognised at fair value, as a financial liability within Deferred and contingent consideration (note 17), and no Non-controlling interest recognised on the acquisition. Any subsequent re-measurement required due to changes in the fair value of the liability will be recognised in the Consolidated statement of comprehensive income.
- **Operating Segments:** While previously it was considered that the Group's activity, as a single source supplier of services to the gaming industry, constituted one operating and reporting segment (as defined under IFRS 8 Operating Segments), following on recent executive and organisational changes, the Board consider it more meaningful to present information by segment aligning to the new organisational and reporting structures:
  - Create – Game Development and Art Creation;
  - Globalize – Functional Testing, Localization Testing, Audio and Localization; and,
  - Engage – Marketing and Player Support.

  The Operating segments are reported in note 4, in a manner consistent with the new internal organisational and management structure, and the internal reporting information provided to the Chief Operating Decision Maker ("CODM") who is responsible for allocating resources and assessing performance of the operating segments. The CODM has been identified as the executive management team made up of the Chief Executive Officer and the Chief Financial Officer. As a corollary, the Board also considered how the change in segmental reporting impacted the Group's cash generating units ("CGUs"). CGUs represent the lowest level at which goodwill is monitored for internal management purposes and are not larger than the operating segments determined in accordance with IFRS 8. While previously the Group was considered to have one CGU, the change in segmental reporting requires the Group's CGU's to be re-considered. The Board determined that monitoring goodwill for impairment at the line of business level (i.e. Art Creation, Game Development etc.) would be the most appropriate (see note 11).
- **Goodwill**: Goodwill is required to be tested for impairment at least annually or more frequently if changes in circumstances or the occurrence of events indicating potential impairment exist. The Group uses the present value of future cash flows to determine recoverable amounts. In calculating the value in use, significant judgement and estimation is required in forecasting cash flows of CGUs, in determining terminal growth values and in selecting an appropriate discount rate.

Estimates and Assumptions

The Group makes certain estimates and assumptions regarding the future. Estimates and judgements are continually evaluated based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. In the future, actual experience may differ from these estimates and assumptions.

A number of areas requiring the use of estimates and critical judgements impact the Group's earnings and financial position. These include revenue recognition, the computation of income taxes, the value of goodwill and intangible assets arising on acquisitions, the valuation of multimedia tax credits / video game tax relief, leasing and the valuation of defined retirement benefits. The Directors consider that no reasonably possible changes to any of the assumptions used in the estimates would in the view of the Directors give rise to significant risk of a material adjustment to the carrying value of the associated balances in the subsequent financial year.

4 Segmental Analysis and Revenue from Contracts with Customers

Segmental Analysis*

	2022 €'000	2021 €'000
Revenue from external customers		
Create	**275,570**	188,178
Globalize	**300,875**	231,901
Engage	**114,273**	92,121
	690,718	512,200
Segment operating profit		
Create	**69,748**	49,730
Globalize	**61,577**	47,383
Engage	**15,576**	12,987
	146,901	110,100
Reconciliation of Segment operating profit		
Adjusted EBITDA^	**146,901**	110,100
Share-based payments expense	**(18,678)**	(16,394)
Costs of acquisition and integration	**(8,413)**	(7,972)
Non-controlling interest	**-**	(67)
Other income	**1,098**	-
Amortisation of intangible assets	**(16,810)**	(13,688)
Depreciation - property plant and equipment	**(18,365)**	(11,661)
Depreciation and impairment - right of use assets	**(14,585)**	(10,473)
Bank charges	**662**	520
Operating profit	**71,810**	50,365
Financing income	**1,986**	2,045
Financing cost	**(5,814)**	(4,427)
Profit before taxation	**67,982**	47,983

*The prior year comparatives have been re-classified to present information by segment, aligning to the new organisational and reporting structures (see note 3).

^ The Group reports a number of alternative performance measures ("APMs"), including Adjusted EBITDA, to present the financial performance of the business, that are not GAAP measures as defined under IFRS. Segmental results are reported in a manner consistent with these measures. A reconciliation of Adjusted EBITDA to the relevant GAAP measure is presented in the APM's section.

Operating segments are reported in a manner consistent with the internal organisational and management structure, and the internal reporting information provided to the Chief Operating Decision Maker ("CODM") who is responsible for allocating resources and assessing performance of the operating segments. The CODM has been identified as the executive management team made up of the Chief Executive Officer and the Chief Financial Officer.

Geographical analysis of non-current assets from continuing businesses

	2022 €'000	2021 €'000
United States	**264,117**	171,126
United Kingdom	**121,556**	114,871
Canada	**57,652**	31,096
Australia	**51,869**	45,528
Italy	**16,471**	15,612
Poland	**12,561**	3,275
Ireland	**10,311**	8,422
Switzerland	**10,025**	10,025
China	**9,296**	8,296
France	**7,150**	7,548
Other	**14,333**	31,796
	575,341	447,595

*The prior year comparatives have been re-classified to align to the current year presentation and ranking, as the Directors consider this measure to be more meaningful.

Revenue from Contracts with Customers

Revenue recognised in the reporting period arises from contracts with customers, and is predominantly recognised over time. There were no significant amounts of revenue recognised in the reporting period that were included in a contract liability balance at the beginning of the reporting period, or from performance obligations satisfied in the previous reporting period.

Geographical analysis of revenues, by production location*

	2022 €'000	2021 €'000
Canada	**155,509**	97,748
United States	**120,722**	96,060
United Kingdom	**115,017**	94,426
Poland	**42,731**	21,397
Italy	**39,195**	32,448
China	**26,759**	20,350
Russia	**26,281**	29,424
India	**25,290**	18,640
Japan	**22,716**	21,898
Australia	**22,211**	7,408
Other	**94,287**	72,401
	690,718	512,200

*The prior year comparatives have been re-classified to align to the current year presentation and ranking by production location.

For many contracts, operations are completed across multiple sites. Analysis of revenues by geographical regions is presented by production location, which may not reflect the jurisdiction from which the final invoice to the client is raised, or the region of the Group's customers, whose locations are worldwide.

No single customer accounted for more than 10% of the Group's revenue in either year presented.

Revenue Expected to be Recognised

For Game Development, games are developed to an agreed specification and time schedule, and often have delivery schedules and / or milestones that extend well into the future. The following are Game Development revenues expected to be recognised for contracts with a schedule of work that extends beyond one year, representing the aggregate amount of the transaction price allocated to the performance obligations that are unsatisfied (or partially unsatisfied) as at the end of the reporting period:

Revenue expected to be recognised	**Total undelivered €'000**	**Scheduled completion within 1 year €'000**	**Scheduled completion 1-2 years €'000**	**Scheduled completion 2-5 years €'000**
At 31 December 2022	**82,060**	**77,448**	**4,612**	**-**
At 31 December 2021	55,294	44,973	9,319	1,002

For all service lines excluding Game Development, contracts do not extend to more than one year, therefore information concerning unsatisfied performance obligations are not disclosed, as allowed under the practical expedient exemption under IFRS 15. This practical expedient is also availed of for Game Development contracts of less than one year in duration.

5 Cost of Sales and Operating Profit

Cost of sales	2022 €'000	2021 €'000
Operating expenses	**430,475**	320,159
Multimedia tax credits / video game tax relief	**(21,540)**	(20,966)
Other direct costs	**14,517**	12,893
	423,452	312,086

Operating profit is stated after charging / (crediting):	2022 €'000	2021 €'000
Depreciation - property, plant and equipment	**18,365**	11,661
Depreciation and impairment - right of use assets	**14,585**	10,473
Amortisation of intangible assets	**16,810**	13,688
Costs of acquisition and integration	**8,413**	7,972
Auditor's remuneration	**671**	605
Short-term leases	**2,140**	1,531
Other income	**(1,098)**	-

Costs of acquisition and integration	2022 €'000	2021 €'000
Acquisition and integrations costs re: current year acquisitions (note 27)	**1,177**	1,099
Acquisition and integrations costs re: prior acquisitions	**631**	191
Fair value adjustments to contingent consideration (note 17)	**2,282**	5,567
Deferred consideration related to continuing employment	**3,266**	454
Acquisition team and related costs	**671**	313
Other re-organisation and restructuring costs	**386**	348
	8,413	7,972

Auditor's remuneration	2022 €'000	2021 €'000
Audit services:		
Parent company and Group audit	**318**	314
Subsidiary companies audit	**358**	278
Non-audit services:		
Audit-related assurance services	**13**	13
	689	605

Other income	2022 €'000	2021 €'000
Gain on disposal of investment	**(1,098)**	-
	(1,098)	-

Other income represents the gain on disposal of the Group's investment in AppSecTest in April 2022 (including related Non-controlling interest re-cycled on disposal).

6 Financing Income and Cost

	2022 €'000	2021 €'000
Financing income		
Interest received	**309**	62
Foreign exchange gain	**1,677**	1,983
	1,986	2,045
Financing cost		
Bank charges	**(662)**	(520)
Interest expense	**(1,261)**	(1,040)
Unwinding of discounted liabilities - lease liabilities	**(969)**	(985)
Unwinding of discounted liabilities - deferred consideration	**(2,922)**	(1,882)
	(5,814)	(4,427)
Net financing income / (cost)	**(3,828)**	(2,382)

7 Taxation

	2022 €'000	2021 €'000
Current income tax		
Income tax on profits	**25,844**	17,632
Deferred tax (note 21)	**(5,232)**	(3,757)
	20,612	13,875

The tax charge for the year can be reconciled to accounting profit as follows:

	2022 €'000	2021 €'000
Profit before tax	**67,982**	47,983
Tax charge based on the Effective tax rate*	**12,156**	10,527
Income tax prior year (over) / under provision	**(653)**	(261)
Deferred tax prior year (over) / under provision and impact of change in tax rates	**(204)**	148
Items disallowed for tax purposes	**7,468**	3,430
Exempt and non-taxable income	**(72)**	(174)
Tax incentives	**(924)**	(951)
Current year tax losses utilised	**(250)**	(363)
Current year tax losses where deferred tax has not been provided	**346**	204
State and other direct taxes	**932**	658
Other differences - net	**1,813**	657
Total tax charge	**20,612**	13,875
*Effective tax rate - being the statutory tax rate relative to the profit before tax in each jurisdiction	**17.9%**	21.9%

The Group's subsidiaries are located in different jurisdictions and are taxed on their residual profit in those jurisdictions. The effective tax rate will vary year on year due to the effect of changes in tax rates and changes in the proportion of profits in each jurisdiction.

Tax effects relating to each component of other comprehensive income	2022 €'000	2021 €'000
Exchange gain / (loss) in net investment in foreign operations	**(7,947)**	8,228
Tax (expense) / benefit	**993**	(1,029)
Net of tax amount	**(6,954)**	7,199
Actuarial gain / (loss) on defined benefit plans	**286**	27
Tax (expense) / benefit	**-**	-
Net of tax amount	**286**	27
Exchange gain / (loss) on translation of foreign operations	**6,144**	14,581
Tax (expense) / benefit	**-**	-
Net of tax amount	**6,144**	14,581

8 Earnings per Share

	2022 € cent	2021 € cent
Basic	**61.54**	45.16
Diluted	**58.86**	42.98

Earnings	**€'000**	€'000
Profit for the period from continuing operations	**47,370**	34,108

Weighted average number of equity shares	**Number**	Number
Basic (i)	**76,979,596**	75,526,296
Diluting impact of share options (ii)	**3,502,301**	3,826,990
Diluted (i)	**80,481,897**	79,353,286

(i) Includes (weighted average) shares to be issued:

	Number	Number
	67,802	219,146

(ii) Contingently issuable ordinary shares have been excluded where the conditions governing exercisability have not been satisfied:

	Number	Number
LTIPs	**409,728**	903,656
Share options	**511,411**	-
	921,139	903,656

Details of the number of share options outstanding at the year-end are set out in note 23.

9 Dividends

Dividends paid	**In respect of**	**Approval date**	**€ cent per share**	**Pence STG per share**	**Total dividend €'000**	**Payment date**
Interim	2021	Sep-21	0.81	0.70	615	Oct-21
Dividends paid to shareholders 2021			0.81	0.70	615	
Final	**2021**	**Mar-22**	**1.70**	**1.45**	**1,305**	**Jun-22**
Interim	**2022**	**Sep-22**	**0.90**	**0.77**	**674**	**Oct-22**
Dividends paid to shareholders 2022			**2.60**	**2.22**	**1,979**	

Recommended	**In respect of**	**Approval date**	**Expected € cent per share**	**Pence STG per share**	**Expected total dividend €'000**	**Expected payment date**
Final	**2022**	**Mar-23**	**1.80**	**1.60**	**1,406**	**Jun-23**

At 31 December 2022, Retained earnings available for distribution (being Retained earnings plus Share-based payments reserve) in the Company were €77.6m (2021: €47.7m). In addition, certain amounts within Merger reserve are considered distributable (see note 22).

In light of COVID-19 the Directors did not recommend any dividend payments for 2020. Dividend payments were resumed in 2021, and the Directors do not foresee any impediment in continuing to implement the dividend policy of the Group moving forward.

The Group does not recognise deferred tax on unremitted retained earnings, as, in general, retained earnings (as dividends) are only remitted where there are minimal or no tax consequences.

10 Staff Costs

Total staff costs (including Directors)	2022 €'000	2021 €'000
Salaries and related costs	**345,857**	263,036
Social welfare costs	**27,788**	30,455
Pension costs	**7,222**	6,685
Share-based payments expense	**18,678**	16,394
	399,545	316,570

Average number of employees	2022	2021
Operations	**10,272**	8,821
General and administration	**869**	672
	11,141	9,493

Key management compensation	2022 €'000	2021 €'000
Salaries and related costs	**2,258**	1,569
Social welfare costs	**431**	201
Pension costs	**54**	25
Share-based payments expense	**1,142**	698
	3,885	2,493

The key management compensation comprises compensation to ten Directors of Keywords Studios plc during the year (2021: eleven).

11 Intangible Assets

	Goodwill €'000	Customer relationships €'000	Intellectual property / Development costs €'000	Total €'000
Cost				
At 01 January 2021	212,164	52,423	3,799	268,386
Recognition on acquisition of subsidiaries	97,918	11,502	-	109,420
Additions	-	-	315	315
Exchange rate movement	14,955	4,400	-	19,355
At 31 December 2021	**325,037**	**68,325**	**4,114**	**397,476**
Recognition on acquisition of subsidiaries	**70,482**	**34,695**	**25,914**	**131,091**
Additions	**-**	**-**	**501**	**501**
Disposals	**(159)**	**-**	**-**	**(159)**
Exchange rate movement	**1,373**	**1,317**	**(134)**	**2,556**
At 31 December 2022	**396,733**	**104,337**	**30,395**	**531,465**
Accumulated amortisation				
At 01 January 2021	147	25,178	2,251	27,576
Amortisation charge	-	13,261	427	13,688
Exchange rate movement	-	2,269	-	2,269
At 31 December 2021	**147**	**40,708**	**2,678**	**43,533**
Amortisation charge	**-**	**16,285**	**525**	**16,810**
Disposals	**(147)**	**-**	**-**	**(147)**
Exchange rate movement	**-**	**1,308**	**8**	**1,316**
At 31 December 2022	**-**	**58,301**	**3,211**	**61,512**
Net book value				
At 01 January 2022	324,890	27,617	1,436	353,943
At 31 December 2022	**396,733**	**46,036**	**27,184**	**469,953**

Customer relationships and intellectual property / development costs are amortised on a straight-line basis over five years. Customer relationships amortisation commences on acquisition, whereas intellectual property / development costs amortisation commences when the product is launched.

Impairment tests for goodwill

The Group assesses the carrying value of goodwill each year on the basis of budget projections for the coming year extrapolated using a one to five year growth rate and a terminal value calculated using a long-term growth rate projection. The (pre-tax) discount rate used of 10.0% (2021: 12.5%) is based on the Board's assessment of the weighted average cost of capital ("WACC") of the Group.

A cash-generating unit ("CGU") is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or group of assets. The CGU's represent the lowest level within the Group at which the associated goodwill is assessed for internal management purposes and are not larger than the operating segments determined in accordance with IFRS 8 Operating Segments. As outlined in note 3, the Board have determined the lines of business as CGU's, and Goodwill acquired in business combinations has been allocated to the CGUs that are expected to benefit from business combinations to date.

A summary of the allocation of the carrying value of goodwill by segment and by CGU is presented below:

Segment	CGU	2022 €m	2021 €m
Create:	Game Development	**218**	177
	Art Creation	**19**	19
Globalize:	Functional Testing	**15**	14
	Localization Testing	**14**	13
	Audio	**33**	32
	Localization	**19**	17
Engage:	Marketing	**35**	42
	Player Support	**44**	11
		397	325

The value in use calculations were consistently calculated year over year, with no significant changes in the assumptions made. The result of the value in use calculations was that no impairment is required in this period.

Key assumptions

	Actual		Sensitivity analysis			
	2022	2021	**2022**	2021	**2022**	2021
1 to 5 year growth rate assumption	**10%**	10%	**15%**	15%	**5%**	5%
Long-term growth rate assumption	**2%**	2%	**2%**	2%	**2%**	2%
Value in use (€m) - all CGUs	**1,295**	792	**1,552**	947	**1,096**	673
Carrying value - goodwill (€m)	**397**	325				

Sensitivity analysis has been performed across all the CGU's to flex the growth rate by 5% and separately to flex the discount rate by 1%. Under both scenarios there would have been no requirement for the Group to recognise any impairment charge in either period presented, in any individual CGU. The Directors consider that no reasonably probable change in the assumptions would result in an impairment.

12 Right of Use Assets

The Group has entered into leases, across the business, principally relating to property. These property leases have varying terms and renewal rights.

	2022 €'000	2021 €'000
Cost		
At 01 January	**63,840**	44,092
Additions	**15,249**	15,392
Recognition on acquisition of subsidiaries	**580**	1,402
De-recognition of expired leases	**(14,186)**	-
Exchange rate movement	**366**	2,954
At 31 December	**65,849**	63,840
Accumulated depreciation		
At 01 January	**27,849**	16,285
Depreciation charge	**11,753**	10,473
De-recognition of expired leases	**(14,186)**	-
Impairment charge	**2,832**	-
Exchange rate movement	**(71)**	1,091
At 31 December	**28,177**	27,849
Net book value		
At 01 January	**35,991**	27,807
At 31 December	**37,672**	35,991

13 Property, Plant and Equipment

	Computers and software €'000	Office furniture and equipment €'000	Leasehold improvements €'000	Total €'000
Cost				
At 01 January 2021	29,206	6,906	14,912	51,024
Exchange rate movement	2,877	783	1,289	4,949
Additions	13,492	1,444	4,424	19,360
Acquisitions through business combinations at fair value	304	266	2	572
Disposals	(2,830)	(185)	(5,699)	(8,714)
At 31 December 2021	**43,049**	**9,214**	**14,928**	**67,191**
Exchange rate movement	**(94)**	**(109)**	**105**	**(98)**
Additions	**21,962**	**1,129**	**3,916**	**27,007**
Acquisitions through business combinations at fair value	**243**	**131**	**48**	**422**
Disposals	**(1,132)**	**(490)**	**(828)**	**(2,450)**
At 31 December 2022	**64,028**	**9,875**	**18,169**	**92,072**
Accumulated depreciation				
At 01 January 2021	16,886	3,302	4,417	24,605
Exchange rate movement	2,342	603	676	3,621
Depreciation charge	8,170	590	2,901	11,661
Disposals	(2,830)	(185)	(5,699)	(8,714)
At 31 December 2021	**24,568**	**4,310**	**2,295**	**31,173**
Exchange rate movement	**47**	**71**	**82**	**200**
Depreciation charge	**12,539**	**799**	**5,027**	**18,365**
Disposals	**(1,133)**	**(490)**	**(827)**	**(2,450)**
At 31 December 2022	**36,021**	**4,690**	**6,577**	**47,288**
Net book value				
At 01 January 2022	18,481	4,904	12,633	36,018
At 31 December 2022	**28,007**	**5,185**	**11,592**	**44,784**

14 Investments

	2022 €'000	2021 €'000
Investments	**175**	175

From time to time, the Group (via Keywords Ventures Limited) has made modest investments in businesses developing innovative technologies and services that will benefit its clients, while further accelerating the success of investee companies through access to its global platform and relationships.

15 Trade Receivables

	2022 €'000	2021 €'000
Trade receivables	**85,012**	69,835
Provision for bad debts (note 24)	**(3,449)**	(1,768)
Financial asset held at amortised cost	**81,563**	68,067

Trade receivables arise from revenues derived from contracts with customers.

16 Other Receivables

Current	2022 €'000	2021 €'000
Multimedia tax credits / video games tax relief	**25,756**	22,860
Accrued income from contracts with customers	**13,220**	9,997
Prepayments and rent deposits	**10,527**	7,114
Tax and social security	**6,538**	4,936
Other receivables	**5,374**	4,203
	61,415	49,110

Accrued income from contracts with customers represent mainly contract assets in process and related items.

17 Other Payables

	2022 €'000	2021 €'000
Current liabilities		
Accrued expenses	**64,734**	53,526
Payroll taxes	**3,577**	2,666
Deferred and contingent consideration (i)	**44,945**	35,888
Other payables (ii)	**26,099**	16,343
	139,355	108,423

	2022 €'000	2021 €'000
Non-current liabilities		
Deferred and contingent consideration (i)	**18,308**	18,254
	18,308	18,254

(i) The movement in deferred and contingent consideration during the financial year was as follows:

	2022 €'000	2021 €'000
Carrying amount at the beginning of the year	**54,142**	20,802
Consideration settled by cash	**(25,800)**	(14,393)
Consideration settled by shares	**(8,040)**	(2,838)
Unwinding of discount (note 6)	**2,922**	1,882
Additional liabilities from current year acquisitions (note 27)	**37,950**	40,059
Adjustment arising from prior year business combinations	**2,282**	5,567
Exchange rate movement	**(203)**	3,063
Carrying amount at the end of the year	**63,253**	54,142

In general, in order for contingent consideration to become payable, pre-defined profit and / or revenue targets must be exceeded. The valuation of contingent consideration is derived using data from sources that are not widely available to the public and involves a degree of judgement (Level 3 input in the fair value hierarchy). A 10% increase in expected performance would increase the carrying value of contingent consideration by €1.0m, while a 10% reduction in expected performance would decrease the carrying value by €4.0m. On an undiscounted basis, the Group may be liable for deferred and contingent consideration ranging from €7.7m to a maximum of €66.6m.

(ii) Other payables includes deferred income from contracts with customers of €9,127k (2021: €3,470k), which mainly comprise items invoiced prior to services being delivered. Excluding amounts recognised on acquisition of subsidiaries (€3,461k, see note 27), the movement in the year comprises transfers in and out as items are deferred and subsequently recognised as revenue.

18 Loans and Borrowings

Maturity analysis of Loans and borrowings	2022 €'000	2021 €'000
Current		
Expiry within 1 year	-	-
Non-current		
Expiry between 1 and 2 years	-	-
Expiry over 2 years	51	129
	51	129
	51	129

Currency denomination		
Canadian dollars	51	129

The Company has an unsecured revolving credit facility ("RCF") in place with a syndicate of four lenders. The RCF is a committed facility that allows financing of up to €150m, which may be drawn down in euro, sterling, US dollars or Canadian dollars, with an option (subject to lender consent), to increase the facility by up to €50m to a total of €200m, at interest rates based on a margin over currency benchmark rates, plus a separate margin charged for the unutilised facility. The RCF agreement extends to December 2024, with an option to extend the term by two further one-year periods. The first extension (to 2025) was triggered during 2022.

Loans and borrowings (classified as financial liabilities under IFRS 9), are held at amortised cost. Interest expenses which are calculated using the effective interest method are disclosed in note 6. While technically any borrowings are repaid and re-borrowed multiple times during the term of the RCF, so long as the Group remains compliant with the financial covenants and certain other terms of the RCF, any debt is rolled from one period to another, with the legal and commercial substance of a multi-year committed facility. Hence the Group presents any RCF liabilities as non-current.

In connection with the financial covenants of the RCF, the Group is required to comply with and report certain interest cover and leverage ratios. Non-compliance with RCF terms could result in lenders refusing to advance funds under the facility or, in the worst case, calling in outstanding loans. Throughout the period, the Group operated well within the applicable ratio terms of both the new and previous RCF agreements.

The movements in Loans and borrowings are as follows:

	Current €'000	Non-current €'000	Total €'000
At 01 January 2021	73	122	195
Cash flows:			
Drawdowns	-	-	-
Repayments	-	(80)	(80)
Non-cash flows:			
Exchange rate movement	8	6	14
At 31 December 2021	**81**	**48**	**129**
Cash flows:			
Drawdowns	-	-	-
Repayments	(37)	(42)	(79)
Non-cash flows:			
Recognition on acquisition of subsidiaries (note 27)	-	-	-
Exchange rate movement	1	-	1
At 31 December 2022	**45**	**6**	**51**

There were no drawdowns on the RCF during 2022. Loans outstanding refer to amounts owed by Keywords Studios QC-Interactive Inc.

19 Lease Liabilities

The Group has entered into leases, across the business, principally relating to property. These property leases have varying terms and renewal rights. Management applies judgement in determining whether it is reasonably certain that a renewal or termination option will be exercised.

The movement in lease liabilities during the financial year was as follows:

	2022	2021
	€'000	€'000
Carrying amount at the beginning of the year	**37,635**	28,864
Recognition on acquisition of subsidiaries (note 27)	**580**	1,402
Liabilities recognised on new leases in the period	**15,244**	15,392
Unwinding of discounted liabilities - lease liabilities	**969**	985
Payment of principal and interest on lease liabilities	**(12,330)**	(10,938)
Exchange rate movement	**421**	1,930
Carrying amount at the end of the year	**42,519**	37,635

The value of leases not yet commenced to which the lessee is committed, which are not included in lease liabilities at 31 December 2022, was €nil (2021: €nil).

	2022	**2022**	**2022**	2021	2021	2021
Maturity analysis of lease liabilities	**€'000**	**€'000**	**€'000**	€'000	€'000	€'000
	Lease payments	**Finance charges**	**Lease liabilities**	Lease payments	Finance charges	Lease liabilities
Current						
Not later than one year	**12,740**	**326**	**12,414**	12,059	842	11,217
Non-current						
Later than one year and not later than five years	**26,491**	**1,447**	**25,044**	21,299	1,488	19,811
Later than five years	**5,317**	**256**	**5,061**	7,000	393	6,607
	31,808	**1,703**	**30,105**	28,299	1,881	26,418
At 31 December	**44,548**	**2,029**	**42,519**	40,358	2,723	37,635

The Group has elected not to recognise a lease liability for short-term leases (leases with an expected term of twelve months or less) or for leases of low-value assets. Payments made under such leases are expensed on a straight-line basis. The expenses in the period relating to payments not included in the measurement of the lease liability were as follows:

Lease payments not recognised as a liability	**2022 €'000**	2021 €'000
Short-term leases	**2,140**	1,531
Leases of low value assets	**-**	-
	2,140	1,531
The future minimum lease payments related to these leases		
Not later than one year	**1,282**	516
Later than one year and not later than five years	**-**	-
Later than five years	**-**	-
	1,282	516

The effect of variable lease payments and re-instatement costs on future cash outflows arising from leases is not material for the Group.

20 Employee Defined Benefit Plans

In line with statutory requirements in France, Italy and India, we are required to maintain employee defined benefit termination payment schemes.

In France, employees are entitled to a lump-sum on retirement or early termination, based on salary and length of service ("Indemnité de Fin de Carrière" or "IFC"), entitling the Group's French employees to benefits of up to two months' salary per year of service.

In Italy, on leaving employment, each employee is entitled to 1/13.5 of their final salary for each year of service ("Trattamento di Fine Rapporto" or "TFR").

In India, in compliance with statutory requirements, employees with over five years' service are entitled to a termination benefit of 15/26 of monthly salary for each year of service ("Gratuity" benefits).

The Group commissions an actuarial valuation of the related liabilities in each jurisdiction annually.

The liabilities at year end are recorded as long term. The actuarial gain or loss is recorded separately within Other comprehensive income. The movements through the year are as follows:

	2022 **€'000**	2021 €'000
Opening liabilities at 01 January	**3,088**	2,693
Service cost	**514**	419
Interest cost	**51**	33
Benefits paid	**(155)**	(141)
Actuarial (gain) / loss	**(286)**	(27)
Exchange rate movement	**(351)**	111
Closing liabilities at 31 December	**2,861**	3,088

The Directors have considered the key specific risk factors which the Group faces due to the employee defined benefit plans which are in place. Having fully considered all specific elements of these plans, the Directors believe that the key issues faced are as follows:

- The plan is currently 100% unfunded, there are no specific assets to meet the future liabilities as they fall due; as such, there will be a cash flow impact as the liabilities must be met with current working capital as they fall due.

The Group has taken no specific actions to mitigate these factors as due to the long-term nature of the plans it is expected that there will be no sudden financial impact on the Group's results caused by any of these factors. A maturity profile of the obligation is not presented as the liability is not significant in the context of the Group, and due to the age profile of employees a significant outlay is not anticipated for the foreseeable future.

In 2023, the Group expects the costs of the employee defined benefit plan to be in line with current year levels, as staff levels are not anticipated to change significantly in the period.

The actuarial valuation is based on the Projected Unit Credit Method, in line with IAS 19.

Cost for year	**2022** **€'000**	2021 €'000
Service cost	**514**	419
Interest cost	**51**	33
Actuarial (gain) / loss	**(286)**	(27)
	279	425

Actuarial (gain) / loss	**2022** **€'000**	2021 €'000
Change due to experience	**80**	41
Change due to demographical assumptions	**(89)**	(9)
Change due to financial assumptions	**(277)**	(59)
	(286)	(27)

Assumptions Underlying the Actuarial Valuations and Sensitivities of the Assumptions

For the actuarial valuations, the following demographic and economic and financial assumptions were applied:

- Mortality probabilities were derived from the population demographics, as recorded by the government statistics offices in each jurisdiction.
- Disability, retirement age and other relevant demographic assumptions were taken from relevant life assurance statistics.
- Certain inputs were estimated by management, including:
  - Employee attrition rates, estimated based on company experience in each jurisdiction.
  - In Italy, TFR rules allow for early drawdown of benefits in certain circumstances. Such advances were estimated on the basis of company experience.

Economic and financial assumptions	2022	2021
Staff salary increase rate	**4.87%**	4.07%
Inflation rate	**4.87%**	3.04%
Discount rate	**3.62%**	1.67%

Key statistics	2022	2021
Staff (number)	**945**	874
Average age (years)	**32**	31
Average service (years)	**4**	4

Interest rate sensitivities	2022 €'000	2021 €'000
(0.25)%	**2,987**	3,176
0.25%	**2,782**	2,880

Mortality rate sensitivities	2022 €'000	2021 €'000
(0.025)%	**2,876**	3,018
0.025%	**2,875**	3,015

Staff turnover rate sensitivities	2022 €'000	2021 €'000
(0.50)%	**2,886**	3,049
0.50%	**2,863**	2,985

Staff salary increase rate sensitivities	2022 €'000	2021 €'000
(0.50)%	**2,849**	2,976
0.50%	**2,916**	3,072

21 Deferred Tax

Details of the deferred tax assets and liabilities, and amounts recognised in the Consolidated statement of comprehensive income are as follows:

	2022 €'000	**2022 €'000**	**2022 €'000**	**2022 €'000**
	Assets	**Liabilities**	**Net**	**(Credited) / charged to income statement**
Defined benefit termination payments	**308**	**124**	**184**	**144**
Available losses	**2,830**	**13**	**2,817**	**(1,000)**
Rent-free period provisions	**258**	**-**	**258**	**(36)**
Fixed asset tax base versus accounting book value	**1,092**	**1,983**	**(891)**	**1,007**
Deferred tax related to tax credits	**(2)**	**3,877**	**(3,879)**	**309**
Deferred tax arising on items deductible on a paid basis	**8,879**	**2,091**	**6,788**	**(2,992)**
Recognition on acquisition of subsidiaries	**15,393**	**13,341**	**2,052**	**-**
Deferred tax arising on intangibles	**11,293**	**4,482**	**6,811**	**(1,892)**
Offset where legally enforceable right of set off exists	**(17,294)**	**(17,294)**	**-**	**-**
Net tax assets / liabilities	**22,757**	**8,617**	**14,140**	**(4,460)**
Impact of change in tax rates				**13**
Prior year (over) / under provision				**(785)**
Total (credited) / charged to income statement				**(5,232)**

	2021 €'000	2021 €'000	2021 €'000	2021 €'000
	Assets	Liabilities	Net	(Credited) / charged to income statement
Defined benefit termination payments	328	-	328	(259)
Available losses	1,817	-	1,817	(660)
Rent-free period provisions	222	-	222	(147)
Fixed asset tax base versus accounting book value	1,818	1,702	116	(217)
Deferred tax related to tax credits	-	3,570	(3,570)	1,464
Deferred tax arising on items deductible on a paid basis	5,557	1,761	3,796	(1,857)
Recognition on acquisition of subsidiaries	2,539	3,006	(467)	-
Deferred tax arising on intangibles	9,187	3,801	5,386	(2,345)
Offset where legally enforceable right of set off exists	-	-	-	-
Net tax assets / liabilities	21,468	13,840	7,628	(4,021)
Impact of change in tax rates				189
Prior year (over) / under provision				75
Total (credited) / charged to income statement				(3,757)

The deferred tax asset not recognised on available losses at the period end is €3.8m (2021: €3.2m). Deferred tax assets and deferred tax liabilities are offset where a legally enforceable right to offset the recognised amounts exists, the deferred tax assets and deferred tax liabilities relate to taxes levied by the same taxation authority, and the Group anticipates they will be settled either at the same time or, on a net basis.

22 Shareholders' Equity

Share Capital

	Issue date	Per share €	Number of ordinary £0.01 shares	Number of ordinary £0.01 shares - to be issued	Share capital €'000	Share capital - to be issued €'000	Share premium €'000	Merger reserve €'000
At 01 January 2021			**74,079,243**	**532,985**	**879**	**13,047**	**22,951**	**250,276**
Acquisition-related issuance of shares:								
High Voltage Software	12-Jan-21	26.06	307,597	(307,597)	4	(8,017)	-	8,013
Heavy Iron	12-Jan-21	31.84	-	12,914	-	411	-	-
Tantalus	18-Mar-21	27.87	-	368,750	-	10,275	-	-
Tantalus	15-Apr-21	27.87	368,750	(368,750)	4	(10,275)	10,271	-
Climax Studios	21-Apr-21	33.53	-	232,517	-	7,797	-	-
Climax Studios	17-May-21	33.53	232,517	(232,517)	3	(7,797)	-	7,794
Ichi	28-May-21	15.94	14,635	(14,635)	-	(233)	-	233
Coconut Lizard	25-Jun-21	18.24	19,739	(19,739)	-	(399)	-	399
Kantan	02-Jul-21	15.86	12,614	(12,614)	-	(200)	-	200
Kantan related adjustment	02-Jul-21	15.86	-	(2,683)	-	-	-	-
AMC	11-Aug-21	33.49	-	25,080	-	840	-	-
Maverick Media	27-Aug-21	25.35	36,211	(13,579)	-	(334)	-	918
Coconut Lizard	07-Sep-21	28.44	7,962	-	-	-	-	227
G-Net Media	06-Dec-21	23.26	130,410	(130,410)	2	(3,034)	-	3,032
G-Net Media related adjustment	06-Dec-21	23.26	-	(38)	-	(1)	-	-
Waste	16-Dec-21	30.78	-	20,585	-	634	-	-
Indigo Pearl	22-Dec-21	26.27	20,125	(20,125)	-	(529)	-	528
High Voltage Software	24-Dec-21	29.77	69,130	-	1	-	-	2,057
Acquisition-related issuance of shares			**1,219,690**	**(462,841)**	**14**	**(10,862)**	**10,271**	**23,401**
Employee Share Purchase Plan			13,982	-	-	-	398	-
Exercise of share options			962,860	-	11	-	4,929	-
At 31 December 2021			**76,275,775**	**70,144**	**904**	**2,185**	**38,549**	**273,677**
Acquisition-related issuance of shares:								
Waste	24-Jan-22	30.78	20,585	(20,585)	-	(634)	-	633
Heavy Iron	03-Feb-22	31.84	12,914	(12,914)	-	(411)	-	411
Heavy Iron related adjustment	03-Feb-22	31.84	53	-	-	-	-	-
Jinglebell	11-Mar-22	25.94	11,564	(11,564)	-	(300)	-	300
Tantalus Media	04-Jul-22	31.03	28,473	-	-	-	884	-
Forgotten Empires	28-Jul-22	28.41	-	60,857	-	1,729	-	-
Forgotten Empires	28-Jul-22	27.44	-	26,881	-	738	-	-
Mighty Games	03-Aug-22	28.74	-	28,443	-	817	-	-
Climax	08-Aug-22	28.71	135,559	-	2	-	-	3,889
AMC	31-Aug-22	33.49	25,081	(25,081)	-	(840)	-	840
Smoking Gun	05-Oct-22	25.78	-	107,025	-	2,759	-	-
Mighty Games	25-Oct-22	28.74	28,443	(28,443)	-	(817)	817	-
Smoking Gun	25-Oct-22	25.78	107,025	(107,025)	2	(2,759)	-	2,758
G-Net Media	25-Nov-22	33.56	114,038	-	2	-	-	4,147
Acquisition-related issuance of shares			**483,735**	**17,594**	**6**	**282**	**1,701**	**12,978**
Employee Share Purchase Plan			33,372	-	-	-	909	-
Exercise of share options			1,197,175	-	14	-	5,862	-
At 31 December 2022			**77,990,057**	**87,738**	**924**	**2,467**	**47,021**	**286,655**

Subject to applicable law, the Company's articles of association and any relevant authority of the Company passed by the shareholders in general meeting, there is no limit to the number of shares which the Company can issue, nor are there are any restrictions on dividends or distributions on such shares. In the context of the Company's general meeting authorities, at the Company's AGM on 20 May 2022 its shareholders gave the Directors the authority to allot the following number of shares (or grant rights to subscribe for, or convert any security into, shares) in the capital of the Company:

a) Up to 3,818,215 shares in respect of the Company's Long Term Incentive Plan and Share Option Plan (5% of the Company's issued share capital as at 4 April 2022); and
b) Otherwise, up to 25,454,768 shares (33.3% of the Company's issued share capital as at 4 April 2022).

This authority is considered prudent as it gives the Company flexibility to take advantage of possible opportunities which may arise from time to time. The authority granted at the 2022 AGM will expire on the earlier of (i) fifteen months after 20 May 2022; and (ii) the conclusion of the 2023 AGM.

Shares to be issued are valued at the share price at the date of acquisition, and are recorded in accordance with IAS 32.16.

Shares held in the Employee Benefit Trust ("EBT")

	2022		2021	
	Shares	**€'000**	Shares	€'000
Ordinary shares held in the EBT	-	-	335,425	1,997

During the period all of the shares held in the EBT were utilised for the exercise of share options.

Reserves
The following describes the nature and purpose of each reserve within owners' equity:

Reserve	Description and purpose
Retained earnings	Cumulative net gains and losses recognised in the Consolidated Statement of Comprehensive Income.
Foreign exchange reserve	Gains or losses arising on retranslation of the net assets of the overseas operations into euro.
Share premium	The share premium account is the amount received for shares issued in excess of their nominal value, net of share issuance costs.
Share-based payments reserve	The Share-based payments reserve is the credit arising on share-based payment charges in relation to the Company's share and share option schemes.
Shares to be issued	For deferred consideration which is to be provided for by the issue of a fixed number of shares at a future defined date, where there is no obligation on Keywords to offer a variable number of shares, the deferred consideration is classified as an Equity Arrangement and the value of the shares is fixed at the date of the acquisition.
Merger reserve	The merger reserve was initially created following the Group reconstruction, when Keywords Studios plc acquired the Keywords International Limited group of companies. When the Group uses Keywords Studios plc shares as consideration for the acquisition of an entity and has secured at least a 90% equity holding in the acquisition, the value of the shares in excess of the nominal value (net of share issuance costs) is also recorded within this reserve, in line with S612 of the Companies Act 2006. Within Merger reserve are balances related to the share premium on the share placements in 2015 and 2020, of €14.4m and €109.5m respectively, both completed via a cash box structure, with the Company acquiring the net proceeds via a share for share exchange. In both cases, the share premium on the issuance of new shares was credited to Merger reserve (in accordance with S610 of the Companies Act 2006). At the time of the placements, the proceeds were not allocated to a specific acquisition or specific purpose, and thus, amounts totalling €123.9m included in the Merger reserve are considered distributable.

23 Share Incentive Schemes

In July 2013, at the time of the IPO, a Share Option Scheme and a Long-Term Incentive Plan ("LTIP") was put in place, while in 2021, the Group introduced an Employee Share Purchase Plan. The charge in relation to these arrangements is as follows:

	2022	2021
	€'000	€'000
Share option scheme expense	**2,689**	3,446
LTIP option scheme expense	**15,888**	12,904
Employee Share Purchase Plan	**101**	44
Share-based payments expense	**18,678**	16,394

Of the total Share-based payments expense, €1,142k relates to Directors of the Company (2021: €698k).

Share Option Scheme
Share options are granted to Executive Directors and to permanent employees. The exercise price of the granted options is equal to the market price of the shares at the time of the award of the options. The Company has no legal or constructive obligation to repurchase or settle the options in cash.

Movements in the number of share options outstanding and their related weighted average exercise prices are as follows:

	2022		2021	
	Average exercise price in £ per share	**Number of options**	Average exercise price in £ per share	Number of options
Outstanding at the beginning of the period	**15.65**	**2,423,568**	12.66	2,345,238
Granted	**-**	**-**	25.48	616,000
Lapsed	**19.17**	**(133,323)**	18.96	(163,791)
Exercised	**7.88**	**(704,426)**	11.46	(373,879)
Outstanding at the end of the period	**18.78**	**1,585,819**	15.68	2,423,568
Exercisable at the end of the period	**15.19**	**481,319**	6.74	668,734
Weighted average share price at date of exercise	**23.57**		27.42	

Summary by year

Year of Option	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Total**
Exercise price	£1.58	£2.54	£7.76	£17.10	£15.88	£15.93	£25.48	-	
Outstanding at the beginning of the period	385,295	20,577	57,000	244,924	452,750	698,022	565,000	-	2,423,568
Granted	-	-	-	-	-	-	-	-	-
Lapsed	(4,442)	-	-	(8,000)	(11,270)	(56,022)	(53,589)	-	(133,323)
Exercised	(380,853)	(6,238)	(15,450)	(85,405)	(120,830)	(95,650)	-	-	(704,426)
Outstanding at the end of the period	-	14,339	41,550	151,519	320,650	546,350	511,411	-	1,585,819
Exercisable at 31 December 2022	-	14,339	41,550	151,519	153,150	120,350	411	-	481,319
Exercisable 2023	-	-	-	-	167,500	213,000	170,333	-	550,833
Exercisable 2024	-	-	-	-	-	213,000	170,333	-	383,333
Exercisable 2025	-	-	-	-	-	-	170,334	-	170,334
Exercisable 2026	-	-	-	-	-	-	-	-	-

The inputs into the Black-Scholes model, used to value the options are as follows:

Year of Option	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Weighted average**
Weighted average share price (£)	£1.64	£2.54	£7.75	£17.22	£16.09	£16.00	£26.42	-	
Weighted average exercise price (£)	£1.58	£2.54	£7.76	£17.10	£15.88	£15.93	£25.48	-	
Fair value at measurement date (€)	€0.56	€0.40	€1.13	€3.79	€5.72	€6.06	€9.32	-	
Average expected life	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	4 Years	-	
Expected volatility	28.03%	27.17%	24.79%	35.87%	45.23%	50.15%	47.70%	-	
Risk-free rates	0.90%	0.58%	0.16%	0.89%	0.81%	0.07%	0.15%	-	
Average expected dividend yield	0.75%	0.55%	0.21%	0.10%	0.10%	0.10%	0.10%	-	
Weighted average remaining life of options in months	-	-	-	-	5	17	29	-	16

Expected volatility was determined by reference to KWS volatility. The expected life used in the model has been adjusted based on management's best estimate, for the effects of non-transferability, exercise restrictions and behavioural considerations.

Long-term Incentive Plan Scheme

LTIP share awards are subject to KWS performance versus the designated share index over a three-year period.

Movements in the number of share options outstanding and their related weighted average exercise prices are as follows:

	2022		2021	
	Average exercise price in £ per share	**Number of options**	Average exercise price in £ per share	Number of options
Outstanding at the beginning of the period	**0.01**	**3,704,898**	0.01	3,692,817
Granted	**0.01**	**901,690**	0.01	932,656
Lapsed	**0.01**	**(130,241)**	0.01	(312,006)
Exercised	**0.01**	**(828,174)**	0.01	(608,569)
Outstanding at the end of the period	**0.01**	**3,648,173**	0.01	3,704,898
Exercisable at the end of the period	**0.01**	**741,212**	0.01	559,506
Weighted average share price at date of exercise	**24.73**		27.62	

Summary by year

Year of Option	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Total**
Exercise price	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	
Outstanding at the beginning of the period	39,000	85,888	105,036	329,582	1,018,536	1,223,200	903,656	-	3,704,898
Granted	-	-	-	-	-	-	-	901,690	901,690
Lapsed	-	-	-	-	(8,656)	(52,410)	(58,349)	(10,826)	(130,241)
Exercised	(39,000)	(64,200)	(60,293)	(143,582)	(521,099)	-	-	-	(828,174)
Outstanding at the end of the period	-	21,688	44,743	186,000	488,781	1,170,790	845,307	890,864	3,648,173
Exercisable at 31 December 2022	-	21,688	44,743	186,000	488,781	-	-	-	741,212
Exercisable 2023	-	-	-	-	-	1,170,790	-	-	1,170,790
Exercisable 2024	-	-	-	-	-	-	845,307	-	845,307
Exercisable 2025	-	-	-	-	-	-	-	890,864	890,864

The inputs into the Monte Carlo binomial model, used to value the options, are as follows:

Year of Option	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Weighted average**
Weighted average share price (£)	£1.60	£2.56	£7.75	£17.24	£16.05	£16.00	£26.42	£22.31	
Weighted average exercise price (£)	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	
Fair value at measurement date (€)	€1.38	€1.74	€4.96	€11.83	€13.98	€13.28	€16.73	€15.70	
Average expected life	3 Years	3 Years	3 Years	3 Years	3 Years	3 Years	3 Years	3 Years	
Expected volatility	28.21%	27.11%	24.79%	35.87%	45.26%	50.15%	47.70%	41.22%	
Risk-free rates	0.88%	0.54%	0.16%	0.89%	0.81%	0.07%	0.13%	1.59%	
Weighted average remaining life of options in months	-	-	-	-	-	5	17	29	13

Expected volatility was determined by reference to KWS share price volatility. The expected life used in the model has been adjusted based on management's best estimate, for the effects of non-transferability, exercise restrictions and behavioural considerations. As any dividends earned are to be re-invested into the business, the impact of dividends has been ignored in the calculation of the LTIP share option charge.

LTIP's vest on the third anniversary of the grant, if the market performance criteria are met. LTIPs must be exercised before the seventh anniversary of the grant.

Salary Shares

Conditional awards under the rules of the LTIP Plan ("Salary Shares"), are issued to certain employees and Directors, where the only vesting condition is continuous service.

Movements in the number of share options outstanding and their related weighted average exercise prices are as follows:

	2022		2021	
	Average exercise price in £ per share	**Number of options**	Average exercise price in £ per share	Number of options
Outstanding at the beginning of the period	**0.01**	**26,738**	-	-
Granted	**0.01**	**237,676**	0.01	26,738
Lapsed	**0.01**	**(953)**	-	-
Vested	**0.01**	**(3,838)**	-	-
Outstanding at the end of the period	**0.01**	**259,623**	0.01	26,738

Summary by year

Year of Option	**2021**	**2022**	**Total**
Exercise price	£0.01	£0.01	
Outstanding at the beginning of the period	26,738	-	26,738
Granted	-	237,676	237,676
Lapsed	(953)	-	(953)
Vested	(1,638)	(2,200)	(3,838)
Outstanding at the end of the period	24,147	235,476	259,623
Vesting 2023	-	5,928	5,928
Vesting 2024	24,147	225,740	249,887
Vesting 2025	-	3,808	3,808

Details of the awards by year are as follows:

Year of Option	**2021**	**2022**	**Weighted average**
Weighted average share price (£)	£27.40	£22.41	
Weighted average exercise price (£)	£0.01	£0.01	
Fair value at measurement date (€)	€32.08	€26.47	
Average expected life	3 Years	2 Years	
Weighted average remaining life of options in months	20	17	17

24 Financial Instruments and Risk Management

Interest Rate Risk
Interest rate risk is the risk that the value of financial instruments will fluctuate due to changes in market interest rates. The Group's income and operating cash flows are substantially independent of changes in market interest rates. The management monitors interest rate fluctuations on a continuous basis and acts accordingly.

Where the Group has a significant amount of surplus cash, it invests in higher earning interest deposit accounts. Due to interest rate conditions, the interest rates for short-term deposits are at similar levels to those achieved for longer terms.

As there were no drawdowns on the RCF in either period presented, any strengthening or weakening of interest rates would not have been impactful on the pre-tax profit / (loss) reported for the year.

Credit Risk
The Group's main financial assets are cash and cash equivalents, as well as trade and other receivables which represent the Group's maximum exposure to credit risk in connection with its financial assets.

Credit risk arises when a failure by counterparties to discharge their obligations could reduce the amount of future cash inflows from financial assets on hand at the reporting date. Customer credit risk is managed at appropriate Group locations according to established policies, procedures and controls. Customer credit quality is assessed and credit limits are established where appropriate. Outstanding customer balances are regularly monitored and a review for indicators of impairment (evidence of financial difficulty of the customer, payment default, breach of contract, etc.) is carried out at each reporting date. Significant balances are reviewed individually while smaller balances are grouped and assessed collectively. Receivables balances are unsecured and non-interest-bearing.

Credit risk arises on trade receivables and accrued income from contracts with customers (reported within other receivables). Trade and other receivables are carried on the Consolidated statement of financial position net of provisions.

Trade Receivables
The trade receivables balances disclosed comprise a large number of customers spread across the Group's activities and geographies with balances classified as "Not past due" representing 73.0% of the total trade receivables balance at the balance sheet date (2021: 77.5%).

The ageing of trade receivables can be analysed as follows:

	Total €'000	**Not past due €'000**	**1-2 months past due €'000**	**More than 2 months past due €'000**
At 31 December 2022	**81,563**	**59,532**	**16,803**	**5,228**
At 31 December 2021	68,067	52,753	14,192	1,122

A provision for doubtful debtors is included within trade receivables and can be reconciled as follows:

	2022 €'000	2021 €'000
Provision at the beginning of the year	**1,768**	1,982
Impairment of financial assets (trade receivables) charged to administration expenses	**1,733**	821
Foreign exchange movement in the year	**79**	63
Utilised	**(131)**	(1,098)
Provision at the end of the year	**3,449**	1,768

Trade receivables loss allowance is estimated using a practical expedient to arrive at lifetime expected credit losses. Overdue receivables are evaluated to calculate an expected credit loss using a historical credit loss experience of 1.0% (2021: 1.0%). Taking into account internal and external information, the historical credit loss experience may be adjusted where it is determined that there has been a significant increase in credit risk. Where a receivable is credit impaired, the impairment is recognised immediately.

	Total €'000	Not past due €'000	1-2 months past due €'000	More than 2 months past due €'000
Trade receivables gross	**85,012**	**60,134**	**17,175**	**7,703**
Credit impaired	**(2,598)**	**-**	**(200)**	**(2,398)**
Expected credit losses	**(851)**	**(602)**	**(172)**	**(77)**
At 31 December 2022	**81,563**	**59,532**	**16,803**	**5,228**

	Total €'000	Not past due €'000	1-2 months past due €'000	More than 2 months past due €'000
Trade receivables gross	69,835	53,286	14,502	2,047
Credit impaired	(1,070)	-	(165)	(905)
Expected credit losses	(698)	(533)	(145)	(20)
At 31 December 2021	68,067	52,753	14,192	1,122

Accrued income from contracts with customers

Accrued income from contracts with customers balances comprise a large number of projects in process spread across the Group's activities and geographies, with balances classified as aged "0-30 days" representing 76.6% of the balance at the balance sheet date (2021: 74.1%).

The ageing of accrued income from contracts with customers can be analysed as follows:

	Total €'000	0-30 days €'000	31-60 days €'000	60+ days €'000
At 31 December 2022	**13,220**	**10,124**	**3,096**	**-**
At 31 December 2021	9,997	7,412	2,162	423

Accrued income from contracts with customers loss allowance is estimated using a practical expedient to arrive at lifetime expected credit losses using a historical credit loss experience of 1.0% (2021: 1.0%). Taking into account internal and external information, the historical credit loss experience may be adjusted where it is determined that there has been a significant increase in credit risk. Where a receivable is credit impaired, the impairment is recognised immediately.

	Total €'000	0-30 days €'000	31-60 days €'000	60+ days €'000
Accrued income from contracts with customers gross	**16,652**	**10,227**	**3,897**	**2,528**
Credit impaired	**(3,265)**	**-**	**(762)**	**(2,503)**
Expected credit losses	**(167)**	**(103)**	**(39)**	**(25)**
At 31 December 2022	**13,220**	**10,124**	**3,096**	**-**

	Total €'000	0-30 days €'000	31-60 days €'000	60+ days €'000
Accrued income from contracts with customers gross	12,582	7,487	2,663	2,432
Credit impaired	(2,459)	-	(474)	(1,985)
Expected credit losses	(126)	(75)	(27)	(24)
At 31 December 2021	9,997	7,412	2,162	423

Accrued income from contracts with customers represent mainly contract assets in process and related items. Excluding movements in the provision, the movement in the year comprises transfers in and out as items are accrued and subsequently invoiced to customers, with no significant amounts recognised on the acquisition of subsidiaries.

Related Party Receivables

There were no related party receivables at the end of either period presented.

Currency Risk
Currency risk is the risk that the value of financial instruments will fluctuate due to changes in foreign exchange rates. The foreign exchange risk arises for the Group where assets and liabilities arise in a currency other than the functional currency of the entity.

The Group's policy, where possible, is for Group entities to manage foreign exchange risk at a local level by matching the currency in which revenue is generated with the expenses incurred and by settling liabilities denominated in their functional currency with cash generated from their own operations in that currency. Where Group entities have liabilities denominated in a currency other than their functional currency (and have insufficient reserves of that currency to settle them), cash already denominated in that currency will, where possible, be transferred from elsewhere within the Group.

The Group is predominantly exposed to currency risk on the balances held within working capital across the Group and the exposure is concentrated in the movement of the US dollar, sterling and Canadian dollar against the euro. The effect of a strengthening or weakening of 10% in those currencies against the euro at the reporting date on the working capital balances would, all other variables held constant, have resulted in the following pre-tax profit / (loss) impact for the year:

	2022	**2022**	2021	2021
	€'000	**€'000**	€'000	€'000
	10%	**10%**	10%	10%
	Strengthening	**Weakening**	Strengthening	Weakening
US dollar to euro	**5,981**	**(4,894)**	5,545	(4,536)
Sterling to euro	**365**	**(299)**	(1,333)	1,091
Canadian dollar to euro	**591**	**(483)**	169	(138)

Total Financial Assets and Liabilities
The carrying amount of the financial assets and liabilities shown in the Consolidated and Company Statements of financial position are stated at amortised costs, with the exception of contingent consideration held at fair value.

Liquidity Risk
Liquidity risk arises from the Group's management of working capital and the financial charges on its debt instruments.

The Group's policy is to ensure that it will have sufficient cash to allow it to meet its liabilities when they become due. The Directors consider liquidity risk is mitigated by the strong working capital position, with €44.6m of current assets, including cash of €81.9m available to settle liabilities as they fall due.

The following are the contractual maturities (representing undiscounted contractual cash flows) of the Group's financial liabilities:

	Carrying value	**Contractual cash flows**				
	Total	**Total**	**Within 1 year**	**1-2 years**	**2-5 years**	**Over 5 years**
At 31 December 2022	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**
Trade payables	**15,878**	**15,878**	**15,878**	**-**	**-**	**-**
Deferred and contingent consideration (i)	**63,253**	**66,598**	**45,115**	**20,031**	**1,452**	**-**
Other payables (ii)	**94,410**	**106,410**	**94,410**	**7,000**	**5,000**	**-**
Loans and borrowings	**51**	**51**	**45**	**6**	**-**	**-**
Loan interest	**-**	**2**	**2**	**-**	**-**	**-**
Lease liabilities	**42,519**	**44,548**	**12,740**	**9,267**	**17,224**	**5,317**
Total	**216,111**	**233,487**	**168,190**	**36,304**	**23,676**	**5,317**

	Carrying value	**Contractual cash flows**				
	Total	**Total**	**Within 1 year**	**1-2 years**	**2-5 years**	**Over 5 years**
At 31 December 2021	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**	**€'000**
Trade payables	11,122	11,122	11,122	-	-	-
Deferred and contingent consideration (i)	54,142	61,223	37,953	14,008	9,262	-
Other payables (ii)	72,535	72,535	72,535	-	-	-
Loans and borrowings	129	129	81	48	-	-
Loan interest	-	6	4	2	-	-
Lease liabilities	37,635	40,358	12,059	8,257	13,042	7,000
Total	175,563	185,373	133,754	22,315	22,304	7,000

(i) Deferred and contingent consideration at 31 December 2022 has arisen on business combinations, and is based on contracted amounts to be paid in the future to sellers under share purchase agreements. In general, in order for contingent consideration to become payable, pre-defined profit and / or revenue targets must be exceeded. On an undiscounted basis, the Group may be liable for deferred and contingent consideration up to a maximum of €66.6m.

(ii) Other payables contractual cash flows include liabilities of €15.0m (2021: €8.0m), for Deferred and contingent consideration related to continuous employment at Helpshift and Waste, where the purchase agreement for those acquisitions included deferred consideration contingent on both pre-defined profit and / or revenue targets being exceeded and also tied to the retention of key staff, that are considered post-acquisition expenses under IFRS 3.

25 Capital Management

Group	2022 €'000	2021 €'000
Loans and borrowings (note 18)	**51**	129
Less: cash and cash equivalents	**(81,886)**	(105,710)
Net debt / (net cash) position	**(81,835)**	(105,581)
Total equity	**557,091**	472,120
Net debt / (net cash) to capital ratio	**(14.7)%**	(22.4)%

The Group manages capital by monitoring debt to capital and net debt ratios. This debt to capital ratio is calculated as net debt to total equity. Net debt is calculated as loans and borrowings (as shown in the Consolidated statement of financial position) less cash and cash equivalents. The liquidity risk and cash management for the Group is managed centrally by the Group Treasury function. Group Treasury manage bank balances centrally, and monitors the credit rating and stability of the institutions the Group banks with. The Board receives projections on a monthly basis as well as information regarding cash balances. The Group's strategy is to preserve a strong cash base and secure access to finance at reasonable cost by maintaining a good credit rating.

26 Related Parties and Shareholders

The details of key management compensation (being the remuneration of the Directors) are set out in note 10.

27 Business Combinations

	2022 €'000	2021 €'000
Details of goodwill and the fair value of net assets acquired		
Book value:		
Property, plant and equipment	**422**	572
Right of use assets	**580**	1,402
Trade and other receivables - gross	**6,145**	7,439
Bad debt provision	**-**	(7)
Cash and cash equivalents	**5,401**	10,618
Trade and other payables	**(4,762)**	(8,245)
Deferred income	**(3,461)**	-
Lease liabilities	**(580)**	(1,402)
Book value of identifiable assets and liabilities acquired	**3,745**	10,377
Fair value adjustments:		
Identifiable intangible assets - Customer relationships	**34,695**	11,502
Identifiable intangible assets - Intellectual property	**25,914**	-
Deferred tax assets	**15,393**	2,539
Deferred tax liabilities	**(13,341)**	(3,006)
Total fair value adjustments	**62,661**	11,035
Net assets acquired	**66,406**	21,412
Goodwill from current year acquisitions	**70,482**	97,918
Total purchase consideration	**136,888**	119,330

	2022 €'000	2021 €'000
Details of purchase consideration and outflows from current acquisitions		
Cash	**92,895**	59,314
Deferred cash	**8,993**	1,565
Deferred consideration contingent on performance	**28,957**	33,726
Combination put / call options to acquire residual 15% of Tantalus	**-**	4,768
Shares to be issued	**6,043**	19,957
Total purchase consideration	**136,888**	119,330
Related acquisition costs charged to the Consolidated statement of comprehensive income:	**1,177**	1,099
Number of shares:		
Shares issued on acquisition	**135,468**	621,852
Fixed number of shares to be issued	**87,738**	37,994
Net cash outflow arising on acquisition:		
Cash paid in the period	**92,895**	59,314
Less: cash and cash equivalent balances transferred	**(5,401)**	(10,617)
Net cash outflow arising on acquisition	**87,494**	48,697

	2022 €'000	2021 €'000
Details of pro forma revenues and profitability of current acquisitions		
Pre-acquisition revenue in H1	**19,329**	10,779
Pre-acquisition revenue in H2	**12,070**	5,566
Pre-acquisition revenue	**31,399**	16,345
Pre-acquisition revenue with Keywords Group	**-**	(1,908)
Post-acquisition revenue	**9,106**	24,990
Pro forma revenue	**40,505**	39,427
Pre-acquisition profit before tax	**1,601**	2,573
Post-acquisition profit before tax	**3,440**	9,653
Pro forma profit before tax	**5,041**	12,226

Disclosures required by IFRS 3 Business Combinations are provided separately for those individual acquisitions that are considered to be material, and in aggregate for individually immaterial acquisitions. Acquisitions are considered individually material if the impact on the Group's Revenue and Adjusted Profit Before Tax measures (on an annualised basis) is greater than 5%*. None of the business combinations completed during the period were considered individually material and therefore warrant separate disclosure.

During the period, the Group completed five acquisitions, Forgotten Empires, Mighty Games, Smoking Gun, LabCom, and Helpshift, purchasing 100% of the share capital of these businesses. The aggregate amounts recognised in respect of the identifiable assets acquired and liabilities assumed on acquisitions completed in the period are set out in the table above. Details of the purchase consideration and other information relevant to the evaluation of the financial effect of the acquisitions are also presented.

Total purchase consideration of €136.9m includes amounts attributable to Forgotten Empires €35.0m, Mighty Games €6.5m, Smoking Gun €30.2m and Helpshift €63.0m, while Goodwill from current year acquisitions of €70.5m includes amounts related to Forgotten Empires €11.8m, Mighty Games €6.1m, Smoking Gun €22.4m, and Helpshift €29.3m. Identifiable intangible assets - Customer relationships of €34.7m includes amounts attributable to Forgotten Empires €17.8m, Smoking Gun €9.1m and Helpshift €7.8m, while Identifiable intangible assets - Intellectual property of €25.9m is mainly attributable to Helpshift.

Total purchase consideration, excludes €6.0m of Deferred and contingent consideration related to continuous employment at Helpshift, where the purchase agreement includes deferred consideration contingent on both pre-defined profit and / or revenue targets being exceeded and which is also tied to the retention of key staff, that are considered post-acquisition expenses under IFRS 3 (note 24).

The main factors leading to the recognition of goodwill on the acquisitions are the presence of certain intangible assets in the acquired entities, which are not valued for separate recognition. These include expertise in the acquired entities, enhancing and growing our service capabilities, broadening our service offering, and extending our geographical footprint, further building out our global platform.

The goodwill that arose from business combinations completed in the period that is expected to be deductible for tax purposes was €30.3m (for which a deferred tax asset has been recognised of €7.2m).

*The Group reports a number of alternative performance measures ("APMs"), including Pro forma revenue and Adjusted Profit Before Tax, to present the financial performance of the business, that are not GAAP measures as defined under IFRS. A reconciliation of these measures to the relevant GAAP measure is presented in the APM's section.

28 Subsidiaries

The results and financial position of all the subsidiaries are included in the consolidated financial statements. Details of the Company's direct and indirect subsidiaries as at 31 December 2022 are set out below:

Name	Country of incorporation	Date of incorporation / acquisition	Ownership ^	Registered office
3455 Productions, LLC	USA	24-Nov-20	100%	251 Little Falls Drive, Wilmington, New Castle, DE 19808, USA
9409-2954 Québec Inc.	Canada	04-Dec-19	100%	1751 Richardson, Suite 8400, Montreal, QC H3K 1G6, Canada
Alset Limited	UK	17-Aug-18	100%	110 High Holborn, London, WC1V 6JS, UK+
AMC RO Studios S.R.L	Romania	11-Aug-21	100%	Stirbei Voda 36, etaj 1, sector 1, Bucharest, Romania
Babel Media Limited *	UK	17-Feb-14	100%	110 High Holborn, London, WC1V 6JS, UK+
Babel Media USA, Inc.	USA	17-Feb-14	100%	251 Little Falls Drive, Wilmington, New Castle, DE 19808, USA
Bitsy SG Limited	UK	17-Aug-18	100%	110 High Holborn, London, WC1V 6JS, UK+
Blindlight, LLC	USA	08-Jun-18	100%	1111 South Flower Street, Suite 101, Burbank, CA 91502,USA
Climax Development Limited	UK	22-Apr-21	100%	110 High Holborn, London, WC1V 6JS, UK+
Climax Studios Limited	UK	22-Apr-21	100%	110 High Holborn, London, WC1V 6JS, UK+
Coconut Lizard Limited	UK	25-Jun-20	100%	110 High Holborn, London, WC1V 6JS, UK+
Cord Worldwide Limited	UK	07-Apr-18	100%	110 High Holborn, London, WC1V 6JS, UK+
d3t Development Limited	UK	30-Aug-18	100%	110 High Holborn, London, WC1V 6JS, UK+
d3t Limited	UK	19-Oct-17	100%	110 High Holborn, London, WC1V 6JS, UK+
Descriptive Video Works Inc.	Canada	11-Jun-19	100%	400-725 Granville Street, PO Box 10325, Vancouver BC V7Y 1G5, Canada
Eastern New Media Limited	Hong Kong	19-May-17	100%	4404, 44/F Hopewell Centre, 183 Queen's Road East, Wanchai, Hong Kong
Edugame Solutions Private Limited	India	09-Oct-14	100%	3rd floor, Vardhman Orchard Plaza, Plot No 4, LSC, West Enclave, Pitampura, New Delhi, 110034, India
Electric Square Limited	UK	17-Aug-18	100%	110 High Holborn, London, WC1V 6JS, UK+
Fire Without Smoke Inc	USA	29-May-18	100%	251 Little Falls Drive, Wilmington, New Castle, DE 19808, USA
Fire Without Smoke Limited	UK	29-May-18	100%	110 High Holborn, London, WC1V 6JS, UK+
Forgotten Empires LLC	USA	28-Jul-22	100%	8730 Cincinnati Dayton Rd. #1072, West Chester, OH 45071, USA
Forgotten Software S.L.U	Spain	28-Jul-22	100%	nº 1 - La Cala Del Moral Rincon De La Victoria calle Murillo
GameSim Inc.	USA	16-May-17	100%	13501 Ingenuity Drive, Suite 310, Orlando, FL 32826, USA
g-Net Media, Inc.	USA	24-Nov-20	100%	251 Little Falls Drive, Wilmington, New Castle, DE 19808, USA
Heavy Iron Studios, Inc	USA	12-Jan-21	100%	1600 Rosecrans Ave., Bldg 7 Ste 300, MBS Media Campus, Manhattan Beach CA, 90266, USA
Helpshift Inc	USA	15-Dec-22	100%	343 Sansome Street, Suite 500, San Francisco, California, 94104, USA
Helpshift Information Technology (Shanghai) Co. Ltd	China	15-Dec-22	100%	Southwest Area, 3rd Floor, No. 2123 Pudong Avenue, Shanghai, China
Helpshift Technologies Private Limited	India	15-Dec-22	100%	3rd floor, Vardhman Orchard Plaza, Plot No 4, LSC, West Enclave, Pitampura, New Delhi, 110034, India
Helpshift UK Ltd	UK	15-Dec-22	100%	New Penderel House 4th Floor, 283 - 288 High Holborn, London, WC1V 7HP, United Kingdom
High Voltage Software, Inc.	USA	14-Dec-20	100%	2345 Pembroke Ave., Hoffman Estates, IL 60169, USA
HVS Nola LLC	USA	14-Dec-20	100%	201 St. Charles Ave., Suite 2220, New Orleans, LA 70170, USA
Ichi Limited	UK	26-Nov-19	100%	110 High Holborn, London, WC1V 6JS, UK+
Indigo Pearl Limited	UK	15-Dec-20	100%	110 High Holborn, London, WC1V 6JS, UK+
Itsy SGD Limited	UK	17-Aug-18	100%	110 High Holborn, London, WC1V 6JS, UK+
Jinglebell S.r.l.	Italy	10-Dec-20	100%	Via Marco d'Oggiono 12, 20123, Milan, Italy
Jurango Pty Limited ~~	Australia	20-Dec-21	85%	29 Thornton Crescent, Mitcham, VIC 3132, Australia
Keywords (Shanghai) Information Technology Limited	China	02-Apr-15	100%	Room 701, Building 5, No.860 Dong Ti Yu Hui Road, Hongkou District, Shanghai, China
Keywords Asia Private Limited	Singapore	15-Mar-16	100%	20 Kallang Avenue, #06-6A, Lobby B, Pico Creative Centre, 339411, Singapore
Keywords Australia Holdings Limited	UK	17-Mar-21	100%	110 High Holborn, London, WC1V 6JS, UK+
Keywords Australia Pty Limited ~	Australia	18-Mar-21	85%	12 Spring Street, Fitzroy, Victoria, 3065, Australia
Keywords Canada Holdings Inc.	Canada	27-Oct-17	100%	1751 Richardson, Suite 8400, Montreal, QC H3K 1G6, Canada
Keywords do Brasil Localização e Tradução Ltda	Brazil	18-Jan-15	100%	Rua Professor Aprígio Gonzaga, 35 – 7º andar - São Judas - São Paulo - SP CEP: 04303-000, Brazil
Keywords Germany Holdings GmbH	Germany	06-Sep-19	100%	Moriz-Seeler-Strasse 5-7, Franz Ehrlich Haus, 12489, Berlin, Germany
Keywords International Co., Limited.	Japan	30-Nov-10	100%	1-22-19 Izumi, Suginami-ku, Tokyo, 168-0063 Japan
Keywords International Limited *	Ireland	13-May-98	100%	Whelan House, South County Business Park, Leopardstown, Dublin 18, D18 T9P8, Ireland
Keywords International Pte. Limited	Singapore	24-Apr-14	100%	20 Kallang Avenue, #06-6A, Lobby B, Pico Creative Centre, 339411, Singapore
Keywords International, Inc.	USA	26-Sep-12	100%	251 Little Falls Drive, Wilmington, New Castle, DE 19808, USA
Keywords Sperasoft LLC	Armenia	07-Apr-22	100%	18/1 Vardanants str., 3rd floor, Yerevan 0010, Armenia
Keywords Studios B.C., Inc.	Canada	27-Oct-17	100%	1700-1075 West Georgia Street, Vancouver, BC, V6E 3C, Canada
Keywords Studios d.o.o. Beograd	Serbia	18-May-22	100%	Belgrade, BULEVAR MIHAJLA PUPINA 10L, floor 9, Belgrade-New Belgrade, NEW BELGRADE, 11070, Serbia
Keywords Studios France SAS	France	08-Jun-16	100%	59 Boulevard Exelmans, 75016 Paris, France

Name	Country of incorporation	Date of incorporation / acquisition	Ownership ^	Registered office
Keywords Studios India Private Limited	India	17-Feb-14	100%	3rd floor, Vardhman Orchard Plaza, Plot No 4, LSC, West Enclave, Pitampura, New Delhi, 110034, India
Keywords Studios Italy S.R.L.	Italy	08-May-14	100%	Via Egadi 2, Milano, MI, 20144, Italy
Keywords Studios Korea Corporation	South Korea	11-Jan-21	100%	16th Floor, Gangnam Building, 1321-1, Seocho-dong, Seocho-gu, Seoul 137-070, South Korea
Keywords Studios Los Angeles, Inc.	USA	08-May-14	100%	1115 Flower Street, Burbank, CA 91502, USA
Keywords Studios Malta Limited	Malta	04-May-22	100%	Level 3, Valletta Buildings, South Street, Valletta VLT 1103, Malta
Keywords Studios México, S. de R.L. de C.V.	Mexico	16-Jul-15	100%	Torrente #75, Colonia Ampliación Alpes, Del. Álvaro Obregón, CP. 01710, Ciudad de México, México
Keywords Studios Netherlands B.V.	Netherlands	05-Feb-19	100%	Wilhelmina van Pruisenweg 35, 2595AN The Hague, The Netherlands
Keywords Studios Poland Spolka z.o.o.	Poland	04-Feb-21	100%	11 Ul. Na Zjezdzie, Krakow 30-527, Poland
Keywords Studios QC-Games Inc.	Canada	17-Feb-14	100%	1751 Richardson, Suite 8400, Montreal, QC H3K 1G6, Canada
Keywords Studios QC-Interactive Inc.	Canada	16-Nov-16	100%	1751 Richardson, Suite 8400, Montreal, QC H3K 1G6, Canada
Keywords Studios QC-Tech Inc.	Canada	06-Jan-15	100%	1751 Richardson, Suite 8400, Montreal, QC H3K 1G6, Canada
Keywords Studios Romania S.R.L.	Romania	15-Jun-21	100%	6-8 Corneliu Coposu Bvd., Unirii View Building, office 103, 1st floor, 3rd district, Bucharest, Romania
Keywords Studios Spain SLU	Spain	16-Jul-15	100%	Julián Camarillo 6A, 3B, 28037 Madrid, Spain
Keywords Studios Texas, LLC	USA	22-Jan-20	100%	7800 Shoal Creek Blvd. Suite 240S, Austin, Texas 78757, USA
Keywords Studios Unlimited Company *	Ireland	27-Mar-18	100%	Whelan House, South County Business Park, Leopardstown, Dublin 18, D18 T9P8, Ireland
Keywords Studios US Inc	USA	24-Oct-17	100%	251 Little Falls Drive, Wilmington, New Castle, DE 19808, USA
Keywords Treasury Holdings Limited	Ireland	30-Nov-22	100%	Whelan House, South County Business Park, Leopardstown, Dublin 18, D18 T9P8, Ireland
Keywords UK Holdings Limited	UK	28-Mar-18	100%	110 High Holborn, London, WC1V 6JS, UK+
Keywords US Holdings Inc.	USA	23-Oct-17	100%	251 Little Falls Drive, Wilmington, New Castle, DE 19808, USA
Keywords Ventures Limited	UK	06-Apr-18	100%	110 High Holborn, London, WC1V 6JS, UK+
Laboratorio Comunicazione S.r.l.	Italy	04-Nov-22	100%	Via Lazzaro Spallanzani 6, 20129 Milan, Italy
Laced Music Limited	UK	07-Apr-18	100%	110 High Holborn, London, WC1V 6JS, UK+
Laced Publishing Limited	UK	07-Apr-18	100%	110 High Holborn, London, WC1V 6JS, UK+
Lakshya Digital Private Limited *	India	09-Oct-14	100%	3rd floor, Vardhman Orchard Plaza, Plot No 4, LSC, West Enclave, Pitampura, New Delhi, 110034, India
Lakshya Digital Singapore Pte. Limited	Singapore	09-Oct-14	100%	20 Kallang Avenue, #06-6A, Lobby B, Pico Creative Centre, 339411, Singapore
Liquid Development, LLC	USA	19-Aug-15	100%	411 SW 2nd Ave Ste 300, Portland, OR 97204, USA
Liquid Violet Limited *	UK	15-Jan-14	100%	110 High Holborn, London, WC1V 6JS, UK+
Lonsdale Miller Limited	UK	15-Dec-20	100%	110 High Holborn, London, WC1V 6JS, UK+
Maverick Media Limited	UK	27-Aug-20	100%	110 High Holborn, London, WC1V 6JS, UK+
Mighty Developments Pty Limited ~~	Australia	03-Aug-22	85%	29 Thornton Crescent, Mitcham, VIC 3132, Australia
Mighty Games Group Pty Limited ~~	Australia	03-Aug-22	85%	29 Thornton Crescent, Mitcham, VIC 3132, Australia
Mighty Games Productions Pty Limited ~~	Australia	03-Aug-22	85%	29 Thornton Crescent, Mitcham, VIC 3132, Australia
Player Research Limited	UK	26-Oct-16	100%	110 High Holborn, London, WC1V 6JS, UK+
PT Limitless Indonesia	Indonesia	19-May-17	100%	Jl. Timoho II, No. 32, Muja Muju, Kota Yogyakarta, Indonesia
Smoking Gun Interactive Inc	Canada	05-Oct-22	100%	1100-333 Seymour St, Vancouver, BC V6B 5A6, Canada
Snowed In Studios, Inc	Canada	19-Jul-18	100%	400-981 Wellington Street West, Ottawa, Ontario, K1Y 2Y1, Canada
Sperasoft Poland Spólka z.o.o.	Poland	13-Dec-17	100%	Kraj Polska, woj. Małopolskie, powiat Kraków, miejsc. Kraków, ul. Na Kozłóce 27 30-664 Kraków, Poland
Sperasoft Studios LLC	Russia	13-Dec-17	100%	196084, Russia, Saint-Petersburg, Kievskaya street, 5 - building
Sperasoft, Inc.	USA	13-Dec-17	100%	251 Little Falls Drive, Wilmington, New Castle, DE 19808, USA
SperaSystems LLC	USA	13-Dec-17	100%	2033 Gateway Pl Ste 500 San Jose, CA 95110-3712, USA
SPOV Limited	UK	16-Feb-17	100%	110 High Holborn, London, WC1V 6JS, UK+
Strongbox Limited	Seychelles	19-May-17	100%	306 Victoria House, Victoria, Mahe, Seychelles
Studio Gobo Limited	UK	17-Aug-18	100%	110 High Holborn, London, WC1V 6JS, UK+
Sunny Side Up Creative Inc.	Canada	03-Jan-19	100%	410 Boulevard Charest Est, Suite 410, Québec, Québec, G1K 8G3, Canada
Synthesis Deutschland GmbH *	Germany	12-Apr-16	100%	Holstenkamp 46 A, Bahrenfeld, 22525 Hamburg, Germany
Synthesis Global Solutions SA *	Switzerland	12-Apr-16	100%	Corso Elvezia 16, 6900 Lugano, Ticino, Switzerland
Tantalus Media Pty Limited ~	Australia	18-Mar-21	85%	12 Spring Street, Fitzroy, Victoria, 3065, Australia
The Trailerfarm Limited	UK	13-Sep-18	100%	110 High Holborn, London, WC1V 6JS, UK+
TV+SYNCHRON Berlin GmbH	Germany	01-Oct-19	100%	Moriz-Seeler-Strasse 5-7, Franz Ehrlich Haus, 12489, Berlin, Germany
Waste Creative Limited	UK	16-Dec-21	100%	110 High Holborn, London, WC1V 6JS, UK+
Waste Holdings Limited	UK	16-Dec-21	100%	110 High Holborn, London, WC1V 6JS, UK+
Wicked Witch Software Pty Limited ~~	Australia	20-Dec-21	85%	29 Thornton Crescent, Mitcham, VIC 3132, Australia
Wizcorp Inc.	Japan	18-Apr-19	100%	1-22-19 Izumi, Suginami-ku, Tokyo, 168-0063 Japan
Xcelerator Machine Translations Limited	Ireland	12-Dec-19	100%	Invent, Dublin City University, Glasnevin, Dublin 9, Ireland
Xloc, Inc.	USA	08-May-17	100%	8801 Fast Park Drive, Suite 301, Raleigh, NC 27617, USA

* Indicates a direct subsidiary (all other holdings are indirect, being subsidiaries of various intermediate group holding companies)
^ Proportion of voting rights and ordinary share capital ultimately held by Keywords Group
+ The registered office address was changed on 1 February 2023
~ A combination of put and call options are in place requiring the sellers to sell, or the Group to buy the remaining 15% shareholding three years from acquisition. The Group has accounted for the acquisition as if a 100% interest was acquired on acquisition (see note 3).
~~ Wholly owned subsidiary of Keywords Australia Pty Limited. The Group has accounted for the company as if a 100% interest was held (see note 3).

Post-acquisition, the Group reviews entities to streamline activities and close any dormant entities acquired or re-structured entities. Restructuring details are set out below:

Name	Country of incorporation	Date of incorporation / acquisition	Ownership	Date of re-structuring	Re-structuring details
AppSecTest Limited	UK	22-Jan-19	49%	13-Apr-22	Dissolved
Ichi Creative Limited	USA	26-Nov-19	100%	15-Dec-20	Dissolved

29 Significant Events and Events after the Reporting Date

Crisis in Ukraine

In 2022, the Group's operations have been impacted by the tragic events in Ukraine. Whilst the Group do not have operations in Ukraine, the Group does have Game Development teams in Russia, and also works with a number of freelance suppliers in Ukraine. Our priority has been to support our people and our freelance suppliers in the territory, whilst contributing to the wider humanitarian efforts in the region.

In the period, the Group produced €26.3m of Revenue in Russia, down from €29.4m in 2021, and represents approximately 3.8% of Group revenue, down from 5.7% in 2021. During the period, a significant number of projects supported in Russia have been transferred to other parts of the Group, as we ramp up production capacity in these locations with a combination of employees relocating from Russia and local hires. As a consequence revenues produced in Russia were approximately 1.7% of Group revenue in December 2022.

We continue to work with our customers supporting their preferences for where their work should be performed. We also remain focused on mitigating any potential business interruption or other risks associated with our activities in Russia. As a consequence, we expect the volume of work produced in Russia to continue to reduce over time.

The Group does not have significant receivables exposure in Russia, as work produced in Russia is contracted and collected in other territories. In addition, the Group does not have significant amounts of net current assets or non-current assets located in Russia. Thus any exposure to impairment of assets located in Russia is not considered material.

As a consequence of the crisis, an additional impairment assessment was performed in the Game Development CGU, to evaluate any potential Goodwill impairment resulting from the crisis. The result of the value in use calculations was that no impairment would be required even in a worst case scenario where the contribution from all Russian located production capacity was excluded from projections, assuming no further work is able to be transferred to other parts of the Group.

Acquisition of 47 Communications

On 1 February 2023, the Group announced the acquisition of 47 Communications LLC ("47"), a leading US-based PR and communications agency with expertise in the video game, technology, entertainment and digital lifestyle sectors. For the twelve months to 30 September 2022, 47 generated revenues of approximately USD $11 million. The consideration payable for the Company is in line with Keywords' targeted valuation range. The terms of the transaction include contingent consideration payable in a mix of cash and new ordinary shares depending on the future performance of the Company over the three years from completion. The new ordinary shares to be issued will be subject to orderly market provisions for a year.

Alternative performance measures

The Group reports a number of alternative performance measures ("APMs") to present the financial performance of the business, that are not GAAP measures as defined under IFRS. The Directors believe that these measures, in conjunction with the IFRS financial information, provide the users of the financial statements with additional information to provide a more meaningful understanding of the underlying financial and operating performance of the Group. The measures are also used in the Group's internal strategic planning and budgeting processes and for setting internal management targets. These measures can have limitations as analytical tools and therefore should not be considered in isolation, or as a substitute for IFRS measures.

The principal measures used by the Group are set out below:

Organic revenue growth – Acquisitions are a core part of the Group's growth strategy. Organic revenue growth measures are used to help understand the underlying trading performance of the Group excluding the impact of acquisitions. Organic revenue growth is calculated by adjusting the prior year revenues, adding pre-acquisition revenues for the corresponding period of ownership to provide a like-for-like comparison with the current year, and applying the prior year's foreign exchange rates to both years, when translating studio results into the euro reporting currency.

Constant exchange rates ("CER") – Given the international nature of the Group's operations, foreign exchange movements can have an impact on the reported results of the Group when they are translated into the Group's reporting currency, the euro. In order to understand the underlying trading performance of the business, revenue is also presented using rates consistent with the prior year in order to provide year over year comparability.

Adjusted profit and earnings per share measures – Adjusted profit and earnings per share measures are used to provide management and other users of the financial statements with a clear understanding of the underlying profitability of the business over time. Adjusted profit measures are calculated by adding the following items back to the equivalent GAAP profit measures:

- **Amortisation of intangible assets** – Customer relationships and music licence amortisation commences on acquisition, whereas intellectual property / development costs amortisation commences when the product is launched. These costs, by their nature, can vary by size and amount each year. As a result, amortisation of intangibles is added back to assist with the understanding of the underlying trading performance of the business and to allow comparability across regions and categories.
- **Costs of acquisition and integration** – The level of acquisition activity can vary each year and therefore the costs associated with acquiring and integrating businesses are added back to assist with the understanding of the underlying trading performance of the Group.
- **Share-based payments** – The Group uses share-based payments as part of remuneration to align the interests of senior management and employees with shareholders. These are non-cash charges and the charge is based on the Group's share price which can change. The costs are therefore added back to assist with the understanding of the underlying trading performance.
- **Foreign exchange gains and losses** – The Group does not hedge foreign currency translation exposures. The effect on the Group's results of movements in exchange rates can vary each year and are therefore added back to assist with understanding the underlying trading performance of the business.
- **Other income** – Other income comprises gains on investments or other non-trading income. As the gains have arisen outside the normal trading activities of the Group, the income has been added back to assist with the understanding of the underlying trading performance.

Free cash flow measures – The Group aims to generate sustainable cash flow (free cash flow) in order to support its acquisition program and to fund dividend payments to shareholders. Free cash flow is measured as net cash generated by / (used in) operating activities after capital expenditure, payments of principal on lease liabilities, interest and tax payments, but before acquisition and integration cash outlay, other income and dividend payments. Adjusted free cash flow is a measure of cash flow adjusting for capital expenditure that is supporting growth in future periods (represented by capital expenditure in excess of depreciation).

Net debt – The Group manages capital by monitoring debt to capital and net debt ratios. Net debt is calculated as loans and borrowings less cash and cash equivalents, and excludes lease liabilities. The debt to capital ratio is calculated as net debt as a percentage of total equity.

The remainder of this section provides a reconciliation of the APMs with the relevant IFRS GAAP equivalent.

Service line analysis*

The following table presents revenue growth by service line at both actual exchange rates ("AER") and constant exchange rates ("CER"). Constant exchange rates are calculated by retranslating current year reported numbers at the corresponding 2021 foreign exchange rates, in order to give management and other users of the financial statements better visibility of underlying trading performance against the prior year.

	2022 Revenue AER €m	2022 Revenue CER €m	2021 Revenue AER €m	2022 Growth AER %	2022 Growth CER %
Create	275.5	255.9	188.2	46.4%	36.0%
Globalize	300.9	286.2	231.9	29.8%	23.4%
Engage	114.3	108.9	92.1	24.1%	18.2%
	690.7	651.0	512.2	34.8%	27.1%

*The prior year comparatives have been re-classified to present information by service line in alignment with the new organisational and reporting structures (see note 3).

Pro forma revenue

Pro forma revenue is calculated by adding pre-acquisition revenues of current year acquisitions to the current year revenue numbers, to illustrate the size of the Group had the acquisitions been included from the start of the financial year.

	2022 Revenue AER €m	2022 Pre-acquisition revenue AER €m	2022 Pro forma revenue AER €m
Create	275.5	14.0	289.5
Globalize	300.9	-	300.9
Engage	114.3	17.4	131.7
	690.7	31.4	722.1

Organic revenue at constant exchange rates*

Organic revenue at constant exchange rates is calculated by adjusting the prior year revenues, adding pre-acquisition revenues for the corresponding period of ownership, and applying the 2021 foreign exchange rates to both years, when translating studio results into the euro reporting currency.

	2021 Revenue AER €m	2021 Pre-acquisition revenue AER €m	2021 Like for like revenue AER €m	2022 Revenue growth CER €m	2022 Revenue CER €m	2022 Organic revenue growth CER %
Create	188.2	15.0	203.2	52.7	255.9	25.9%
Globalize	231.9	-	231.9	54.3	286.2	23.4%
Engage	92.1	7.2	99.3	9.6	108.9	9.7%
	512.2	22.2	534.4	116.6	651.0	21.8%

*The prior year comparatives have been re-classified to present information by service line in alignment with the new organisational and reporting structures (see note 3).

Adjusted operating costs

This comprises Administrative expenses as reported in the Consolidated statement of comprehensive income, adding back share-based payments expense, costs of acquisition and integration, amortisation of intangible assets, depreciation and impairment, non-controlling interest and deducting bank charges.

Calculation		2022 €'000	2021 €'000
Administrative expenses	Consolidated statement of comprehensive income	**(196,554)**	(149,749)
Share-based payments expense	Consolidated statement of comprehensive income	**18,678**	16,394
Costs of acquisition and integration	Consolidated statement of comprehensive income	**8,413**	7,972
Amortisation of intangible assets	Consolidated statement of comprehensive income	**16,810**	13,688
Depreciation - property, plant and equipment	Note 13	**18,365**	11,661
Depreciation and impairment - right of use assets	Note 12	**14,585**	10,473
Non-controlling interest	Consolidated statement of comprehensive income	**-**	67
Bank charges	Note 6	**(662)**	(520)
Adjusted operating costs		**(120,365)**	(90,014)
Adjusted operating costs as a % of revenue		**17.4%**	17.6%

Adjusted operating profit

The Adjusted operating profit consists of the Operating profit as reported in the Consolidated statement of comprehensive income, adjusted for share-based payments expense, costs of acquisition and integration, and amortisation of intangible assets. In order to present the measure consistently year-on-year, the impact of other income is also excluded.

Calculation		2022 €'000	2021 €'000
Operating profit	Consolidated statement of comprehensive income	**71,810**	50,365
Share-based payments expense	Consolidated statement of comprehensive income	**18,678**	16,394
Costs of acquisition and integration	Consolidated statement of comprehensive income	**8,413**	7,972
Amortisation of intangible assets	Consolidated statement of comprehensive income	**16,810**	13,688
Other income	Consolidated statement of comprehensive income	**(1,098)**	-
Adjusted operating profit		**114,613**	88,419
Adjusted operating profit as a % of revenue		**16.6%**	17.3%

EBITDA

EBITDA comprises Operating profit as reported in the Consolidated statement of comprehensive income, adjusted for amortisation of intangible assets, depreciation and impairment, and deducting bank charges.

Calculation		2022 €'000	2021 €'000
Operating profit	Consolidated statement of comprehensive income	**71,810**	50,365
Amortisation of intangible assets	Consolidated statement of comprehensive income	**16,810**	13,688
Depreciation - property plant and equipment	Note 13	**18,365**	11,661
Depreciation and impairment - right of use assets	Note 12	**14,585**	10,473
Bank charges	Note 6	**(662)**	(520)
EBITDA		**120,908**	85,667

Adjusted EBITDA

Adjusted EBITDA comprises EBITDA, adjusted for share-based payments expense, costs of acquisition and integration and non-controlling interest. In order to present the measure consistently year-on-year, the impact of other income is also excluded.

Calculation		**2022 €'000**	2021 €'000
EBITDA	As above	**120,908**	85,667
Share-based payments expense	Consolidated statement of comprehensive income	**18,678**	16,394
Costs of acquisition and integration	Consolidated statement of comprehensive income	**8,413**	7,972
Non-controlling interest	Consolidated statement of comprehensive income	**-**	67
Other income	Consolidated statement of comprehensive income	**(1,098)**	-
Adjusted EBITDA		**146,901**	110,100
Adjusted EBITDA as a % of revenue		**21.3%**	21.5%

Adjusted profit before tax

Adjusted profit before tax comprises Profit before taxation as reported in the Consolidated statement of comprehensive income, adjusted for share-based payments expense, costs of acquisition and integration, amortisation of intangible assets, non-controlling interest, foreign exchange gains and losses, and unwinding of discounted liabilities. In order to present the measure consistently year-on-year, the impact of other income is also excluded.

Calculation		**2022 €'000**	2021 €'000
Profit before taxation	Consolidated statement of comprehensive income	**67,982**	47,983
Share-based payments expense	Consolidated statement of comprehensive income	**18,678**	16,394
Costs of acquisition and integration	Consolidated statement of comprehensive income	**8,413**	7,972
Amortisation of intangible assets	Consolidated statement of comprehensive income	**16,810**	13,688
Non-controlling interest	Consolidated statement of comprehensive income	**-**	67
Foreign exchange (gain) / loss	Note 6	**(1,677)**	(1,983)
Unwinding of discounted liabilities - deferred consideration	Note 6	**2,922**	1,882
Other income	Consolidated statement of comprehensive income	**(1,098)**	-
Adjusted profit before tax		**112,030**	86,003
Adjusted profit before tax as a % of revenue		**16.2%**	16.8%

Adjusted effective tax rate

The Adjusted effective tax rate is the Taxation expense as reported in the Consolidated statement of comprehensive income, adjusted for the tax impact of the adjusting items in arriving at Adjusted profit before tax, as a percentage of the Adjusted profit before tax.

Calculation		**2022 €'000**	2021 €'000
Adjusted profit before tax	As above	**112,030**	86,003
Taxation	Consolidated statement of comprehensive income	**20,612**	13,875
Effective tax rate before tax on adjusting items	Taxation / Adjusted profit before tax	**18.4%**	16.1%
Tax arising on bridging items to Adjusted profit before tax^		**4,043**	4,729
Adjusted taxation		**24,655**	18,604
Adjusted effective tax rate	Adjusted taxation / Adjusted profit before tax	**22.0%**	21.6%

^Being mainly the tax impact of share-based payments expense €0.4m and amortisation of intangible assets €4m less foreign exchange €0.4m, with the prior period being mainly the tax impact of share-based payments expense €2.8m, amortisation of intangible assets €2.1m, less foreign exchange €0.2m.

Adjusted earnings per share

The Adjusted profit after tax comprises the Adjusted profit before tax, less the Taxation expense as reported in the Consolidated statement of comprehensive income, adjusted for the tax impact of the adjusting items in arriving at Adjusted profit before tax.

The Adjusted earnings per share comprises the Adjusted profit after tax divided by the non-diluted weighted average number of shares as reported in note 7.

Calculation		**2022 €'000**	2021 €'000
Adjusted profit before tax	As above	**112,030**	86,003
Taxation	Consolidated statement of comprehensive income	**(20,612)**	(13,875)
Tax arising on bridging items to Adjusted profit before tax^		**(4,043)**	(4,729)
Adjusted profit after tax		**87,375**	67,399
Denominator (weighted average number of equity shares)	Note 8	**76,979,596**	75,526,296
		€ c	€ c
Adjusted earnings per share		**113.50**	89.24
Adjusted earnings per share % growth		**27.2%**	46.5%

^Being mainly the tax impact of share-based payments expense €0.4m and amortisation of intangible assets €4m less foreign exchange €0.4m, with the prior period being mainly the tax impact of share-based payments expense €2.8m, amortisation of intangible assets €2.1m, less foreign exchange €0.2m.

Return on capital employed (ROCE)

ROCE represents the Adjusted profit before tax (excluding net interest costs, unwinding of discounted lease liabilities and bank charges, and also adjusted to include pre-acquisition profits of current year acquisitions), expressed as a percentage of the capital employed. As the Group continues to make multiple acquisitions each year, the calculation further adjusts the Adjusted profit before tax and the capital employed as if all the acquisitions made during each year were made at the start of that year.

Capital employed represents Total equity as reported on the Consolidated statement of financial position, adding back employee defined benefit plan liabilities, cumulative amortisation of intangible assets (customer relationships), acquisition-related liabilities (deferred and contingent consideration), together with loans and borrowings, while deducting cash and cash equivalents.

Calculation		**2022 €'000**	2021 €'000
Adjusted profit before tax	As above	**112,030**	86,003
Interest received	Note 6	**(309)**	(62)
Bank charges	Note 6	**662**	520
Interest expense	Note 6	**1,261**	1,040
Unwinding of discounted liabilities - lease liabilities	Note 6	**969**	985
Pre-acquisition profits of current year acquisitions	Note 27	**1,601**	2,573
Adjusted profit before tax including pre-acquisition profit and excluding net interest		**116,214**	91,059
Total equity	Consolidated statement of financial position	**557,091**	472,120
Employee defined benefit plans	Consolidated statement of financial position	**2,861**	3,088
Cumulative amortisation of intangibles assets (customer relationships)	Note 11	**58,301**	40,708
Deferred and contingent consideration	Note 17	**63,253**	54,142
Loans and borrowings	Note 18	**51**	129
Cash and cash equivalents	Consolidated statement of financial position	**(81,886)**	(105,710)
Capital employed		**599,671**	464,477
Return on capital employed	Adjusted profit before tax including pre acquisition profit and excluding net interest expense / capital employed	**19.4%**	19.6%

Free cash flow

Free cash flow represents Net cash generated by / (used in) operating activities as reported in the Consolidated statement of cash flows, adjusted for acquisition and integration cash outlay, capital expenditure, non-cash movements in deferred and contingent consideration related to continuous employment, net interest paid, payments of principal on lease liabilities and is presented both before and after taxation paid. In order to present the measure consistently year-on-year, the impact of other income is also excluded.

Calculation		**2022** **€'000**	2021 €'000
Net cash generated by / (used in) operating activities	Consolidated statement of cash flows	**124,286**	90,545
Acquisition and integration cash outlay:			
Costs of acquisition and integration	Consolidated statement of comprehensive income	**8,413**	7,972
Fair value adjustments to contingent consideration	Consolidated statement of cash flows	**(2,282)**	(5,567)
Non-cash movements in deferred and contingent consideration related to continuous employment		**(3,000)**	-
Acquisition of property, plant and equipment	Consolidated statement of cash flows	**(27,007)**	(19,360)
Investment in intangible assets	Consolidated statement of cash flows	**(501)**	(315)
Other income	Consolidated statement of comprehensive income	**(1,098)**	-
Interest received	Consolidated statement of cash flows	**309**	62
Interest paid	Consolidated statement of cash flows	**(1,797)**	(2,738)
Payments of principal on lease liabilities	Consolidated statement of cash flows	**(11,361)**	(9,953)
Free cash flow after tax		**85,962**	60,646
Taxation paid	Consolidated statement of cash flows	**17,505**	23,948
Free cash flow before tax		**103,467**	84,594

Adjusted free cash flow

Adjusted free cash flow is a measure of cash flow adjusting for capital expenditure that is supporting growth in future periods (as measured by capital expenditure in excess of maintenance capital expenditure).

Calculation		**2022** **€'000**	2021 €'000
Free cash flow before tax	As above	**103,467**	84,594
Capital expenditure in excess of depreciation:			
Acquisition of property, plant and equipment	Consolidated statement of cash flows	**27,007**	19,360
Depreciation - property, plant and equipment	Consolidated statement of cash flows	**(18,365)**	(11,661)
Capital expenditure in excess of depreciation		**8,642**	7,699
Adjusted free cash flow		**112,109**	92,293

Adjusted cash conversion rate

The Adjusted cash conversion rate is the Adjusted free cash flow as a percentage of the Adjusted profit before tax:

Calculation		**2022** **€'000**	2021 €'000
Adjusted free cash flow	As above	**112,109**	92,293
Adjusted profit before tax	As above	**112,030**	86,003
Adjusted cash conversion ratio	Free cash flow before tax and capital expenditure in excess of depreciation, as a % of Adjusted profit before tax	**100.1%**	107.3%

Net debt

The Group manages capital by monitoring debt to capital and net debt ratios. Net debt is calculated as Loans and borrowings (as shown in the Consolidated statement of financial position) less Cash and cash equivalents, and excludes Lease liabilities.

Calculation		**2022 €'000**	2021 €'000
Loans and borrowings	Consolidated statement of financial position	**51**	129
Cash and cash equivalents	Consolidated statement of financial position	**(81,886)**	(105,710)
Net debt / (net cash) position		**(81,835)**	(105,581)