EDISON

Keywords Studios

Outlook

Marching on

Software & comp services

FY17 was a transformational year for Keywords, both operationally and financially. Acquisitions have bolstered the company's capability set and geographical reach, while driving strong double-digit earnings growth. Organic growth remains strong and we see potential for market share gains to accelerate, driven by a strengthened platform for cross-selling. It is not unreasonable to expect a similar scenario into FY18/19. Execution of this should drive further share price upside, despite the premium rating.

Year end	Revenue (€m)	PBT* (€m)	EPS* (c)	DPS** (p)	P/E (x)	Yield (%)
12/16	96.6	14.9	20.3	1.3	86.6	0.09
12/17e	150.5	22.5	29.0	1.5	60.5	0.10
12/18e	239.7	35.8	45.6	1.6	38.5	0.11
12/19e	258.9	39.5	49.2	1.8	35.7	0.12

Note: *PBT and EPS (fully diluted) are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments. **DPS in distributable currency.

Transformational year

Keywords significantly strengthened its position as the largest, most comprehensive provider of outsourced solutions to the games industry in 2017. Most notably, the entry into engineering services, with the acquisitions of GameSim, d3t and Sperasoft, meaningfully enlarges the company's addressable market and, together with the group's Art service line, enhances the company's platform for offering higher value-added services. The acquisition of VMC established the group as the leading global provider of functional testing services, strengthened the group's US footprint and lays the foundations upon which to offer end to end quality control services.

Robust model reflected in financial performance

Recent financial performance reflects the strength of the company's platform for generating both organic and inorganic earnings growth. The recent trading update confirms that trading was ahead of consensus expectations and implies like-for-like revenue growth at a mid-teens level. Enhanced by acquisitions, we estimate the company's five-year sales, PBT and EPS growth rates to FY17 at 75%, 76% and 52% respectively with a robust cash conversion rate. We expect more of the same in FY17 – the acquisition pipeline and balance sheet remain strong and, as the company builds its ecosystem, so its platform for cross-selling strengthens. Our analysis (see page 14) indicates that if Keywords maintains a high single-digit organic growth rate and continues making acquisitions at a similar rate, scale and multiples to FY17 then the company's EPS exiting FY18 could reach 70c+, more than double our current FY17 EPS estimate. The cycle could then repeat into FY19.

Valuation: Continued execution should drive upside

Keywords' rating of 38.5x FY18e earnings is a premium to peers (average of c 22x), reflecting its superior growth track record and prospects. The company's PEG (FY16-18) of 0.8x is at a discount to this peer group (1.4x). Further acquisition activity should significantly enhance earnings and we believe there is strong scope for further organic upgrades as well. We believe that sustained execution should continue to drive robust returns for shareholders.

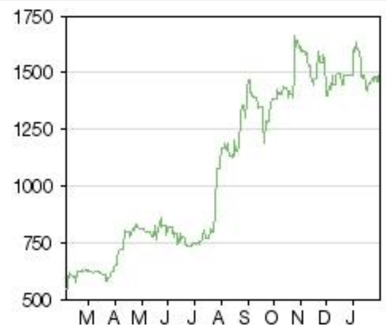
1 February 2018

Price	**1,488p**
Market cap	**£917m**

£/€1.15, US$/€0.7

Net cash (€m) at 31 December 2017	12.2
Shares in issue	61.6m
Free float	83%
Code	KWS
Primary exchange	AIM
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	(7.0)	(6.9)	175.6
Rel (local)	(5.1)	(7.3)	157.0
52-week high/low		1661p	545p

Business description

Keywords Studios is now the largest and most diverse supplier of outsourced services to the games industry. Through regular acquisitions, the company is building its scale, geographic footprint and delivery capability. Its ambition is to become the 'go-to' supplier across the industry.

Next events

FY results	April 2018

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Edison profile page

Keywords Studios is a research client of Edison Investment Research Limited

Investment summary

Unique position an attractive market

Keywords is the largest supplier of outsourced services into the global games development industry by some margin. Through consolidating a highly fragmented industry landscape, the group has built a unique portfolio of service lines which spans most of the games development cycle, from original concept through to go live. The company has a presence in most of the major games development city hubs globally and provides at least one service to all the main games developers globally.

Attractive market dynamics - both organically and for M&A

Gaming has established itself as a mass-market media format, estimated to be worth over $100bn and growing at a 6-8% rate. We expect the market for outsourcing (estimated by Keywords to be worth c $5bn) to grow more rapidly than this (we estimate c 13%) as developers outsource more tasks to improve flexibility and focus on their core operations.

The company's M&A strategy is supported by the very fragmented competitive landscape for service providers into the games industry. This has enabled Keywords to acquire focused studios at reasonable multiples and subsequently achieve synergies through cross-selling and/or cost efficiencies. The rationale for building scale is also supported by the structural imbalance between the games industry, which has consolidated substantially, and the fragmented service provider segment. The games industry's shift away from hit-or-miss product sales to a much more recurring, franchise-based subscription model lends itself to retained multi-service engagements and Keywords is progressively developing strategic, multi-service relationships with a number of developers.

Building an ecosystem while enhancing earnings

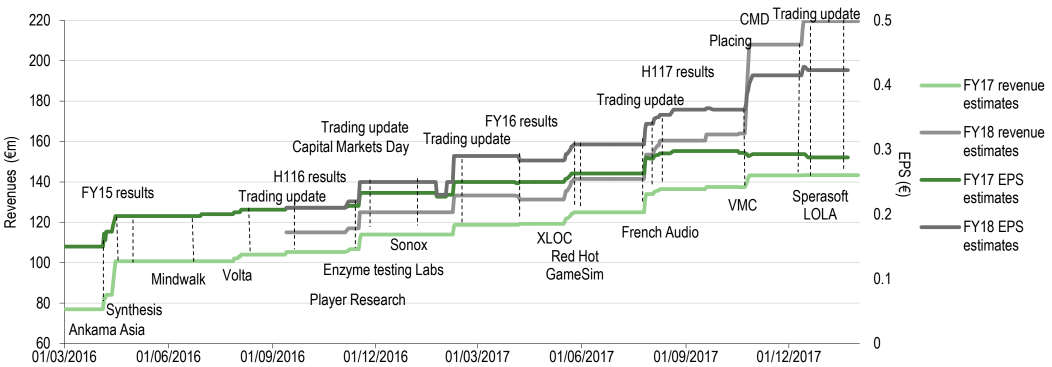
Keywords significantly strengthened its platform in FY17, with 11 acquisitions. Importantly, the group established a presence in engineering services with the acquisitions of GameSim, d3t and Sperasoft, enlarging the company's estimated addressable market by c $1.5bn to c $5bn. The acquisition of VMC established the group as the leading global provider of functional testing services globally, expanding the company's capability to include a global beta testing network and testing services embedded at the client's site. Geographically, the company significantly strengthened its presence in the US (VMC, GameSim) and Russia (Sperasoft). Furthermore, the acquisition of four French companies has given the group strong capabilities across all major European languages for localisation and voice-over recording.

We estimate that FY17 acquisitions enhanced FY17 EPS by c 4c (17%) and FY18 EPS by 18c (60%) respectively. We estimate like-for-like growth in FY17 at a healthy mid-teen level, above the c 13% estimated for the games outsourcing industry, indicating Keyword's scale and ecosystem are enabling the group to take market share organically as well as through acquisition.

Financials: Sustainable strong EPS growth

Keywords has established a platform for generating strong, sustainable earnings growth. Through a combination of healthy organic growth and accretive acquisitions, we estimate that Keywords will generate a CAGR in sales, PBT and EPS of 75%, 76% and 52%, respectively, from 2013 to 2017 (see Exhibit 1). We expect a similar earnings growth trajectory from here. Considering the two largest acquisitions made in FY17, we understand the VMC integration is progressing well, and the company sees promising opportunities for Sperasoft. Factoring in the full year contribution from FY17 acquisitions and a conservative 7% organic growth, we forecast 52% EPS growth in FY18.

Exhibit 1: Revenue and EPS forecast trajectory by event



Source: Edison Investment Research, Bloomberg consensus estimates

Future acquisitions should enhance EPS further. Management has stated that its acquisition pipeline remains healthy and the extent of fragmentation in the industry should continue to support the group's M&A strategy for some time yet – especially with the entry into new segments such as Engineering. Available funds of €40m+ (FY17 net cash of €12.2m and a €35m debt facility), a c 90% cash conversion rate and a substantially higher rating than those of acquired companies all support the group's ability to continue consolidating the market while enhancing earnings.

In Exhibit 2 we examine the potential impact that further acquisition activity could make to EPS over the course of the next 12 months. We assume that the company deploys €94m of cash in acquisitions between now and the end of FY18 (taking net debt/EBITDA to a relatively comfortable 2x level) and that these acquisitions are two-thirds funded by cash and one-third by equity at 1,488p (share price at time of writing). This suggests that if Keywords can maintain a low double-digit organic growth rate (vs healthy mid-teens in FY17) and continue making acquisitions at a similar scale to FY16/17 at a 7-10x PBT level, the group's EPS exiting FY18 could reasonably reach 70c+, 50% above our current FY18 EPS estimate. With additional capital from equity and in line with company's acquisitive strategy, the cycle could then repeat into FY19.

Exhibit 2: Scenario analysis – EPS run rate exiting FY18 based on varying organic growth and average acquisition multiples

€ cents		Average EV/PBT (x) paid for future acquisitions in FY17 and FY18				
		8.0	9.0	10.0	11.0	12.0
Organic growth H217 & FY18	5%	75.8	73.0	70.7	68.8	67.3
	10%	78.4	75.6	73.3	71.4	69.9
	15%	81.0	78.2	75.9	74.0	72.5
	20%	83.6	80.8	78.5	76.6	75.1
	25%	86.2	83.4	81.1	79.2	77.7

Source: Edison Investment Research

Valuation: Sustained execution should drive robust returns

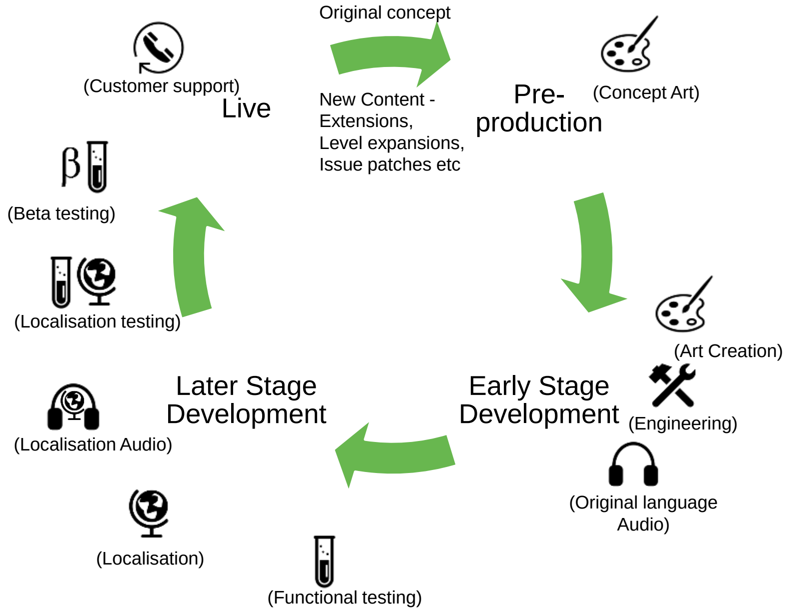
The company's rating of 39x FY18e earnings, dropping to 36x in FY19e, is a substantial premium to peers (average c 22x for FY18e), but additional acquisitions should bring these multiples down substantially and we believe our organic estimates are conservative. If we consider the scenarios portrayed in Exhibit 2, with good execution the company could exit FY18 rated at a mid-20s forward P/E. As the company executes its strategy over the course of FY18 investors should get better visibility of the higher level of earnings which are likely to be achieved and given the company's long term earnings growth potential, we would expect the company to continue to trade at a premium to peers. Consequently, we believe that sustained execution should continue to drive robust returns for shareholders.

Trusted partner to the video games industry

Comprehensive coverage of the games development cycle

Keywords is the largest and most diverse supplier of outsourced services to the games industry by some margin. Through consolidating a fragmented industry landscape, the company has built a unique span of service offerings covering most of the games development cycle, from the original conceptual phase through to customer support, managed through seven service lines (see Exhibit 4). The company has 42 operational studios, located across 20 countries and four continents.

Exhibit 3: Comprehensive coverage of the games development cycle



Source: Edison Investment Research, Keywords Studios

Building a complete platform – accretively

The company started its build-out strategy by acquiring positions in domains such as localisation, localisation testing, functional testing and audio, all of which are vital ancillary functions in the games development cycle. The company continues to strengthen its position in these services through acquiring companies with complementary skill sets, customers or geographical presence.

More recently the company has intensified its acquisition activity in domains that are closer to the core games creation process – particularly art (six acquisitions over the last 18 months) and now engineering (with the acquisitions of GameSim d3t and Sperasoft).

Exhibit 4: Acquisitions by service line over time

Year	Art Creation	Software Engineering	Audio	Functional Testing	Localisation	Localisation Testing	Customer Support	Total Cost
2014	Lakshya Digital		Liquid Violet **Binari Sonari**	Babel Media	Babel Media	Babel Media		€19.0m €10.9m
2015	Liquid Development		Reverb Kite Team		Kite Team		Alchemic Dream	
2016	Mindwalk Volta		**Synthesis** Sonox	Enzyme Player Research	Synthesis Sonox	Synthesis Enzyme	Ankama	€32.6m
2017	SPOV RedHot	GameSim d3t **Spera Soft**	La Marque Rose Dune Sound Asrec	**VMC**	XLOC La Marque Rose Dune Sound Asrec LOLA	**VMC**	**VMC**	€98.9m
Consideration Size	**€20m+**	**€10-20m**	€1-€10m	<€1m				

Source: Keywords Studios, Edison Investment Research

Exhibit 5: Geographical presence by service line

Source: Keywords Studios, Edison Investment Research. Note: Does not represent every studio due to space constraints.

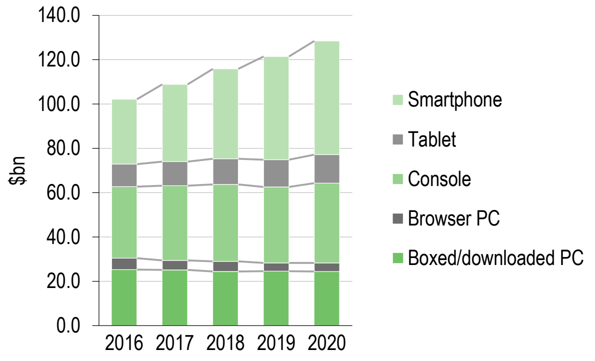
Supportive industry dynamics

The games industry is growing at a healthy mid- to high single-digit rate and we believe that the market for outsourced services could grow at around twice this rate, driven by increased use of outsourced supply. We believe that Keywords is well placed to take market share, both organically – as business consolidates around larger players – and through further acquisitions, as the company consolidates an over-fragmented supply landscape.

The games industry is large and growing

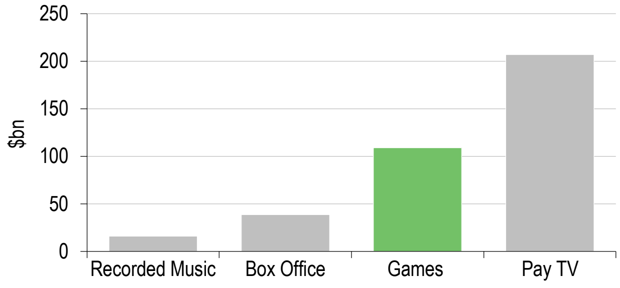
Market analyst, Newzoo, estimates that 2.2 billion gamers globally will generate total revenues of $108.9bn in 2017, up 7.8% from $101.1bn in 2016, and forecasts a 6.2% CAGR through 2020. To put this into context, this is more than twice the value of global box office movie receipts – estimated at $38.6bn for FY16 and six times the size of the recorded music industry at $16.1bn, but still some way behind the Pay TV market of $207bn (with TV advertising revenue estimated at a further $183bn).

Exhibit 6: Global games market value



Source: Newzoo

Exhibit 7: 2016 Global games revenues versus other paid media types



Source: Newzoo, Statista

As an entertainment form, the medium is now truly mainstream, spanning all geographies and most demographics. Supported by the rise of mobile gaming, 41% of gamers are now female with the balance in mobile games c 50/50. The average age of a gamer in the US is now 35 while 63% of households are home to at least one person who plays video games.

The market for outsourced services should continue to outgrow its host

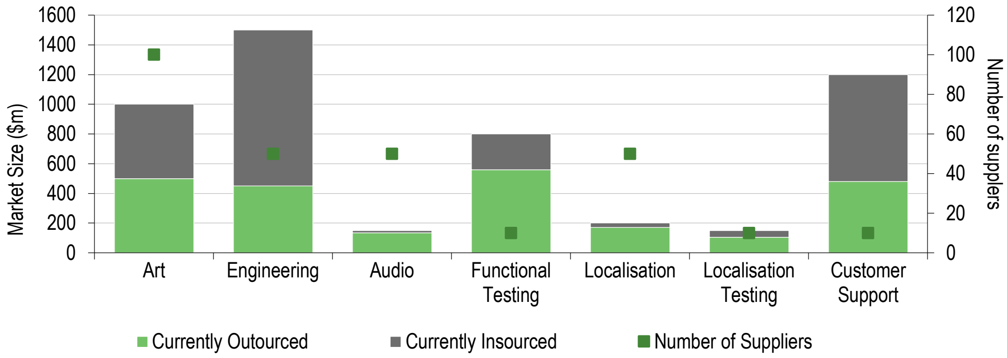
Sizing the market for outsourced services is difficult, but Keywords' management estimates that total spend on the services it offers is around $5bn pa, of which 50% is currently outsourced. The degree to which outsourcing has been adopted varies across service lines, but management estimates that, on a blended basis, this percentage will trend upwards towards 70% over the next five years (and higher over time). This would imply a CAGR of for the games outsourcing industry of c 13%.

The trend towards outsourcing is likely to be supported by a number of factors:

- **Shift to a service revenue model:** the industry is rapidly adopting more recurring revenue models. Downloadable extensions and content are fundamental elements in the drive to maximise and prolong the revenue cycle of a game, driving demand for specialist outsourced services.
- **Increasing richness and complexity:** similarly, games are getting bigger and production values are going up.

  Supply chain disaggregation/adoption of leaner structures: vertically integrated industries typically disaggregate over time, stratifying into a supply chain of businesses with specialist marketing, production and creative/technical skills.

Exhibit 8: Estimated market size by service line



Source: Keywords Studios, Edison Investment Research

Keywords is growing faster than the outsourced services market

Keywords' like-for-like revenue growth was 17% in H117 and we estimate that a similar rate has been maintained in H2. This is well above the games industry and higher than the low to mid-teens we estimate for the games outsourcing industry. This reflects both the sales leverage that Keywords is able to apply to its acquired companies and games developers consolidating their supplier base to improve efficiency and reduce costs.

Regardless of Keywords' future acquisition activity, we believe it should continue to capture share from its smaller competitors, through its ability to offer:

- **Scale:** proven ability to take on larger multi-disciplinary projects, to handle peaks in demand and to deliver projects across geographies and time zones.
- **End-to end solutions:** the capability to become a developer's retained outsourcing partner, working with the developer across titles and disciplines.
- **Innovation:** increased ability to invest, excellent visibility over future industry innovations.
- **Lower risk:** through scale, diversity, processes and financial solidity.

Consolidating a fragmented industry

Plenty of headroom to keep building the platform

Keywords has been the main driver of consolidation within the games service provider industry (Exhibit 9), and typically aims to make one or two larger strategic acquisitions each year supplemented by a number of small ones.

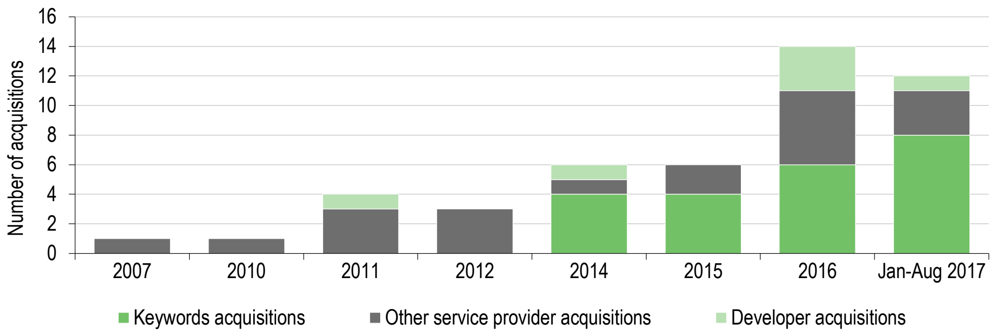
The market remains ripe for consolidation. Most service providers are subscale, revenues are dependent on a small number of customers and exit options are limited. A recent survey by the External Development Summit (XDS) of 150 developers found that 72% of service providers said they were open to being acquired.

Across the portfolio we believe there is plenty of headroom to continue building the platform for the strategy to continue. While recent acquisitions have put Keywords in a leadership position in some service lines – such as audio, localisation and localisation testing in certain markets, the addition of new service lines such as art, engineering and customer support opens up substantially larger markets. The company plans to add new service lines, with analytics high up the priority list.

A good acquirer in a receptive market

We believe that Keywords has also developed a culture and methodology that have given the business a reputation as a good acquirer. Keywords identifies cultural fit as the most important screening criteria and teams are kept together, while benefiting from the group's scale, market penetration, improved career prospects, processes /systems and financial stability in a games-focused group. Management reports that in certain segments the company is witnessing increased levels of inbound interest from companies interested in joining Keywords.

Exhibit 9: Acquisitions of games service providers



Source: Edison Investment Research, data from XDS

Limited competition for deals at present

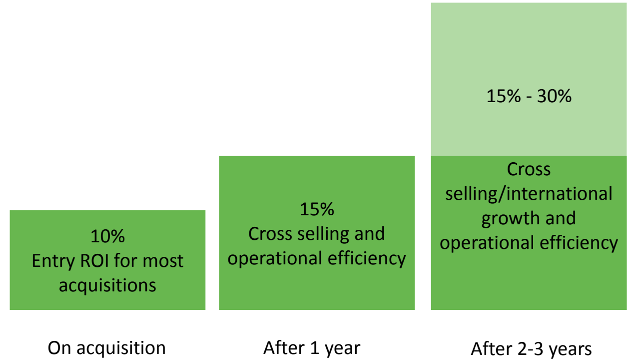
We are watchful for any signs of increased competition for key acquisition targets, but believe that these attributes will not be easy to replicate. We have seen sporadic acquisition activity from Keywords' competitors such as Poletowin (2015 acquisition of Side, a UK-based voice and motion capture specialist) and Virtuos Games (2017 acquisition of Black Shamrock, an Irish role play games and strategy specialist). However, we have yet to see any evidence that any of these have plans to engage in a more expansive acquisition strategy. Sumo, a UK-based engineering and art competitor, which recently listed on AIM (£38m raise, £40m vendor placing), acquired Atomhawk, a UK-based art studio in July 2017 for an estimated £2.3m.The company has also cited acquisitions as an element of its strategy. It is possible that outsourcers from outside of the gaming industry look to expand into this vertical through acquisitions, but as yet we have yet to see any significant activity and replicating Keywords' successful formula may be challenging for players outside the industry.

Price discipline, process and synergies generate strong ROI

Keywords targets a 15-30% ROI from acquisitions within two to three years. This starts with maintaining good price discipline, supported by the attributes described above and a fragmented competitive landscape. Valuations averaged c 1x sales, while the average EV/PBT multiple was 7.2x for FY15 and FY16 based on the estimated run rate at the time of acquisition. We estimate the ytd average for FY17 is higher at 11.3x, as a result of the VMC and Sperasoft acquisitions, but both were larger and strategically important, while the multiples of both should be brought down to the 7x level over the next two years as margins are expanded to the group c 15%+ level.

When acquiring, management's key focus is on achieving margin expansion via insertion into the Keywords ecosystem rather than compared against the historic margin performance. Most acquisitions are expected to achieve margins close to the group level (15.5%) within two years. In the longer term, a number of studios have successfully leveraged Keywords' platform to significantly increase scale through international expansion and customer acquisition.

Exhibit 10: Target ROI from acquisitions



Source: Keywords Studios

Acquisitions transform the profile in FY17

2017 was the company's most active yet, with 11 acquisitions completed for a total €99m consideration (of which €89.1m was cash). In aggregate we estimate these acquisitions boosted run rate sales, PBT and EPS by €91m, €9m and 11.5c respectively, while significantly strengthening the company's platform in a number of areas.

Entry into engineering

The company initiated its long-mooted entry into the engineering service line with the acquisition of Orlando-based GameSim for $4.8m in May 2017. This was then followed up with the £3m acquisition of UK-based d3t in October and most recently with the €22m ($27m) acquisition of Sperasoft in December 2017, which also gave Keywords a footprint in Russia, through which it plans to establish new service lines in the region. Management estimates that the engineering services market is worth circa $1.5bn, expanding Keywords' total addressable market to $5bn.

Expanding into more core, higher value service lines.

The addition of engineering capability, together with the strengthened Art service line (four acquisitions over the past 24 months) has significantly strengthened the company's offering of higher value-added services that are closer to the core operations of games developers. The acquisition of Sperasoft was particularly significant in this regard, due to its operation of a "co-development" model with key customers, whereby the studio is engaged on a more holistic basis to develop complete elements of a particular title. Management is likely to seek to roll out this model on a broader basis across the group.

VMC: functional and localisation testing and customer support

The $66m acquisition of VMC in October 2017 NYSE-listed outsourcer, Volt Information Sciences (VISI:NY), was Keywords' largest ever and significantly strengthened the group's presence across functional testing, customer support and localisation testing services. It also gave the company offices in Redmond, WA and Montreal, Canada, both prime locations for the games industry, while it has others across the US and Canada, employing 1,300 staff either directly or indirectly.

Strategically, the deal enhanced the group's platform in two particular ways:

Supporting the drive to develop deeper strategic relationships

VMC has a well-established technical services business whereby its staff are embedded in the client's sites (for the most part, Keywords' services are delivered from its own offices), providing a broad range of testing and customer support solutions. Thus the acquisition is seen as an important addition to Keywords' longstanding drive to develop deeper, multi-disciplinary strategic relationships with clients.

Global Beta Testing Network – developing a risk management solution

VMC's Global Beta Testing Network (GBTN) is a vetted group of private individuals who test games using their home devices shortly before a game is launched - essentially replicating a real world environment in terms of volume of users, home technology/telecoms set-up, geography etc. Keywords had been developing its own capability in this field, but this acquisition accelerates the build out and gives it significantly more scale and expertise.

Keywords' management sees strong opportunities for cross-selling this service to its global client base. In particular, the GBTN is seen as a key element of an end-to-end risk management solution, which is under development. The proposed service will combine services from Keywords' Player Research (mid/early in the games development cycle), testing (mid/late in cycle) and the GBTN (late cycle) to help ensure quality control and user experience are built in throughout the development cycle. Other areas of interest include data science, predictive analytics and AI, and pipeline automation.

Synergies

Unlike some of Keywords' other recent acquisition, VMC's recent performance had been lacklustre. Run rate revenues were $58.1m, broadly flat year-on-year (when stripping out two discontinued large, low-margin contracts) and adjusted operating margins at 9.1% are well below Keywords' 15.5% (FY16). Management expects to reinvigorate top-line, through cross-selling and margin performance through progressively releasing $2.5m of savings over the next two years. We understand that good progress is being made with the integration so far.

The business was acquired for $66m (c €56m), funded by a cash placing of £75m (€85m) gross leaving the group with €25m+ of surplus for future acquisition activity (of which circa €19m has since been used in the acquisitions of Sperasoft and LOLA).

Factoring modest 5% revenue growth and cost savings of $1.5m in FY18, we estimate that the deal will enhance adjusted EPS by c 8c for FY18, with more to follow in FY19 as the remaining $1m cost savings come through.

Cross-selling potential grows with the ecosystem

As Keywords' portfolio expands, so does its ability to cross-sell. The company now derives 80% of its revenues from 84 clients who use more than three of the group's services and, while acquisitions have clearly also contributed to these figures, cross-selling has been a major contributor as well. The company provided a number of successful cross-selling examples at the recent investor day, two of which are highlighted in Exhibit 11.

Exhibit 11: Cross-selling examples

Multi-platform game developer

2009	2013	2014	2015	2016	2017
• European localisation testing	• Add new languages	• Add Americas Localisation • Add Art through Lakshya acquisition	• Established as Asian suppliers	• Synthesis acquisition adds Audio and Localisation	• Strategic partnership to provide end to end service

Leading mobile game developer/publisher

2014	2015	2016	2017
•1 Game •Translation 11 languages •Annual Revenue c€1m	•1 Game •Translation 11 languages •Annual Revenue c€1m	•3 games •32 languages •Add Art •Annual Revenue c€5m	•3 Games •Add XLOC Localisation Test •Player Support •Functionality Testing •Annual Revenue c€11m

Source: Keywords Studios

Shifting to a retained multi-service model

As the game industry shifts away from hit-or-miss product sales to a much more recurring, franchise-based subscription model, so the service model lends itself to retained multi-service engagements rather than tendering for work on specific titles. We believe that Keywords is clearly in pole position to win a significant proportion of this business.

Management describer three levels of retained service. As the company executes its strategy we would expect the number of clients at each level to grow.

- **Dedicated teams (four clients at present):** Keywords runs specialist teams working in Keywords' offices, but solely for one client or project. The team runs in an environment which looks essentially looks like the client's offices, but uses Keywords' platform and expertise.
- **Spin-off production centres (two clients at present):** client teams are transferred to Keywords' offices. Keywords builds on the new talent and infrastructure to create a service delivery hub.
- **Strategic partnership model (no announced clients)**: a deep partnership involving integration of technology, processes and talent, and a common innovation roadmap.

Adding to this, as the portfolio expands, Keywords' ability to offer joined up solutions covering a number of distinct elements of the games development process strengthens. As previously discussed, the acquisition of VMC was seen as a key component to enable the group to develop an end to end risk management solution spanning player research, testing and beta testing. In Art, the company enhanced its pre-production, concept art capability with the 2016 acquisition of Volta and cross-selling synergies between Art and Engineering are particularly strong. Within localisation, in Exhibit 11 we describe the migration of a client from a single service (localisation test) to a strategic end-to-end service, increasing revenues from the client 600% over this time.

Sensitivities

It is difficult to see any one factor that would significantly compromise Keywords' progress, although the high multiple leaves little margin for error and setbacks could significantly dent the share price.

Acquisitions: Keywords' strategy and track record of making earnings-enhancing acquisitions and providing a platform for these businesses to perform well is key to the investment case. The success of this strategy hinges on the company's ability to select the right acquisitions, maintain price discipline and retain a reputation as a good acquirer and employer. While an acquisition strategy does bring inherent risk, each target is relatively small compared to the overall group, reducing the risk of any one acquisition significantly affecting results.

Games industry growth: the games industry has been enjoying strong structural growth for some time now. In FY16 growth outstripped expectations entering the year and while we believe that this structural growth should be set to continue, we add the caveat that it is difficult to estimate how trading has been boosted by particularly buoyant near-term conditions.

Interest rates and stock market rating: the current macro environment is very supportive for Keywords to execute its acquisition strategy, with low interest rates and stock market valuations. This tailwind would moderate somewhat if interest rates were to rise and the stock market/ Keywords' stock de-rated.

Foreign exchange risk: Keywords operates a number of offices around the world and generates revenues in multiple currencies and it is therefore exposed to exchange rate risk.

Scale/rating: pressure on management to pursue a more aggressive strategy could increase as companies grow in scale or re-rate upwards. This can deliver accelerated upside but also increases risk.

Key person exposure: we believe that Keywords' share price and potentially its operations could be affected by the loss of key management, particularly Andrew Day, CEO.

Financials

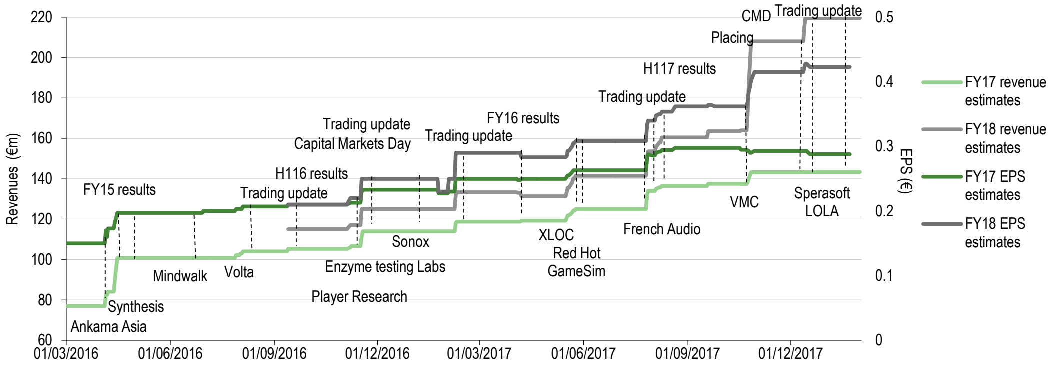
75% revenue CAGR over five years, 52% EPS

Through a combination of healthy organic growth and accretive acquisitions, we estimate that Keywords will generate a CAGR in sales, PBT and EPS of 75%, 76% and 52%, respectively, from 2013 to 2017. With the full-year contribution the acquisitions made in FY17, we forecast a further 56% normalised EPS growth in FY18, even in the absence of further acquisitions and estimating a conservative 8% like-for-like growth.

In Exhibit 12 we show how consensus FY17 and FY18 sales and EPS estimates have progressed over the past 12 months as a result of organic growth and accretive acquisition.

With a healthy industry backdrop, a strong competitive position and ongoing execution of the acquisition strategy, we expect strong growth to continue.

Exhibit 12: Consensus FY17 and FY18 revenue and EPS progression over time



Source: Edison Investment Research, Bloomberg data

Stripping out exceptional FY16: Robust organic growth should continue

Our P&L model is shown in Exhibit 13. The recent trading update stated that FY17 revenues would be at least €150m, implying like-for-like growth in the healthy mid-teens, vs 12% in FY16 and 17% in H117 (28% if adjusting for last year's exceptionally strong trading at the audio business). Conservatively, we forecast 7.3% like-for-like growth in FY18 and 8.0% FY19, but believe there is clear scope for upside.

Investment compresses margins a touch, scope for expansion longer term

We are forecasting a slight compression in operating margin (15.1% from 15.3%) to reflect the VMC acquisition and increased investment to support growth. This investment includes expanded office space in Montreal, Tokyo and Dublin. The company has also bolstered its IT and HR teams and hired M&A and tax specialists to strengthen the group's platform. VMC was generating 9.1% operating margins on acquisition, but restructuring and synergies are expected to bring these in line with the group level within two years.

Looking longer term, we believe there may be scope for margins to expand above the level forecast if the company can build scale and diversity in Art and Engineering or secure more strategic outsourcing deals, although management may choose to invest any incremental gains back into growing the business.

We also forecast a progressive reduction in the tax rate over the period as the company leverages its diverse geographical footprint to improve tax efficiency.

Exhibit 13: P&L summary

€m	FY15	FY16	FY17e	FY18e	FY19e	Notes
Annual run rate of in year acquisitions	12.0	39.4	91.8	0.0	0.0	11 acquisitions, €99m total consideration
Group YE revenue run rate	62.6	111.7	223.4	239.7	258.9	
Contribution from acquisitions in year	7.3	24.2	18.9	0.0	0.0	H2 weighting of major acquisition activity in FY17
Revenues excl in year acquisitions	50.7	72.4	131.6	0.0	0.0	
Reported revenues	**58.0**	**96.6**	**150.5**	**239.7**	**258.9**	
Like-for-like growth	N/A	12%	18%	7%	8%	FY18 and FY19 estimates conservative
Gross profit (exc Tax Credit)	20.5	34.4	52.1	82.9	90.6	
Gross margin	35.4%	35.6%	34.6%	34.6%	35.0%	
Tax credit	1.3	2.3	2.3	2.3	2.3	
Total operating expenses	(13.6)	(21.6)	(31.4)	(49.0)	(52.9)	
Operating expenses as a % of sales	23.5%	22.4%	20.9%	20.4%	20.4%	
Adj operating income	8.2	15.1	23.0	36.2	40.0	
Operating margin	14.1%	15.6%	15.3%	15.1%	15.4%	Compression due to investment and lower margins of VMC (9.1%) pre cost synergies (€2.5m over 2 years)
Interest	(0.3)	(0.3)	(0.5)	(0.5)	(0.5)	
PBT	8.0	14.9	22.5	35.8	39.5	
Tax	(1.8)	(3.2)	(4.7)	(7.2)	(7.5)	
Tax rate	22.9%	21.7%	21.0%	20.0%	19.0%	Progressive tax efficiencies
Adj net income	6.2	11.6	17.8	28.6	32.0	
EPS FD (c)	12.6	20.3	29.0	45.6	49.2	

Source: Company Data, Edison Investment Research

Healthy cash flows, balance sheet supports more acquisitions

The company ended the year with net cash of €12.2m, comprising €30.5m in cash and €18.3m in debt utilised from a €35m rolling credit facility.

The group generates robust cash flows. Working capital demand are relatively modest, although seasonality means that cash inflows are typically H2 weighted, with a trough at mid-year. We are forecasting a near term increase in capex to fund office consolidation and modernisation, but remaining at a very manageable level.

The company's robust cash generation and balance sheet give the group at least €40m of resources to continue making acquisitions in FY18. We believe that the company's diverse revenue streams and cash flow generation profile could comfortably support an increase in net debt to the 2x EBITDA level, or c €94m by year-end 2018. Raising funds through equity is clearly also an option.

Acquisitions could nearly double EPS over the next 12 months

The figures above clearly only incorporate acquisitions made so far. While it is impossible to forecast future acquisitions with any accuracy, the earnings accretion driven by future acquisitions is clearly core to Keywords' investment case.

In Exhibit 2 we examine the potential impact that further acquisition activity could make to EPS over the course of the next 12 months. We assume that the company deploys €94m of cash in acquisitions between now and the end of FY18 (taking net debt/EBITDA to a relatively comfortable 2x level) and that these acquisitions are two-thirds funded by cash and one-third by equity at 1,488p.

We point out that this analysis is for illustrative purposes and not a forecast. However, it does suggests that if Keywords can maintain a low double-digit organic revenue growth rate and continue making acquisitions at a similar scale to FY16/17 at a 7-10x PBT level, the group's EPS exiting FY18 could reasonably reach 70c+, 50% above our current FY18 EPS estimate. With additional capital from equity and in line with company's acquisitive strategy, the cycle could then repeat into FY19.

Exhibit 14: Scenario analysis – EPS run rate exiting FY18 based on varying organic growth and average acquisition multiples (cents)

€ cents		Average EV/PBT (x) paid for future acquisitions in FY17 and FY18				
		7.0	8.0	9.0	10.0	11.0
Organic growth H217 & FY18	5%	75.7	72.9	70.6	68.7	67.1
	10%	78.3	75.5	73.2	71.3	69.7
	15%	80.9	78.1	75.8	73.9	72.3
	20%	83.5	80.7	78.4	76.5	74.9
	25%	86.1	83.2	81.0	79.1	77.5

Source: Edison Investment Research

Other key assumptions and comments include:

- Acquisitions are funded two-thirds by cash, one-third by equity (similar to many historic deals), with the shares priced at 1,488p. As we have seen with VMC, strongly accretive acquisitions can also be funded by raising equity, but there are too many variables to build such deals into this analysis.
- If €94m is deployed progressively over 2018, the company should remain comfortably within a 2x net debt/EBITDA ratio.
- Operating cash flows generated by future acquisitions are not recycled to fund further acquisitions.
- No margin expansion of acquired entities post acquisition and all acquisitions are accretive.

Valuation

Sustained execution should drive robust returns

The key attraction of Keywords' business model and investment case is the fact that the company can continue generating robust double-digit earnings growth without deviating from its current strategy or expanding beyond its core games developer customer base.

Clear underlying value

The company's rating of 39x FY18e earnings, dropping to 36x in FY19e, is a substantial premium to peers (average c 22x for FY18e), but acquisitions should bring these multiples down substantially. Our like-for-like growth estimates are also conservative (8% for FY18e and FY19e). The company's price/earnings growth ratio (PEG) for FY16/18 is 0.8x, a discount to peers, indicating that if the company can sustain a similar EPS growth trajectory, the shares could appreciate further.

If we consider the scenarios portrayed in Exhibit 15, using very reasonable assumptions, the company can more than double EPS from our FY17 estimated level entering 2019, in which case it would be rated at a mid-20s multiple. With plenty of financial headroom to continue executing its current strategy, Keywords' earnings growth potential should look equally strong looking into 2019 and beyond. Consequently we would expect the company to continue to trade at a very healthy growth multiple. With successful execution of its strategy over the course of FY18, we would therefore expect the company's future EPS growth potential to become more fully priced in. Consequently, we believe that sustained execution should continue to drive robust returns for shareholders.

Exhibit 15: Scenario analysis – P/E (x) at 1,488p share price based on estimated EPS run rate exiting FY18 under varying organic growth and average EV/PBT acquisition multiples

€ cents		Average EV/PBT (x) paid for future acquisitions in FY17 and FY18				
		7.0	8.0	9.0	10.0	11.0
Organic growth FY18	5%	23.2	28.4	29.4	30.2	30.9
	10%	22.4	27.5	28.3	29.1	29.7
	15%	21.7	26.5	27.3	28.0	28.6
	20%	21.0	25.7	26.4	27.1	27.7
	25%	20.4	24.9	25.6	26.2	26.7

Source: Edison Investment Research

Exhibit 16: Peer valuations

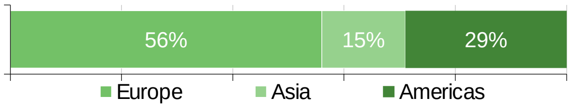
Company	Quoted Currency	Current price (ccy value)	Market cap ($m)	EV/Sales 1FY (x)	EV/Sales 2FY (x)	EV/EBITDA 1FY (x)	EV/EBITDA 2FY (x)	P/E 1FY (x)	P/E 2FY (x)	PEG FY16-18
Outsourcing										
Keywords Studios	p	1,488.0	918	4.0	3.7	23.2	21.1	38.5	35.7	0.77
SDL	p	485.0	532	1.3	1.2	13.7	11.0	22.4	17.8	1.10
RWS Holdings	p	453.5	1,652	7.8	4.0	29.4	19.3	31.9	25.3	1.77
Capita	p	59.0	450	6.6	6.0	25.0	20.3	32.8	28.1	2.12
Learning Technologies Group	p	469.9	4,186	1.2	1.2	8.9	8.9	9.3	9.0	2.52
Serco Group	p	93.4	1,370	0.4	0.4	10.2	9.5	35.9	27.5	0.81
Wipro Ltd-ADR	US$	5.3	25,599	2.5	2.4	12.4	11.5	19.3	17.7	1.29
Poletowin Pitcrew Holdings	JPY	1,845.0	316	1.4	1.3	N/A	N/A	21.5	16.5	1.10
Capgemini	€	101.6	20,492	1.5	1.5	10.9	10.3	17.2	16.0	2.19
Zoo Digital Group	p	50.3	49	2.0	1.7	26.5	16.1	134.2	35.3	N/A
Hearts United Group Co	JPY	1,808.0	388	2.4	2.0	N/A	N/A	28.2	17.9	0.78
Average				**2.7**	**2.2**	**17.1**	**13.4**	**35.3**	**21.1**	**1.44**
Games Developers										
Square Enix Holdings Co	JPY									
Ubisoft Entertainment	€	5,150.0	5,658	2.0	1.8	10.4	9.5	23.8	21.9	1.56
Bandai Namco Holdings	JPY	69.0	9,186	4.5	3.8	11.0	8.7	44.9	28.6	1.18
Konami Holdings Corp	JPY	3,680.0	7,334	1.0	0.9	6.9	6.4	17.0	15.6	2.50
Electronic Arts	US$	5,770.0	7,433	2.8	2.7	10.5	9.7	22.8	21.0	3.45
Average		**108.3**	**33,351**	**5.8**	**5.4**	**16.3**	**14.0**	**25.3**	**21.7**	**1.63**

Source: Edison Investment Research, Bloomberg consensus. Note: Priced on 31 January 2017.

Exhibit 17: Financial summary

€'000s	2014	2015	2016	2017e	2018e	2019e
31-December	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS						
Revenue	37,293	57,951	96,585	150,525	239,710	258,887
Cost of Sales	(24,568)	(36,173)	(59,907)	(96,136)	(154,479)	(165,987)
Gross Profit (inc multimedia tax credits)	12,725	21,778	36,678	54,388	85,231	92,899
EBITDA	6,027	9,459	16,893	25,892	40,859	44,978
Operating Profit (before amort. and except.)	5,159	8,162	15,090	22,991	36,240	39,990
Intangible Amortisation	(468)	(857)	(1,629)	(2,813)	(4,000)	(4,400)
Exceptionals	(1,461)	(1,089)	(1,316)	(4,300)	(1,500)	0
Other	(156)	(392)	(686)	(957)	(1,244)	(1,617)
Operating Profit	3,074	5,824	11,459	14,922	29,496	33,973
Net Interest	(106)	(264)	(287)	(460)	(460)	(460)
FOREX	467	(474)	(1,737)	(2,000)	0	0
Profit Before Tax (norm)	5,053	8,007	14,864	22,531	35,780	39,530
Profit Before Tax (FRS 3)	3,435	5,086	9,435	12,462	29,036	33,513
Tax	(1,215)	(1,832)	(3,223)	(4,732)	(7,156)	(7,511)
Profit After Tax (norm)	3,838	6,175	11,641	17,800	28,624	32,019
Profit After Tax (FRS 3)	2,220	3,254	6,212	7,730	21,880	26,002
Average Number of Shares Outstanding (m)	45.0	48.2	55.9	58.8	62.4	63.8
EPS - normalised (c)	8.5	12.8	20.9	30.3	45.9	50.2
EPS - normalised fully diluted (c)	8.5	12.6	20.3	29.0	45.6	49.2
EPS - (IFRS) (c)	4.9	7.0	11.2	13.1	35.1	40.8
Dividend per share (p)	1.10	1.21	1.33	1.46	1.61	1.77
Gross Margin (%)	34.1%	37.6%	38.0%	36.1%	35.6%	35.9%
EBITDA Margin (%)	16.2%	16.3%	17.5%	17.2%	17.0%	17.4%
Operating Margin (before GW and except.) (%)	13.8%	14.1%	15.6%	15.3%	15.1%	15.4%
BALANCE SHEET						
Fixed Assets	20,874	32,132	61,873	144,326	143,048	141,026
Intangible Assets	17,677	27,675	55,495	132,872	130,091	126,692
Tangible Assets	2,761	3,486	5,498	10,574	12,077	13,454
Investments	436	971	880	880	880	880
Current Assets	23,120	34,884	38,677	72,244	92,110	119,377
Stocks	0	0	0	0	0	0
Debtors	6,203	7,519	13,879	31,276	33,559	36,244
Cash	11,014	19,018	17,020	30,463	49,650	74,233
Other	5,903	8,347	7,778	10,505	8,900	8,900
Current Liabilities	(9,746)	(13,128)	(27,830)	(44,543)	(44,145)	(43,905)
Creditors	(9,746)	(11,965)	(19,805)	(26,213)	(25,815)	(25,575)
Short term borrowings	0	(1,163)	(8,025)	(18,330)	(18,330)	(18,330)
Long Term Liabilities	(2,607)	(3,294)	(6,016)	(5,870)	(5,845)	(5,845)
Long term borrowings	0	(571)	(345)	0	0	0
Other long term liabilities	(2,607)	(2,723)	(5,671)	(5,870)	(5,845)	(5,845)
Net Assets	31,642	50,594	66,704	166,157	185,168	210,653
CASH FLOW						
Operating Cash Flow	2,412	4,768	14,750	21,397	35,307	41,162
Net Interest	11	(58)	(58)	(460)	(460)	(460)
Tax	(522)	(1,362)	(2,129)	(4,732)	(7,156)	(7,511)
Capex	(1,252)	(1,635)	(2,306)	(4,981)	(6,122)	(6,365)
Acquisitions/disposals	(8,889)	(7,409)	(21,104)	(89,100)	(1,355)	(1,112)
Financing	7,342	14,199	643	84,000	0	0
Dividends	(609)	(737)	(825)	(903)	(1,026)	(1,132)
Net Cash Flow	(4,256)	7,194	(11,029)	5,222	19,187	24,582
Opening net debt/(cash)	(15,271)	(11,014)	(17,284)	(6,232)	(12,133)	(31,320)
Forex gain on cash	0	0	1	690	0	0
Other	(1)	(924)	(24)	(11)	0	0
Closing net debt/(cash)	(11,014)	(17,284)	(6,232)	(12,133)	(31,320)	(55,903)

Source: Keywords Studios data, Edison Investment Research

Contact details	Revenue by geography (FY16)
Keywords International Whelan House – South County Business Park Dublin18 +353 190 22 730 www.keywordsstudios.com	

Management team

Chairman: Ross Graham	CEO: Andrew Day
Ross worked at Misys from 1987 to 2003, initially as finance director and later as corporate development director. He has also been NED at Psion and is currently NED at Wolfson Microelectronics. He is a chartered accountant and fellow of the ICAEW.	Andrew joined Keywords as CEO in April 2009. Prior to that, he was CEO of Unipower Solutions and head of retail and CPG for EMEA at $2.9bn market cap, US-listed FICO.
CFO: David Broderick	
Joined Keywords in 2016 from Dublin-based aviation software supplier, Arconics, where he was CFO. Was previously finance director at Stobart Air and spent eight years at Ryanair, where he was head of investor relations and oversaw the group's Inflight Sales Unit's finance and operations.	

Principal shareholders	(%)
Canaccord Genuity	5.95%
Luppino T	5.51%
Andrew Day	5.49%
Octopus Investments	5.38%
BlackRock	5.30%
River & Mercantile	4.40%
Liontrust	4.11%

Companies named in this report

SDL (SDL LN), RWS Holdings (RWS LN), Capita (CPI LN), Serco (SRP LN), Wipro (WIT US), Poletowin Pitcrew Holdings (3657 JT), Cap Gemini (CAP FP), Microsoft (MSFT US), Sony Corp (6758 JT), Square Enix (9648 JT), Ubisoft (UBI FP), Bandai Namco (7832 JT), Konami (9766 JT), Electronic Arts (EA US), Sumo Group (SUMO LN)

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