

Keywords Studios

Reassuring CMD, residual concerns dispelled

Keywords Studios' capital markets day (CMD) on 5 February 2020 was very well attended and reassuring. The company will continue to grow a balanced, diversified business. Organic growth remains strong over the short to medium term: for FY20 we forecast 15% y-o-y revenue growth, up 12% on the FY19 closing annual run rate (ARR), supported by the launch of next-gen consoles. Increasing scale helps to attract larger clients and raise barriers to entry. Keywords' strategic approach to 'buy and build' delivers for both the company and the studios. We retain our view that Keywords is strongly positioned as the only games service provider at a global scale. The company's P/E rating (29.2x FY20e) reflects its leading market position, track record and potential, but should fall further as Keywords continues to execute its buy-and-build strategy.

Year end	Revenue (€m)	PBT* (€m)	EPS*	DPS* (p)	P/E (x)	Yield (%)
12/17	151.4	23.1	30.0	1.46	62.9	0.09
12/18	250.8	37.9	40.1	1.61	47.1	0.10
12/19e	326.0	41.0	46.0	1.77	41.1	0.11
12/20e	374.9	52.4	64.8	1.95	29.2	0.12

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

CMD: Key themes of the day

Keywords has been investing in its platform and capacity to ensure that it can deliver its full suite of services, with a similar level of professionalism, to clients wherever they are based — with services able to be delivered on a round-the-clock, distributed basis. Keywords' next step is to demonstrate to even the largest, most demanding AAA clients that it now uniquely has the scale to be a professional and reliable partner for all their studios.

Financials: Strong growth and improving margins

In FY19, Keywords delivered 30% revenue growth and 15% underlying organic growth. Underpinned by a growing industry (Newzoo: 8.4% CAGR 2019–22), this trend looks set to continue – we forecast FY20 revenues of €374.9m (+15% y-o-y, +12% on an FY19 closing ARR basis). Adjusted operating margins are set to improve through FY20 – we forecast 14.2% (FY19: 13.1%), operating income of €53.4m (FY19: €42.7m) and normalised EPS of 64.8c, a 41% uplift on FY19 (46.0c). Keywords benefits from the trend towards outsourcing, increasing its market share as a market leader in a fragmented global industry with growth further supplemented by M&A. With the console transition in Q420, the medium-term growth outlook remains robust.

Valuation: Rating undemanding, likely to fall further

Keywords has delivered an adjusted EPS FY13–19 CAGR of 43% and we believe it looks set to maintain double-digit revenue growth for the foreseeable future. In this context, we believe that a 29.2x FY20e P/E is not overly demanding and fairly reflects Keywords' leading market position, track record and potential. This rating should fall further as Keywords continues to execute its buy-and-build strategy, focused around higher-margin marketing and development.

London capital markets day

Software & comp services

10 February 2020

Price	1,6000
Market cap	£1,044m
	€1.18/£
Forecast net debt (€m) at 31 Decen 2019	nber 18.0

 Shares in issue
 65.27m

 Free float
 89%

 Code
 KWS

 Primary exchange
 AIM

Secondary exchange N/A

Share price performance



Business description

Keywords Studios is 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.

1,838p

900p

Next events

52-week high/low

Final results	31 March 2020
AGM	May 2020

Analysts

Richard Williamson +44 (0)20 3077 5700

Dan Ridsdale +44 (0)20 3077 5729

tech@edisongroup.com

Edison profile page

Keywords Studios is a research client of Edison Investment Research Limited



Capital markets day - London

Summary: A reassuring afternoon

The capital markets day in Montreal in November 2019 focused on the benefits of scale, cross-selling and the integration of new studios into the 'family'. For the London CMD, Keywords focused on the opportunities for the different service lines, highlighting the higher value-added service lines, development and art services (including marketing services, which will be broken out when it reaches €30m). Management has been clear that this is where Keywords is likely to focus its future M&A activity to drive growth.

Andrew Day (CEO) and Jon Hauck (CFO) bookended the presentation, with the stage largely left to representatives of the different service lines as well as studio heads in development and marketing services. This showcased the company's collaborative approach and helped to underline that Keywords is not overly centralised, and that there is broad buy-in to the 'family' values that the management team espouses, with teams and studios ready and willing to work together to deliver broad-based client solutions. Following an acquisition, Keywords seeks to remove the administrative burden from the studio, to allow them to do what they have done, only better.

Jon Hauck closed the day with a presentation providing further clarification on the recent trading update, particularly dealing with concerns around margin progression as well as cash conversion. Wrapping up, Andrew Day reiterated his view of the growth prospects for the firm, with increased development budgets ahead of the Q420 console transition likely to benefit Keywords in FY20, and the increase in new releases expected in FY21 and beyond as the next-gen user base builds (with current-gen running in parallel with next-gen) set to benefit Keywords in the medium term.

In FY19, Keywords has been investing in its platform and capacity to ensure that it can deliver its suite of services, with a similar level of professionalism, to clients wherever they are based, with services fronted by a local team, but deliverable on a round-the-clock, distributed basis to meet client needs. The next step for Keywords is to demonstrate to even the largest, most demanding AAA clients that it now uniquely has the scale to be a professional and reliable partner.

Key themes of the day

- A focus on Keywords' business lines
- In-depth review of Art and Marketing Services and Development
- Addressing outstanding concerns over the trading update (growth margins, cash conversion)
- Reconfirmation of the growth proposition and highlighting the barriers to entry from scale

Key takeaways

- Keywords will continue to stick to what it does best (games services)
- Organic growth prospects remain strong over the medium term (we forecast 15% in FY20)
- The console transition is expected to benefit Keywords in FY20–22 and beyond
- Increasing scale delivers new client propositions (targeting the largest AAA titles)
- Barriers to entry are only increasing as Keywords grows
- The business remains balanced by service line
- Keywords' strategic approach to 'buy and build' delivers for both Keywords and the studios



Keywords' strategy: Continuing to deliver

The clear message from the CMD is that management feels that the successful model it has built with Keywords has a lot further to run. In FY19, the company experienced some growing pains, which meant it had to pause growth in certain service lines (eg Player Support) and invest ahead of the curve to build out the facilities, teams, management and technology platforms to allow for sustainable future growth. However, this investment is now set to support sustained scale and growth over the course of FY20 and beyond.

Keywords committed €13m to eight acquisitions in FY19 (it expects to complete six to 10 deals annually), and there was confirmation that VMC, which had dragged on results in FY18 and FY19, is finally starting to deliver on its promise. VMC, acquired in October 2017, was the company's largest acquisition and was bought to build scale for the localisation and QA service lines in North America. Management recognised that VMC needed restructuring, but with the scale and market presence that it has delivered, Andrew Day suggested that it might now provide a model for the expansion of these service lines in Europe, India and Asia.

Growth prospects for FY20 and beyond

In FY19, Keywords delivered 30% revenue growth and 15% underlying organic growth. Underpinned by strong industry growth (Newzoo: 8.4% CAGR 2019–22), this level of growth looks set to continue – we forecast FY20 revenues of €374.9m (+15% y-o-y, +12% on FY19 closing ARR). Adjusted operating margins are set to improve through FY20 to c 15% so for FY20 we forecast an average operating margin of 14.2% (FY20 EBITDA of €61.2m, operating income of €53.4m) and normalised EPS of 64.8c, a 41% uplift on FY19. This is before factoring in any incremental contributions from M&A.

As we have noted previously, Keywords benefits from the trend towards outsourcing, increasing market share as a market leader in a fragmented global industry with growth further supplemented by a proven M&A model. With the next console transition in Q420, the short- and medium-term growth outlook remains robust.

Management highlighted that FY19 had also been a year of investment in the business and capacity (for example, the investment in the Montreal studio) and given that clients tend to share their release roster with Keywords 12 months ahead for planning purposes, Keywords has an excellent view of the pipeline of work through the console transition and beyond. Noting a number of announcements in H219 that major AAA releases have been delayed (Ubisoft, CD Projekt – CyberPunk), it is worth noting that even if games that Keywords is working on are delayed, this will usually mean an extended project with extra work for Keywords.

Scale begets scale

In FY19, Keywords invested in its platform and capacity to ensure that it can deliver its suite of services, with a similar level of professionalism, to clients wherever they are based, with services fronted by a local team, but deliverable on a round-the-clock, distributed basis to meet client needs.

To do this and demonstrate its capacity to deliver for clients at scale, Keywords felt that it had to build facilities in order to generate the demand to fill those facilities. Larger clients will only be comfortable placing major projects with Keywords if they can first see the assets – the facilities, staff and technology – to deliver a successful project.



Exhibit 1: Scale delivers numerous barriers to entry



Source: Keywords Studios CMD presentation

To reinforce the benefits that increasing scale delivers, Keywords highlighted the barriers to entry that increase as the group scales:

- Scale begets scale access to larger clients as they prefer large suppliers to provide the necessary resources for standardised service level agreements (SLAs) and AAA projects
- **Global presence** the lead office is generally local to the client, so a broader geographic footprint opens more client opportunities
- Depth of knowledge and breadth of expertise as a specialist games services network, Keywords offers access to its multiple service lines and studios around the world. Its teams will have worked on many more projects than any single games publisher or studio
- Technology able to invest in better security and more effective systems and processes
- **Scalable model** with a larger unified resource base comes the opportunity to absorb project spikes and troughs, flexing resource to meet the client's needs
- Acquisition track record Keywords has a proven M&A track record (Exhibit 3 below), building out capabilities but more importantly integrating acquisitions and ensuring there is a good cultural fit. This track record is a powerful reference for future M&A
- **Financial strength** enables investment in tools, infrastructure and people, as well as providing stability and resilience to external 'shocks'
- Reputation for quality Keywords is working hard to build a consistent culture around quality
 of delivery, professionalism and service across the business

Balanced business mix

Since its IPO in 2013, Keywords has delivered average annual organic growth of 15% and an overall revenue CAGR of 65%. As can be seen in Exhibit 2, even with this strong growth, management has managed to build and maintain a diversified business that remains balanced across its seven service lines.



Exhibit 2: A fast-growing, diversified and balanced business



Source: Keywords Studios CMD presentation

Strategic 'buy and build' model

Keywords' buy and build model has served it well since the company's IPO, helping to deliver over €200m of additional revenues with 46 acquisitions across 16 countries. In a typical year, Keywords expects to make six to 10 acquisitions (2019: €13m across eight deals, +€15m of deferred consideration from 2018) and has so far managed to maintain price discipline, having paid an average ~1.2x revenue multiple historically.

Year	Art services	Game development	Audio services	Functional testing	Localisation	Localisation testing	Player support	Total cost* (€m)
2014	Lakshya Digital		Liquid Violet Binari Sonori	Babel Media	Babel Media Binari Sonori	Babel Media		19.0
2015	Liquid Dev		Reverb Kite Team				Alchemic Dream	10.9
2016	Mindwalk Volta		Synthesis Sonox	Enzyme Player Research	Synthesis Sonox	Synthesis Enzyme	Ankama	32.6
2017	SPOV RedHot	GameSim d3t Sperasoft	La Marque Rose Dune Sound AsRec	VMC	VMC XLOC La Marque Rose Around the Word Dune Sound AsRec LOLA	VMC	VMC	101.4
2018	Fire Without Smoke Trailer Farm	Snowed In Studio Gobo Electric Square Yokozuna	Maximal Cord Laced Blindlight					60.4
2019	Sunny Side Up Ichi	GetSocial Wizcorp	Descriptive Video Works Syllabes		TV+Synchron Kantan			21.8 (€13m net)

Source: Keywords Studios. Note: *Includes all cash, deferred and equity consideration.

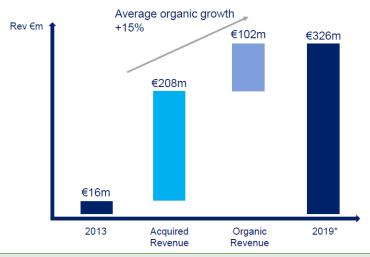
The key point to note is that Keywords is not bulking up, seeking size for size's sake, but rather is building out a global service proposition with business lines of appropriate scale to deliver consistency. Local offices hold the client relationships, regional hubs help to ensure consistency of offering and delivery across all major service lines, together with global specialists able to offer niche services to meet the client's specific needs. Examples cited included Sperasoft's work on Assassin's Creed, Electric Square working with Microsoft on Forza Street and the Trailer Farm's round-the-clock work for Gearbox on Borderlands 3.

Keywords is also building out an operating framework and IT infrastructure to support distributed service delivery, seamlessly pulling together teams and studios from separate locations to deliver client projects professionally.



Finally, it is worth highlighting that each of the various studios represented at the CMD felt that they had made the right decision to sell to Keywords. As small studios, joining a large company meant they no longer needed to rely on constantly finding the next project and could now concentrate on what they enjoyed most, working with and delivering for their clients. In addition, the Keywords family provided access to a greater pool of resource and expertise, meaning they could work on bigger, more challenging projects and draw on specialists from around the group when needed.

Exhibit 4: Proven M&A track record



Source: Keywords Studios CMD presentation

M&A: Targeting higher-margin service lines

Each business line has its own growth proposition, but future M&A, although opportunistic, is likely to be concentrated on higher-margin business lines, with Development and Marketing Services highlighted in particular. For example, Keywords discussed the spectrum of development expertise (Exhibits 5 and 6) where, historically, Keywords' delivery has been based around lower-margin engineering and porting work. However, as studios build experience and establish their reputation, they are increasingly pushing into higher-margin co-development and full development projects.

Despite this progression towards higher-margin projects, management was very clear that studios are not aiming to take revenue share. The Keywords model is built on a cost plus approach with any revenue share expected to be marginal (eg to ensure an alignment of interest with the client), rather than to exchange development fees for potential future upside.

Opportunistic acquisitions in other service lines remain likely and, in particular, Andrew Day suggested that the VMC acquisition (offering localisation and quality assurance (QA) scale in North America) might provide a model for expansion in Europe, India and Asia.

In terms of approach, Keywords conducts its own due diligence, avoids auctions and has maintained rigorous price discipline to date (we estimate recent deals at 1.5–2.0x sales and a long-term average ~1.2x revenue multiple). These low multiples are achievable because Keywords tends not to compete with other buyers – developers and publishers normally look to acquire IP and content, whereas Keywords is primarily seeking service competence and is not interested in IP.



Exhibit 5: Development value chain

Exhibit 6: Positioning of internal studios



	Engineering Resources	Specialist / Niche Services	Porting	Co- Development	Full Game Development
Gamesim	Υ	Y	Y		
Snowed In	Υ	Y	Y		
d3t	Υ	Y	Y	Y*	
Wizcorp	Υ	Y	Y		Υ
Sperasoft	Υ	Y	Υ	Y	Υ
Studio Gobo				Y	
Electric Square				Y	Υ

Source: Keywords Studios CMD presentation

Source: Keywords Studios CMD presentation

FY19 margins and cash conversion

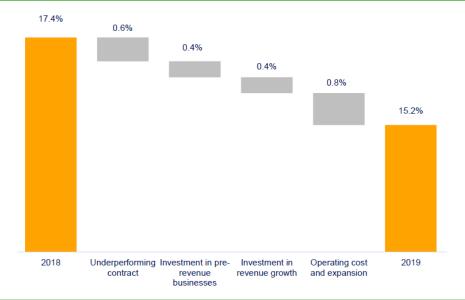
To help explain the margin erosion seen in the unaudited FY19 figures, Jon Hauck explained the bridge in Exhibit 7, accounting for the EBITDA margin changes between FY18 and FY19.

FY18: 17.4% EBITDA margin

- One-off contract impact from a single, materially underpriced fixed price contract acquired in FY18. This was finalised in FY19 and does not carry over into FY20.
- Keywords Ventures has been investing in pre-revenue start-ups to help develop artificial intelligence (AI) and machine-learning technologies for nurturing and later release across the business
- Investment in growth as noted elsewhere, Keywords has chosen to accelerate investment ahead of the curve to support future growth (eg Montreal facilities)
- **Elevated opex** operational investment in technology, strengthened management and additional functional support to ensure the consistency of the global offering

FY19: 15.2% EBITDA margin

Exhibit 7: FY18-19 EBITDA margin bridge



Source: Keywords Studios CMD presentation

Jon Hauck also reconciled the cash flow to highlight that underlying cash conversion was comparable to prior periods. The principal normalisation adjustments were:



- Timing of tax credits €6m from a timing difference for tax credits in Canada (MMTC) and the UK (VGTR) reflecting the strong growth of the business in these two territories.
- Accelerated capex €1m expansion in capex as Keywords invested ahead of growth

The full (unaudited) reconciliation is shown in Exhibit 8 below. This is compared to normalised PAT of €30.7m (FY18) and €33.4m (FY19) to show that the underlying cash conversion had improved marginally from 84% in FY18 to 85% in FY19.

Exhibit 8: FY19 cash flow analysis

€m	2019 FY		2018 FY	_	Movt
2019 adjusted PBT	41		38		3
Movement in MMTC / VGTR	(6)		(O)		(6)
Capex	(14)		(11)		(3)
Other	(7)		(6)		(1)
Adjusted free cash flow	14	_	21		(7)
Acquisition spend	(32)		(31)		(1)
Dividend	(1)		(1)		(O)
Underlying increase in debt	(19)	_	(11)		(8)
FX and other items	1		0		1
Increase in net debt	(18)		(11)		(7)
Opening net debt	(O)		11		(11)
Closing net debt	(18)	_	(0)		(18)
Adjusted free cash flow	14	46%	20	65%	
Add back MMTC / VGTR	6	40/0	0	03/0	
Adjusted free cash flow before MMTC / VGTR	20	66%	21	66%	
Add back capex ahead of depreciation	6		6		
Underlying free cash flow	26	85%	27	84%	

Source: Keywords Studios CMD presentation



	€000s	2016	2017	2018	2019e	2020
Year end 31 December		IFRS	IFRS	IFRS	IFRS	IFR
PROFIT & LOSS						
Revenue		96,525	151,430	250,805	326,004	374,913
Cost of Sales		(59,907)	(96,345)	(154,997)	(205,021)	(234,889
Gross Profit (inc multimedia tax credits)		36,618	55,085	95,808	120,982	140,024
EBITDA		16,833	26,645	44,232	49,500	61,192
Operating Profit (before amort. and except.)		15,030	23,915	38,916	42,741	53,419
Intangible Amortisation		(1,629)	(3,038)	(6,872)	(7,559)	(8,315
Exceptionals		(1,316)	(3,016)	(5,607)	(2,981)	(
Other		(686)	(1,426)	(4,129)	(6,000)	(6,600
Operating Profit		11,399	16,435	22,308	26,201	38,504
Net Interest		(287)	(818)	(1,005)	(1,740)	(1,000
FOREX		(1,737)	(3,623)	791	(1,159)	FO 444
Profit Before Tax (norm)		14,804	23,097	37,911	41,001	52,419
Profit Before Tax (FRS 3)		9,375	11,994	22,094	23,302	37,504
Tax		(3,223)	(4,731)	(7,191)	(7,585)	(9,435
Profit After Tax (norm)		11,581	18,366	30,720	33,416	42,983
Profit After Tax (FRS 3)		6,152	7,263	14,903	15,717	28,068
Average Number of Shares Outstanding (m)		55.9	58.7	64.3	65.3	65.4
EPS (c)		20.8	31.3	41.8	46.8	65.8
EPS - normalised (c)		20.2	30.0	40.1	46.0	64.8
EPS - (IFRS) (c)		11.0	12.4	23.2	24.1	42.9
Dividend per share (p)		1.33	1.46	1.61	1.77	1.9
Gross Margin (%)		37.9%	36.4%	38.2%	37.1%	37.3%
EBITDA Margin (%)		17.4%	17.6%	17.6%	15.2%	16.3%
Operating Margin (before GW and except.) (%)		15.6%	15.8%	15.5%	13.1%	14.2%
BALANCE SHEET						
Fixed Assets		61,873	142,927	198,215	223,669	222,865
Intangible Assets		55,495	131,610	180,086	197,727	189,696
Tangible Assets		5,498	10,111	15,002	22,975	30,202
Investments		880	1,206	3,127	2,967	2,96
Current Assets		38,677	80,182	100,349	107,916	145,35
Stocks		0	0	0	0	(
Debtors		13,879	27,473	37,019	48,125	55,343
Cash		17,020	30,374	39,871	29,295	54,942
Other		7,778	22,335	23,459	30,497	35,07
Current Liabilities		(27,830)	(51,677)	(95,031)	(83,595)	(84,279
Creditors		(19,805)	(32,734)	(54,960)	(36,523)	(37,207
Short term borrowings		(8,025)	(18,943)	(40,071)	(47,072)	(47,072
Long Term Liabilities		(6,016)	(10,420)	(11,158)	(11,703)	(10,718
Long term borrowings		(345)	(337)	(230)	(230)	(230
Other long term liabilities		(5,671)	(10,083)	(10,928)	(11,473)	(10,488
Net Assets		66,704	161,012	192,375	236,288	273,225
CASH FLOW						
Operating Cash Flow		17,108	21,389	38,481	41,278	58,069
Net Interest		(58)	(253)	(502)	(7,542)	(6,394
Tax		(2,129)	(4,731)	(6,304)	(7,585)	(9,435
Capex		(2,306)	(3,803)	(9,440)	(14,572)	(15,000
Acquisitions/disposals		(21,104)	(90,090)	(30,296)	(28,000)	(316
Financing		643	82,936	174	0	(4.070
Dividends		(825)	(867)	(1,080)	(1,155)	(1,276
Net Cash Flow		(8,671)	4,581	(9,919)	(17,577)	25,64
Opening net debt/(cash)		(17,284)	(8,650)	(11,094)	423	18,00
Forex gain on cash		1	(891)	(3)	0	
Other		36	(1,246)	(1,596)	0	(7.047
Closing net debt/(cash)		(8,650)	(11,094)	423	18,000	(7,647



General disclaimer and copyright

This report has been commissioned by Keywords Studios and prepared and issued by Edison, in consideration of a fee payable by Keywords Studios. Edison Investment Research standard fees are £49,500 pa for the production and broad dissemination of a detailed note (Outlook) following by regular (typically quarterly) update notes. Fees are paid upfront in cash without recourse. Edison may seek additional fees for the provision of roadshows and related IR services for the client but does not get remunerated for any investment banking services. We never take payment in stock, options or warrants for any of our services.

Accuracy of content: All information used in the publication of this report has been compiled from publicly available sources that are believed to be reliable, however we do not guarantee the accuracy or completeness of this report and have not sought for this information to be independently verified. Opinions contained in this report represent those of the research department of Edison at the time of publication. Forward-looking information or statements in this report contain information that is based on assumptions, forecasts of future results, estimates of amounts not yet determinable, and therefore involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of their subject matter to be materially different from current expectations.

Exclusion of Liability: To the fullest extent allowed by law, Edison shall not be liable for any direct, indirect or consequential losses, loss of profits, damages, costs or expenses incurred or suffered by you arising out or in connection with the access to, use of or reliance on any information contained on this note.

No personalised advice: The information that we provide should not be construed in any manner whatsoever as, personalised advice. Also, the information provided by us should not be construed by any subscriber or prospective subscriber as Edison's solicitation to effect, or attempt to effect, any transaction in a security. The securities described in the report may not be eligible for sale in all jurisdictions or to certain categories of investors.

Investment in securities mentioned: Edison has a restrictive policy relating to personal dealing and conflicts of interest. Edison Group does not conduct any investment business and, accordingly, does not itself hold any positions in the securities mentioned in this report. However, the respective directors, officers, employees and contractors of Edison may have a position in any or related securities mentioned in this report, subject to Edison's policies on personal dealing and conflicts of interest.

Copyright: Copyright 2020 Edison Investment Research Limited (Edison). All rights reserved FTSE International Limited ("FTSE") © FTSE 2020. "FTSE®" is a trade mark of the London Stock Exchange Group companies and is used by FTSE International Limited under license. All rights in the FTSE indices and/or FTSE ratings vest in FTSE and/or its licensors. Neither FTSE nor its licensors accept any liability for any errors or omissions in the FTSE indices and/or FTSE ratings or underlying data. No further distribution of FTSE Data is permitted without FTSE's express written consent.

Australia

Edison Investment Research Pty Ltd (Edison AU) is the Australian subsidiary of Edison. Edison AU is a Corporate Authorised Representative (1252501) of Crown Wealth Group Pty Ltd who holds an Australian Financial Services Licence (Number: 494274). This research is issued in Australia by Edison AU and any access to it, is intended only for "wholesale clients" within the meaning of the Corporations Act 2001 of Australia. Any advice given by Edison AU is general advice only and does not take into account your personal circumstances, needs or objectives. You should, before acting on this advice, consider the appropriateness of the advice, having regard to your objectives, financial situation and needs. If our advice relates to the acquisition, or possible acquisition, of a particular financial product you should read any relevant Product Disclosure Statement or like instrument.

New Zealand

The research in this document is intended for New Zealand resident professional financial advisers or brokers (for use in their roles as financial advisers or brokers) and habitual investors who are "wholesale clients" for the purpose of the Financial Advisers Act 2008 (FAA) (as described in sections 5(c) (1)(a), (b) and (c) of the FAA). This is not a solicitation or inducement to buy, sell, subscribe, or underwrite any securities mentioned or in the topic of this document. For the purpose of the FAA, the content of this report is of a general nature, is intended as a source of general information only and is not intended to constitute a recommendation or opinion in relation to acquiring or disposing (including refraining from acquiring or disposing) of securities. The distribution of this document is not a "personalised service" and, to the extent that it contains any financial advice, is intended only as a "class service" provided by Edison within the meaning of the FAA (i.e. without taking into account the particular financial situation or goals of any person). As such, it should not be relied upon in making an investment decision.

United Kingdom

This document is prepared and provided by Edison for information purposes only and should not be construed as an offer or solicitation for investment in any securities mentioned or in the topic of this document. A marketing communication under FCA Rules, this document has not been prepared in accordance with the legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research.

This Communication is being distributed in the United Kingdom and is directed only at (i) persons having professional experience in matters relating to investments, i.e. investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "FPO") (ii) high net-worth companies, unincorporated associations or other bodies within the meaning of Article 49 of the FPO and (iii) persons to whom it is otherwise lawful to distribute it. The investment activity to which this document relates is available only to such persons. It is not intended that this document distributed or passed on, directly or indirectly, to any other class of persons and in any event and under no circumstances should persons of any other description rely on or act upon the contents of this document.

This Communication is being supplied to you solely for your information and may not be reproduced by, further distributed to or published in whole or in part by, any other person

United States

Edison relies upon the "publishers' exclusion" from the definition of investment adviser under Section 202(a)(11) of the Investment Advisers Act of 1940 and corresponding state securities laws. This report is a bona fide publication of general and regular circulation offering impersonal investment-related advice, not tailored to a specific investment portfolio or the needs of current and/or prospective subscribers. As such, Edison does not offer or provide personal advice and the research provided is for informational purposes only. No mention of a particular security in this report constitutes a recommendation to buy, sell or hold that or any security, or that any particular security, portfolio of securities, transaction or investment strategy is suitable for any specific person.