

Speculative
See key risks on page 7.
Speculative securities may not be suitable for Retail clients

Analyst
Stuart Howe 613 9235 1856
Associate Analyst
Joseph House 613 9235 1624

Authorisation
Peter Arden 613 9235 1833

Alpha HPA (A4N)

HPA product suite & applications grow

Recommendation
Buy (unchanged)
Price
\$0.295
Valuation
\$0.42 (previously \$0.35)
Risk
Speculative

GICS Sector
Materials

Expected Return	
Capital growth	42%
Dividend yield	0%
Total expected return	42%

Company Data & Ratios	
Enterprise value	\$195m
Market cap	\$201m
Issued capital	680m
Free float	85%
Avg. daily val. (52wk)	\$224,316
12 month price range	\$0.086-\$0.375

Price Performance			
	(1m)	(3m)	(12m)
Price (A\$)	0.23	0.23	0.15
Absolute (%)	31.1	31.1	96.7
Rel market (%)	29.0	31.3	105.8



HPA First project yields more products with more uses

A4N continues to grow the product suite potential from its HPA First Project and demonstrate the benefits of these products across a range of lithium ion battery and LED lighting applications. The potential product range now includes 99.99% (4N) high purity alumina (HPA), boehmite and two high-purity aluminium pre-cursors. These high purity products have been shown to improve product performance or manufacturing processes in each application. To recognise this project de-risking, we have increased our A4N valuation to \$0.42/sh (previously \$0.35/sh).

Market outreach supports strong demand outlook

A4N is sending product samples to potential customers in Germany, South Korea, Taiwan and the USA. Through its market outreach program, A4N is interacting with the majority of the major global lithium ion battery or cathode manufacturers. A4N has commenced discussion with product wholesalers in the USA and Taiwan. The company's commercial arrangement with battery commodities group Traxys North America now covers A4N's full product suite. A4N's next challenge is to progress market outreach discussions to binding offtake agreements.

Orica exclusivity extended to support definitive agreement

Orica Ltd (ORI) and A4N are progressing towards a definitive agreement with respect to HPA First process reagent supply and by-product offtake. Requiring more time, both groups have mutually agreed to extend the exclusivity arrangement within their Memorandum of Understanding (MoU) by two months to 31 December 2020.

Investment thesis: Speculative Buy, Valuation \$0.42/sh

Our Buy, Speculative recommendation is supported by the potential for A4N's HPA First Project to generate significant free cash flow through supplying 4N HPA and other high-purity alumina products to the lithium-ion battery manufacturing sector. The HPA First technology has passed rigorous due diligence by third party technical consultants and has attracted the attention of leading battery material supply chain participants. A4N provides value leverage to the electric vehicle and renewable energy sectors. Our A4N risked and diluted A4N valuation is \$0.42/sh (previously \$0.35/sh).

A4N is a development company with prospective operations and cash flows only. Our Speculative risk rating recognises this higher level of risk and volatility of returns.

Earnings Forecast				
Year ending 30 June	2021e	2022e	2023e	2024e
Sales (A\$m)	-	-	57	197
EBITDA (A\$m)	(2)	(2)	27	123
NPAT (reported) (A\$m)	(2)	(16)	(1)	67
NPAT (adjusted) (A\$m)	(2)	(16)	(1)	67
EPS (adjusted) (cps)	(0.2)	(1.3)	(0.1)	5.5
EPS growth (%)	na	na	na	na
PER (x)	-139.6x	-22.6x	nm	5.4x
FCF Yield (%)	-38%	-64%	-3%	12%
EV/EBITDA (x)	-97.7x	-97.7x	7.2x	1.6x
Dividend (cps)	-	-	-	3.0
Yield (%)	0%	0%	0%	10%
Franking (%)	-	-	-	-
ROE (%)	-2%	-10%	0%	41%

SOURCE: BELL POTTER SECURITIES ESTIMATES

HPA product suite & applications grow

Market outreach continues to de-risk the HPA First Project

A4N continue to de-risk its 100% owned HPA First Project. Recent market outreach has identified more potential marketable products from the HPA First process and additional high-value applications in lithium ion battery and LED lighting manufacturing. More products with more applications have the potential to diversify the HPA First Project's revenue stream and, with refinements to the definitive feasibility study, lower the project's initial capital requirements and overall risk.

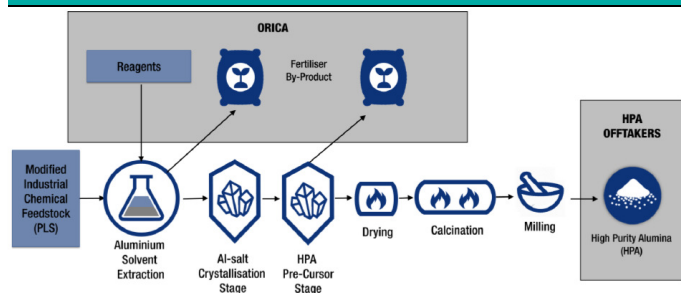
HPA First Project expanded product suite & applications

The HPA First Project potential product suite now includes:

- 4N HPA – Used in the manufacture of lithium ion batteries (ceramic coated separators) and sapphire glass for LED lighting;
- Boehmite – an alternative product used in ceramic coated separators and electrodes within lithium ion batteries;
- 5N (99.999%) purity aluminium pre-cursor products – with applications in alumina coating of cathode and anode particles in lithium ion batteries and in aluminate phosphors in the manufacture of white LED lights.

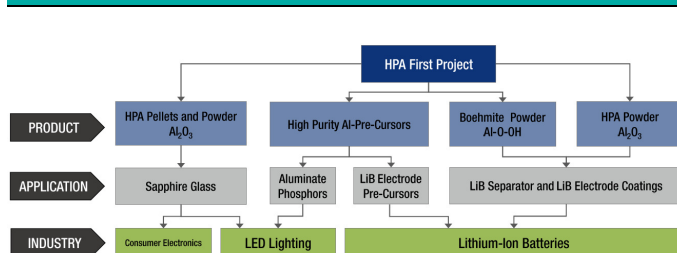
Importantly, within the HPA First process, the aluminium pre-cursor products are produced at an earlier stage. Refinements to the current HPA First definitive feasibility study (DFS) may result in less capital equipment and therefore a lower capital cost and higher project returns. The March 2020 DFS outlined a 10,000tpa 4N HPA project with a capital cost of \$308m and pre-tax annual cash flow of \$133-280m.

Figure 1 - HPA First – process flow sheet



SOURCE: A4N

Figure 2 - HPA First – product suite & applications



SOURCE: A4N

Recent HPA First market outreach outcomes

Recent market outreach results across A4N's entire suite of potential products include:

- The first of two 2.5kg HPA pellet test orders have been shipped to a South Korean sapphire glass manufacturer where end-products are used in LED lighting applications.
- Preparation of a larger HPA pellet test order for a USA-based sapphire glass manufacturer.
- Shipment of three separate products, including 5N aluminium pre-cursor, to a leading Germany based LED phosphor developer and manufacturer.

- Commencement of discussions with high-purity product wholesalers in the USA and Taiwan, with initial 5N pre-cursor product samples despatched to the US-based wholesaler for end-customer evaluation.
- Extension of global market outreach agreement with Traxys North America to cover the full HPA First Project product suite.

Research confirms HPA in battery cathodes improves capacity

A4N has also completed research alongside specialist battery product groups whereby battery cathodes were impregnated with HPA manufactured at A4N's pilot plant in Brisbane. Testing confirmed that there were material improvements in cell discharge capacity using HPA introduced to the cathode slurry.

Land use approval application to be lodged this week

A4N expect to lodge the State Development Area Approval (Development Permit) with the Queensland Department of the Co-ordinator General, with respect to the HPA First Project site in Gladstone this week. Permitting consultant AECOM have assisted with technical assessments covering the project's impact on local air quality, noise, traffic, water and ecology.

An approval decision for the Development Permit is expected in the March 2021 quarter. The Development Permit precedes lodging of an Environmental Authority Application with the Department of Environment and Science.

The HPA First final investment decision is expected in 2021. A4N have sought expressions of interest from Engineering, Procurement and Construction Management contractors in preparation for a tender process and allotment of key contracts in the March 2021 quarter.

Orica partnering progresses; exclusivity period extended

ORI and A4N's exclusivity under the MoU for a definitive HPA First process reagent supply and by-product offtake agreement has been extended to 31 December 2020 (previously 31 October 2020). Both groups are working through various work flows relating to the HPA First Project's interface with existing ORI facilities, by-product test work, quality assurance and engineering studies. ORI and A4N have mutually agreed that more time is required to reach a definitive agreement.

Near term news flow & value catalysts

- Ongoing discussions and potential signing of offtake agreements with end-users in the lithium-ion battery and LED light manufacturing sectors.
- Agreement and completion of a definitive and binding Supply and Offtake Agreement with ORI. We expect an agreement prior to the completion of the Orica MOU exclusivity period on 31 December 2020.
- Announcement of further details on the progress of definitive agreements with Traxys on various commercial and financing components of the HPA First Project.
- Continued efficiency and operational improvements in the pilot plant operating at higher throughput and assay results on pre-cursor and final HPA product.
- Commencement of detailed post-DFS front-end engineering design (FEED) in preparation for engineering, procurement, construction management (EPCM) tendering.

- Environmental and other statutory permitting approvals for the construction of the HPA First Project facility and the required connecting pipeline infrastructure to the chemical counterparty.

Quarterly cash flow summary

At 30 September 2020, A4N had cash of \$5.4m and no debt.

Table 1 - Quarterly cash flow summary \$k

Quarter ending	Mar-18	Jun-18	Sep-18	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20
Development	-568	-711	-681	-604	-263	-774	-1,216	-1,201	-1,908	-871	-2,014
Staff, administration & corporate	-412	-323	-398	-267	-400	-551	-598	-479	-586	-372	-618
R&D refunds	0	0	0	0	0	0	234	684	0	0	0
Other operating	-207	-59	14	11	8	5	106	106	6	3	22
Total operating cash flows	-1,187	-1,093	-1,065	-860	-655	-1,320	-1,474	-890	-2,488	-1,240	-2,610
Total investing cash flows	0	0	50	100	0	0	0	0	0	0	0
Proceeds from shares net of costs	0	0	3,927	-17	0	0	4,424	2,076	0	7,000	0
Other financing cash flows	18	0	83	99	35	28	40	39	37	-231	31
Total financing cash flows	18	0	4,010	82	35	28	4,464	2,115	37	6,769	31
Beginning cash balance	2,615	1,446	353	3,282	2,604	1,984	692	3,682	4,907	2,456	7,984
Total change in cash	-1,169	-1,093	2,995	-678	-620	-1,292	2,990	1,225	-2,451	5,529	-2,579
Ending cash balance	1,446	353	3,282	2,604	1,984	692	3,682	4,907	2,456	7,984	5,405

SOURCE: COMPANY DATA AND BELL POTTER SECURITIES ESTIMATES

Risked & diluted valuation summary

Our base-case risked and diluted A4N valuation is now \$0.42/sh (previously \$0.35/sh).

This valuation considers the risks and dilution required to generate cash flow for shareholders from A4N's HPA First Project.

In this report we have:

- Reduced the risk discount applied to our HPA First Project NPV to 20% (previously 30%). This risk reduction is on the basis that, since our earlier assessment, the HPA First Project is likely to have a more diversified product suite and customer base than previously anticipated.
- Increased the EV/EBITDA multiple applied to steady state earnings to 7.0x (previously 6.5x), in line with regional commodity chemical company peers.

Our A4N valuation is the balance of:

- **Earnings multiple valuation:** Applies an EV/EBITDA multiple of 7.0x to our estimate of A4N's future steady-state pre-tax cash flow. This multiple is informed by the multiples of chemical manufacturing companies listed on both the ASX and globally. We have discounted this EV multiple valuation to account for the time to steady-state earnings and subtracted the DFS estimate of the HPA First Project's capital cost.
- **Project NPV (unrisked):** Assesses a 20-year project with start-up capital of \$308m and annual EBITDA averaging \$183m (base case). We assume a discount rate of 12% and other parameters consistent with the HPA First Project DFS.
- **Permitting and construction risks:** Consistent with projects of this maturity (i.e. DFS stage), we have applied a discount to the project NPV of 20% to account for construction, permitting and counterparty risks.
- **Financing risks and capital dilution:** We have included the dilution from A4N's in-the-money options and a \$5m equity raising at a 15% discount to the current share price.

Table 2 - Risked & diluted valuation				
Valuation case		Bear case	Base case	Bull case
4N HPA price assumption US\$/t		US\$15,000/t	US\$20,000/t	US\$25,000/t
Discount rate	12%			
Exchange rate US\$/A\$ (long term)	0.74			
EV/EBITDA multiple valuation				
EBITDA/year (steady state) \$m		115	183	250
EV/EBITDA multiple	7.0x			
EV T=0 \$m		808	1,280	1,753
Years to steady state	5.0			
Time discount multiple x	0.57x			
EV at T-5 \$m, before capital costs		458	727	995
Less: Project capital cost (undiscounted) \$m	308			
EV from EV/EBITDA method \$m		150	419	687
EV from NPV method \$m		91	346	602
Blended project value (50% NPV, 50% EV/EBITDA) \$m		121	382	644
PV future corporate / admin expenses \$m	-\$16.7m			
Risk discount to account for project stage % / \$m	20%	-24	-76	-129
EV (risked) A\$m		80	289	499
Net debt / (cash) \$m	-\$5.4m			
Equity value (risked, undiluted) \$m		85	295	504
Assumed capital raise \$m	\$5.0m			
Assumed raise price \$/sh (15% discount)	\$0.25/sh			
Current shares on issue m	680			
In the money options m	27			
Assumed capital raising dilution m	20			
Diluted shares on issue m	727			
Net debt / (cash) (including options & raising) A\$m	-\$15.2m			
Equity value (risked, diluted) \$m		95	305	514
Equity value (risked, diluted) \$/sh		0.14	0.42	0.71
Current share price	\$0.30/sh			
Valuation/Price		0.5x	1.4x	2.4x

SOURCE: COMPANY DATA AND BELL POTTER SECURITIES ESTIMATES

Alpha HPA Ltd summary

Company description

A4N's HPA First Project is aiming to supply high-purity alumina (HPA) at a purity of greater than 99.99% (or 4N) to the lithium-ion battery and light emitting diode (LED) manufacturing sectors. The project's proprietary technology is expected to disrupt incumbent HPA production through significantly lower unit costs. Results of a definitive feasibility study (DFS) announced in March 2020 outlined a 10,000tpa 4N HPA project with a capital cost of \$308m and pre-tax annual cash flow of \$133-280m at 4N HPA prices ranging US\$15,000-25,000/t (prices are currently around \$24,000/t).

HPA First is a solvent extraction process using an aluminium chemical feedstock purchased on globally traded markets. Orica Ltd (ORI) and A4N are advancing a definitive agreement for ORI's supply of process reagents and for by-product offtake. This agreement has required significant third party due diligence of the HPA First process. A 20-year partnership between A4N and ORI is being considered.

Investment thesis: Speculative Buy, Valuation \$0.42/sh

Our Buy, Speculative recommendation is supported by the potential for A4N's HPA First Project to generate significant free cash flow through supplying 4N HPA and other high-purity aluminium products to the lithium-ion battery manufacturing sector. The HPA First technology has passed rigorous due diligence by third party technical consultants and has attracted the attention of leading battery material supply chain participants. A4N provides value leverage to the electric vehicle and renewable energy sectors. Our A4N risked and diluted A4N valuation is \$0.42/sh (previously \$0.35/sh).

A4N is a development company with prospective operations and cash flows only. Our Speculative risk rating recognises this higher level of risk and volatility of returns.

Valuation methodology

We have modelled the HPA First Project using assumptions consistent with the March 2020 DFS. We have employed a blended valuation of:

- EV/EBITDA multiple applied to steady state earnings, discounted to present value, less a capital cost assumption; and
- NPV of a 20 year project (consistent with expected ORI agreement).

Other adjustments to our valuation include:

- A 20% risk discount to account for project stage;
- An allowance for corporate and administration costs;
- The conversion of in-the-money options; and
- A \$5m capital raise before the end of June 2021 at a 15% discount to the current share price for corporate working capital purposes.

Risks

Risk to an investment in A4N include, but are not limited to:

- **Commodity price and exchange rate fluctuations.** The future earnings and valuations of development and operating assets and companies are subject to fluctuations in underlying commodity prices and foreign currency exchange rates.
- **Technology:** Projects may be reliant on commercialisation of new production processes and methodologies which have yet been proven on a large scale. Technology may be replicated by competitors resulting in a loss of market share.
- **Infrastructure access.** Projects are reliant upon access to transport and pipeline infrastructure. Access to infrastructure is often subject to contractual agreements, permits and capacity allocations. Agreements are typically long-term in nature. Infrastructure can be subject to outages as a result of weather events or the actions of third party providers.
- **Operating and capital cost fluctuations.** Markets for raw material inputs and labour can fluctuate and cause significant differences between planned and actual operating and capital costs. Key operating costs are linked to commodity and labour markets. Companies are also exposed to costs associated with future land rehabilitation.
- **Sovereign risks.** Companies' assets are subject to the sovereign risk of the country of location and may also be exposed to the sovereign risks of major offtake customers.
- **Regulatory changes.** Changes to the regulation of infrastructure and taxation (among other things) can impact the earnings and valuations of companies.
- **Environmental risks.** Companies are exposed to risks associated with environmental degradation as a result of their production processes.
- **Operating and development risks.** Companies' assets are subject to risks associated with their operation and development. Development assets can be subject to approvals timelines or weather events, causing delays to commissioning and commercial production.
- **Occupational health and safety (OH&S) risks.** Companies are exposed to OH&S risks.
- **Funding and capital management risks.** Funding and capital management risks can include access to debt and equity finance, maintaining covenants on debt finance, managing dividend payments and managing debt repayments.
- **Merger/acquisition risks.** Risks associated with value transferred during merger and acquisition activity.
- **Impact of pandemic infection such as Coronavirus disease (COVID-19).** This may have an adverse impact on the macro economic factors, including the mobility of labour, which can impact asset valuations.

Table 3 - Financial summary

Date	28/10/20					Bell Potter Securities								
Price	A\$/sh	0.295		Stuart Howe (showe@bellpotter.com.au, +61 3 9235 1856)										
Valuation	A\$/sh	0.42												
PROFIT AND LOSS							FINANCIAL RATIOS							
Year ending 30 June	Unit	2020a	2021e	2022e	2023e	2024e	Year ending 30 June	Unit	2020a	2021e	2022e	2023e	2024e	
Revenue	\$m	0	-	-	57	197	VALUATION							
Expenses	\$m	(10)	(2)	(2)	(30)	(74)	EPS	Ac/sh	(2)	(0)	(1)	(0)	5	
EBITDA	\$m	(10)	(2)	(2)	27	123	EPS growth (Acps)	%	na	na	na	na	na	
Depreciation & amortisation	\$m	(0)	-	(8)	(16)	(16)	PER	x	-19.7x	-139.6x	-22.6x	-542.3x	5.4x	
EBIT	\$m	(10)	(2)	(10)	11	107	DPS	Ac/sh	-	-	-	-	3.0	
Net interest expense	\$m	0	-	(6)	(12)	(12)	Franking	%	0%	0%	0%	0%	0%	
Profit before tax	\$m	(10)	(2)	(16)	(1)	95	Yield	%	0%	0%	0%	0%	10%	
Tax expense	\$m	-	-	-	-	(29)	FCF/share	Ac/sh	(0.9)	(11.2)	(18.9)	(0.8)	3.5	
NPAT (reported)	\$m	(10)	(2)	(16)	(1)	67	FCF yield	%	-3%	-38%	-64%	-3%	12%	
NPAT (adjusted)	\$m	(10)	(2)	(16)	(1)	67	EV/EBITDA	x	-20.4x	-97.7x	-97.7x	7.2x	1.6x	
CASH FLOW STATEMENT							LIQUIDITY & LEVERAGE							
Year ending 30 June	Unit	2020a	2021e	2022e	2023e	2024e	Net debt / (cash)	\$m	(8)	(59)	171	181	175	
OPERATING CASH FLOW							Net debt / Equity	%	-76%	-36%	114%	121%	98%	
Receipts from customers	\$m	-	0	-	45	169	Net debt / Net debt + Equity	%	-325%	-55%	53%	55%	49%	
Payments to suppliers and employees	\$m	(2)	(2)	(2)	(27)	(70)	Net debt / EBITDA	x	0.8x	29.4x	-85.4x	6.7x	1.4x	
Tax paid	\$m	-	-	-	-	(29)	EBITDA / net int expense	x	261.6x	0.0x	-0.3x	2.3x	10.2x	
Net interest	\$m	0	-	(6)	(12)	(12)	PROFITABILITY RATIOS							
Other	\$m	1	-	-	-	-	EBITDA margin	%	-3083%	na	na	48%	62%	
Operating cash flow	\$m	(0)	(2)	(8)	7	59	EBIT margin	%	-3083%	na	na	20%	54%	
INVESTING CASH FLOW							Return on assets	%	-121%	-2%	-6%	0%	18%	
Capex	\$m	(5)	(104)	(222)	(16)	(16)	Return on equity	%	-131%	-2%	-10%	0%	41%	
Acquisitions	\$m	(0)	-	-	-	-	ASSUMPTIONS - Prices (nominal)							
Other	\$m	(0)	-	-	-	-	Year ending 30 June	Unit	2020a	2021e	2022e	2023e	2024e	
Investing cash flow	\$m	(5)	(104)	(222)	(16)	(16)	4N HPA price	US\$/t	20,000	20,000	20,000	20,000	20,000	
FINANCING CASH FLOW							4N HPA price	A\$/t	29,100	28,571	27,586	27,211	27,027	
Debt proceeds/(repayments)	\$m	-	-	200	-	-	FX	US\$/A\$	0.69	0.70	0.73	0.74	0.74	
Dividends paid	\$m	-	-	-	-	(36)	ASSUMPTIONS - Sales (equity)							
Proceeds from share issues (net)	\$m	13	157	-	-	-	Year ending 30 June	Unit	2018a	2019a	2020e	2021e	2022e	
Other	\$m	0	-	-	-	-	4N HPA sales	kt	-	-	-	2.10	7.30	
Financing cash flow	\$m	13	157	200	-	(36)	VALUATION - BASE CASE							
Change in cash	\$m	7	51	(30)	(10)	6	HPA First Project (unrisked)							
Free cash flow	\$m	(6)	(106)	(230)	(10)	42	Multiple valuation (EV/EBITDA) x / \$m						7.0x	419
BALANCE SHEET							NPV \$m						346	
Year ending 30 June	Unit	2020a	2021e	2022e	2023e	2024e	Blended project value (50% NPV, 50% EV/EBITDA) \$m							382
ASSETS							Risk discount to account for project stage % / \$m						20%	(76)
Cash	\$m	8	59	29	19	25	PV future corporate / admin expenses \$m						(17)	
Receivables	\$m	0	-	-	11	39	A4N risked EV							289
Inventories	\$m	-	0	0	3	7	Assumed capital raise \$m						\$5.0m	
Capital assets	\$m	3	106	320	321	321	Assumed raise price \$/sh (15% discount)						\$0.25/sh	
Other assets	\$m	0	0	0	0	0	Current shares on issue m						680	
Total assets	\$m	11	166	350	355	394	In the money options m						27	
LIABILITIES							Assumed capital raising dilution m						20	
Creditors	\$m	1	0	0	6	15	Diluted shares on issue m							727
Borrowings	\$m	-	-	200	200	200	Net debt / (cash) (including options & raising) A\$m						(15)	
Provisions	\$m	-	-	-	-	-	Equity value (risked, diluted) \$m							305
Other liabilities	\$m	-	-	-	-	-	Equity value (risked, diluted) \$/sh							0.42
Total liabilities	\$m	1	0	200	206	215								
NET ASSETS														
Share capital	\$m	48	205	205	205	205								
Reserves	\$m	4	4	4	4	4								
Accumulated losses	\$m	(41)	(43)	(59)	(59)	(29)								
Non-controlling interest	\$m	(1)	(1)	(1)	(1)	(1)								
SHAREHOLDER EQUITY	\$m	10	165	149	149	179								
Weighted average shares	m	624	946	1,212	1,212	1,212								

SOURCE: BELL POTTER SECURITIES ESTIMATES

Recommendation structure

Buy: Expect >15% total return on a 12 month view. For stocks regarded as 'Speculative' a return of >30% is expected.

Hold: Expect total return between -5% and 15% on a 12 month view

Sell: Expect <-5% total return on a 12 month view

Speculative Investments are either start-up enterprises with nil or only prospective operations or recently commenced operations with only forecast cash flows, or companies that have commenced operations or have been in operation for some time but have only forecast cash flows and/or a stressed balance sheet.

Such investments may carry an exceptionally high level of capital risk and volatility of returns.

Research Team

Staff Member	Title/Sector	Phone	@bellpotter.com.au
TS Lim	Joint Head of Research/Banks	612 8224 2810	tslim
Chris Savage	Joint Head of Research/Industrials	612 8224 2835	csavage
Analysts			
Lafitani Sotiriou	Diversified Financials/Fintech	613 9235 1668	lsotiriou
John Hester	Healthcare	612 8224 2871	jhester
Tanushree Jain	Healthcare	612 8224 2849	tnjain
Elyse Shapiro	Healthcare	613 9235 1877	eshapiro
Steven Anastasiou	Industrials	613 9235 1952	sanastasiou
James Filius	Industrials	613 9235 1612	jfilius
Sam Haddad	Industrials	612 8224 2819	shaddad
Alex McLean	Industrials	612 8224 2886	amclean
Hamish Murray	Industrials	613 9235 1813	hmurray
Jonathan Snape	Industrials	613 9235 1601	jsnape
Damien Williamson	Industrials	613 9235 1958	dwilliamson
Peter Arden	Resources	613 9235 1833	parden
David Coates	Resources	612 8224 2887	dcoates
Stuart Howe	Resources	613 9235 1856	showe
Associate			
Joseph House	Associate Analyst	+61 3 9235 1624	jhouse

Bell Potter Securities Limited
ACN 25 006 390 7721
Level 29, 101 Collins Street
Melbourne, Victoria, 3000
Telephone +61 3 9256 8700
www.bellpotter.com.au

Bell Potter Securities (HK) Limited
Room 1701, 17/F
Prosperity Tower, 39 Queens Road
Central, Hong Kong, 0000
Telephone +852 3750 8400

Bell Potter Securities (US) LLC
Floor 39
444 Madison Avenue, New York
NY 10022, U.S.A
Telephone +1 917 819 1410

Bell Potter Securities (UK) Limited
16 Berkeley Street
London, England
W1J 8DZ, United Kingdom
Telephone +44 7734 2929

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