

Overweight
Price Target:
AU\$3.00

PYX Resources: Substantially De-risked as a Result of Recent Fundraiser and Announcement of Potential London Stock Exchange Secondary Listing

PYX Resources Limited (“PYX”) is a leading and fast-growing premium zircon producer with tremendous potential to grow output and enhance profitability. After the acquisition of Tisma mineral sands deposit (“Tisma”), PYX now possesses the 2nd largest zircon producing resource base in the world. PYX recently raised AU\$11.2 million via a private share placement. The proceeds from the placement will be used to accelerate the development of the Tisma tenement. Thus far in 2021, PYX has already increased the price of its premium zircon for three times by a total of US\$355 per tonne. Besides that, PYX is exploring the possibility of a dual listing on the Main Market of the London Stock Exchange, which will not only enhance the company's profile internationally but also improve the liquidity of its shares. We believe PYX has great potential and will continue increasing extraction and production of premium zircon to meet the fast-growing global demand during the post-COVID-19 economic recovery.

Recommendation Summary

- We continue our coverage of and **reiterate an Overweight rating** on PYX (NSX: PYX) as well as increasing our **12- to 18-month price target from AU\$2.50 to AU\$3.00**, representing a potential upside of around 165% over the closing price of AU\$1.13 as of 23 June 2021.
- PYX is a leading premium-zircon producer worldwide. Importantly, its resource base has the **highest weighted average heavy mineral (“HM”) assemblage value in the industry**. Recent acquisition of Tisma boosts PYX’s contained zircon resources by 75%, resulting in PYX being the producing mineral sands company in the world with the second-largest JORC-compliant zircon resources. According to our analysis, HM assemblage value is **highly correlated with market valuation** of a mineral sands producer; therefore, we expect PYX to trade at the high end of the valuation range of its peer group on a per tonne of HM resource basis at least in the short run.
- **So far in 2021, PYX has already raised the price of its premium zircon for three times** amid the current strong up-cycle of the mineral sands industry. Specifically, an increase of US\$75 per tonne in March was followed by US\$70 per tonne in May and another US\$210 per tonne raise in June for its July shipments for a **total increase of US\$355 per tonne to date in 2021**.
- **PYX has completed a private share placement, raising AU\$11.2 million (before expenses)**, which will be used for the development of its newly acquired Tisma tenement to satisfy especially the growing demand from high-tech applications. The successful fundraising is a solid endorsement of PYX’s business strategy as a leading premium zircon developer, the financial performance of the company and its business prospects.



Share Price (as of 23 June 2021):

AU\$1.13

12- to 18-month Target Price: **AU\$3.00**

Market Cap (as of 23 June 2021):

AU\$485.4M

Total Shares: 429.5M

Dividend and Yield: N/A

Financial Data (2020):

Revenue: US\$8.96M

Revenue Growth (yoy): ~31%

Gross Profit Margin: 14.8%

EPS: N/A

Trailing P/E: N/A

- To meet the increased interest for owning a stake in the company from family offices and institutional investors in Europe, **PYX is exploring the possibility of a dual listing on the Main Market of the London Stock Exchange (“LSE”)**. A potential LSE listing would allow PYX to diversify and expand its investor base, make it easier for new shareholders to participate in the growth of PYX and enhance the liquidity of the company’s shares that benefits existing stakeholders.
- Our valuation is based on the company’s current 10.5 million tonnes of JORC-compliant contained zircon and 14.9 million tonnes of valuable HM, which are boosted by about 75% and 59% respectively following the Tisma acquisition.
- **The 20% increase in our 12- to 18-month target price to AU\$3.00 is justified** as PYX continues to raise its premium zircon prices, amid tightening supply alongside heightened demand, which will have a positive impact on its bottom line. In addition, the completion of the fundraiser lately together with the likelihood of a secondary listing on LSE has mitigated the investment risks associated with PYX. Furthermore, PYX’s diverse, blue-chip customer base has kept robust demand for the company’s premium zircon so that it achieved an annual revenue growth of almost 31% in 2020 despite the headwinds stemming from the COVID-19 pandemic. Lastly, we are confident in PYX management’s proficiency in view of its remarkable execution such as enhancement in operational efficiency and productivity.
- PYX’s latest operational highlights:
 - **Completed a private share placement and raised AU\$11.2 million** to strengthen its balance sheet and develop its newly acquired Tisma tenement in Kalimantan, Indonesia. We see PYX’s capacity expansion to go well as planned just in time to cater to growing demand. Upon completion of acquiring Tisma, PYX has witnessed a growing number of orders for its premium zircon due to its superior quality and unique whiteness;
 - **Raised the price of its premium zircon thrice to date in 2021** driven by persistent supply problems in South Africa and lack of inventories in China. Zircon price of its July shipments will be U\$1,750 per tonne after three increases so far this year for US\$355 per tonne in aggregate;
 - **About to start supplying its premium zircon to the highly-specialized fused zirconia industry in China.** Because of the premium quality of its zircon product, PYX has secured new business with Fujian Sanxiang Advanced Materials Co., Ltd. (“Fujian Sanxiang”), a leading producer of fused zirconia based in China. Fused zirconia can only be produced from premium zircon, and it is a crucial raw material for the production of zirconium metal, which is used in nuclear power and aerospace applications.
 - **Exploring whether due listing its shares on the Main Market of the London stock Exchange** while maintaining its primary listing on the National Stock Exchange of Australia (“NSX”). A natural resource-focused investment banking and brokerage firm has been appointed as the financial advisor and broker in associated with the potential LSE listing.
- Other noteworthy developments about PYX include the followings.
 - **Generally, there is a tightening of premium zircon supply globally**, triggered by the continued supply issues in South Africa, which is one of the major producing countries, and low inventory levels in China, the largest zircon consumer. Australian sales of heavy mineral concentrate (“HMC”) to China have created a further void of premium zircon in the market owing to trade barriers that China has imposed on Australia, leading to higher demand for zircon produced elsewhere like Indonesia where



PYX's Mandiri and Tisma deposits are located. Elevated market prices of PYX's premium zircon product due to supply constraints will benefit the company's earnings and eventually its share prices.

- **Mineral sands markets affected by initial lockdowns due to the novel coronavirus are recovering buoyed by pent-up demand as the majority of economies on earth are reopening.** We believe the company's longer-term prospects remain thriving. Our optimism is based on the expectations of ever-growing demand for zircon and titanium dioxide, increasing urbanization especially in the populous China and India, alongside the expected continuation of an upward price trajectory arising from the scarcity of zircon and the concentration of its supply.
- **Strong zircon pricing environment is expected to persist** in the medium to long term due to the ongoing shift to green energy, the relatively robust economic growth of the Chinese economy, and recovery of European economies picking up steam after more people in the region get vaccinated against COVID-19. All of the above contribute to heightened demand.

Note: Unless otherwise stated, AU\$1 = US\$0.75 throughout this report.

I. COMPANY UPDATE

Successfully raised AU\$11.2 million via a private share placement

PYX has raised capital in the amount of AU\$11.2 million before related expenses via a share placement to professional and sophisticated investors at AU\$1.03 per share. Approximately 10.9 million of new and fully-paid ordinary shares will be issued.

Proceeds from the placement will be used for the development of its newly acquired Tisma tenement, including investment in Tisma's in-house mining and the construction of a mineral separation plant and the necessary logistics in addition to general working capital purposes for the company.

We see the success of this transaction as a tangible endorsement by investors regarding PYX's business strategy to become the leading premium zircon producer. Based on strong sales volume growth, offtake agreements signed, and promising market conditions, PYX will continue scale up its production capacity, increase its zircon supply to the fused zirconia industry, as well as seeking other new end markets for its product.

Exploring the possibility of a dual listing on the main market of the London Stock Exchange

PYX's decision to explore the option of due listing its shares is prompted by growing interest from family offices and institutional investors in Europe in becoming shareholders of the company. LSE is chosen because it is a leading listing venue for natural resources companies and has a strong network of professionals from various fields with in-depth knowledge of the global mineral sands market.

PYX has appointed VSA Capital Limited ("VSA"), a natural-resource focused investment banking and broking firm, as its financial adviser and broker in connection with the potential LSE Listing. National Stock Exchange of Australia will remain the company's primary listing venue.

We are convinced that if listing on LSE becomes a reality, it would not only allow PYX to tap the largest stock exchange in Europe, new shareholders to capitalize on the growth of PYX's business but also benefit existing shareholders in terms of enhancing the liquidity and potentially the price of PYX shares.

Increased price of premium zircon thrice so far in 2021

With 2021 just about half-way through, PYX has already raised the price of its premium zircon three times for a total increase of US\$355 per tonne. The most recent US\$210 per tonne increase to US\$1,750 per tonne announced in June for July shipments is much larger than the previous two occasions of US\$75 per tonne and US\$70 per tonne, suggesting the imbalance of global premium zircon supply and demand is worsening.

We believe the frequent increases of PYX's zircon prices demonstrate more than just strong demand globally but also the increasing value of the company's unique mineral sands resources.

To start supplying its premium zircon to the fused zirconia industry in China

PYX has secured new business with Fujian Sanxiang Advanced Materials Co., Ltd. ("Fujian Sanxiang"), a leading Chinese producer of fused zirconia, which can only be produced from premium zircon. It is a notable accomplishment in view that fused zirconia is a critical raw material for the production of zirconium metal that is used in important applications of the growing nuclear power and aerospace industries. In addition, the

new business relationship further bolsters the company's market presence in China, which is the largest consumer of zircon, accounting for almost half the global consumption.

We are confident that PYX's supply of its premium zircon to this important niche market represents tremendous business opportunity ahead and validates the premier quality of its zircon product as well.

Zero COVID-19 case reported so far reflects solid corporate governance

Despite implementing comprehensive preventive measures against the new coronavirus, PYX has been able to keep pace with customers' demand and experienced no disruption to its production. Since the outbreak of the COVID-19 pandemic, there has been no COVID-19 case identified or lost-time injury recorded at PYX.

Overall, we believe the persistent price increases of its premium zircon and the success in its recent capital raising together with the potential dual listing will further alleviate investment risks pertaining to PYX.

II. MINERAL SANDS MARKET UPDATE

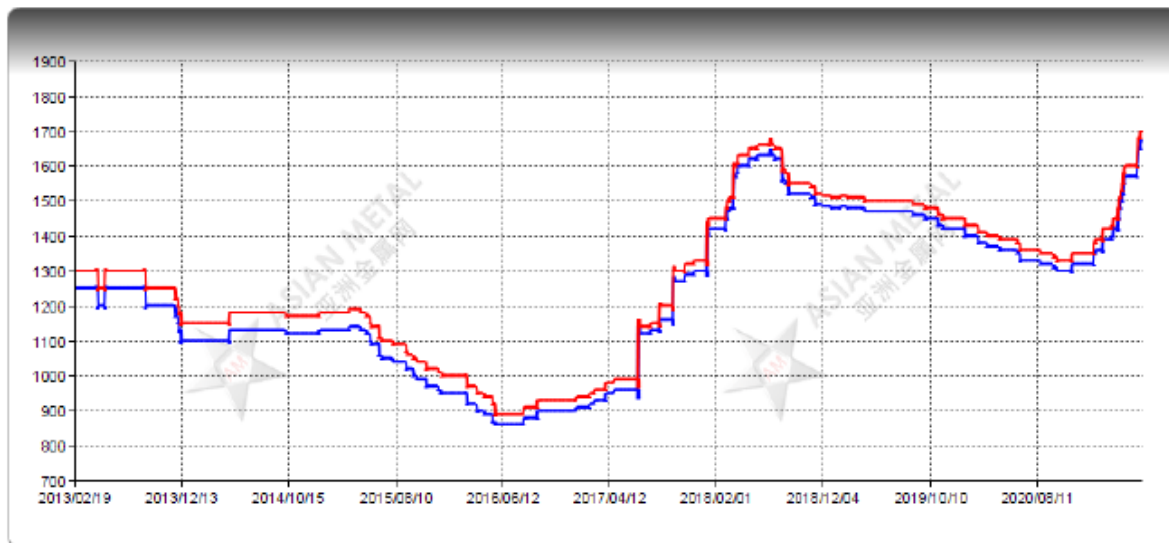
Zircon

Global annual zircon production is in excess of one million tonnes. Currently, over 68% of zircon is produced in Australia and Africa. Demand for zircon is diverse across many industries and around the globe. Globally, China is the largest zircon consumer, accounting for nearly half of total consumption. Other major ceramics producing countries including Italy and Spain, coupled with other large tile producers in Asia such as Vietnam, Indonesia and Malaysia also contribute to a large portion of aggregate demand. Zircon is used relatively more towards industrial and manufacturing applications in the US, Japan and parts of Europe, such as automotive and machinery part casting, glass, and steel refractories.

Premium zircon is particularly needed for the production of fused zirconia, which is a crucial feedstock for producing zirconium metal that in turn is necessary for the nuclear power and aerospace industries. Fused zirconia demand remains robust in China due to its use in special refractories for solar and medical glass.

Global zircon demand was subdued in 2020 amid the COVID-19 crisis. Hence, overall zircon sales were lower on a yearly basis, while prices decreased in 1H 2020. However, zircon prices have been boosted by the global recovery and increasing demand from major zircon consuming countries or regions such as China. The recent price increase is also attributed to continued supply issues in South Africa and low inventory levels in China. They have contributed to the tight supply of and strong demand for premium zircon respectively. The deterioration of bilateral relationship between Australia and China has adversely affected the sales of heavy mineral concentrate from the former to the latter, putting upward pressure on zircon market prices and benefiting zircon producers from other parts of the world like Indonesia where PYX's two deposits are situated. The impact is evident by Indonesian zircon reaching its highest price point since 2013.

Exhibit 1: Zircon Sand Indonesia Zr (Hf) O₂ 66% min in Port China US\$/Tonne



Note: red/blue high/low

Source: Asian Metal

Fundamentally, the long-term outlook for zircon remains robust, as there is a lack of significant new supply entering the market in the foreseeable future, leading to the projection that future demand will exceed supply. With the recovery of the global economy gaining momentum, fueled by business activities on the way back to normal levels, substantial demand for zircon can be expected. Thus, zircon prices, which remained relatively stable during the COVID-19 pandemic, are forecast to spike over the next few months, amid a major commodity price upcycle induced by the post COVID-19 recovery. In the medium-term, we are still confident about the zircon market, as supply constraint is expected to stay.

Titanium Dioxide (TiO₂)

In 2H 2020, we witnessed a slow rebound in the high-grade titanium market in terms of both price and volume, as specialty-chemical companies started resuming their business operations. This positive development continues into 2021, with a number of price increases announced by pigment producers. Along with robust pigment production, welding used in construction and other industrial activities has also elevated. Hence, we believe TiO₂ demand would restore its historical growth patterns in the near future.

In 2Q 2021, the global recovery in titanium dioxide both in terms of price and volume expedites especially for the China market. Titanium dioxide prices in China are expected by market participants to move higher in the short run because of firmer demand from international consumers, following output cuts by producers outside China during the sustained COVID-19 pandemic.

In the long term, TiO₂ price is projected to go even higher, as supply deficit for the mineral emerges.

III. FINANCIALS

Historical Financials and Forecasts

Exhibit 2: Profitability

	2019 A	2020 A	2021 F	2022 F
Zircon Sold (tonne or "t")	4,936	6,737	12,000	24,000
Average Realized Price (US\$/t)	1,389	1,329	1,546	1,586
EBITDA Margin (EBITDA/Sales)	1.3%	N/A	16.1%	68.4%
Operating Margin (EBIT/Sales)	0.1%	N/A	14.1%	64.7%
Net Profit Margin (NI/Sales)	N/A	N/A	9.5%	48.5%

Source: Company reports and Cedrus' estimates

Exhibit 3: Income Statement

		2019 A	2020 A	2021 F	2022 F
Revenue	US\$'000	6,858	8,957	23,225	4,5966
Revenue Growth (yoy)	%	N/A	30.6%	159.3%	97.9%
EBITDA	US\$'000	86	-1,213 ¹	3,740	31,435
EBIT	US\$'000	10	-1,084	2,942	29,752
Net Income	US\$'000	-58	-13,821	2,198	22,306

Source: Company reports and Cedrus' estimates

Exhibit 4: Cash Flow Statement

		2019 A	2020 A	2021 F	2022 F
From Operations (CFO)	US\$'000	-110	-2,087	2,996	21,833
Free Cash flow (FCF)	US\$'000	-258	-2,924	1,142	15,319

Source: Company reports and Cedrus' estimates

Exhibit 5: Revenue and Financial Forecasts

		2019 A	2020 A	2021 F	2022 F	2023 F	2024F	2025F
Zircon Revenue	US\$'000	6,858	8,957	18,552	38,052	85,860	95,304	114,480
Total Revenue	US\$'000	6,858	8,957	23,225	45,966	102,429	112,381	136,882
EBITDA	US\$'000	86	-1,213	3,740	31,435	72,606	79,657	98,525
EBITDA margin	%	1.3%	N/A	16.1%	68.4%	70.9%	70.9%	72.0%
Free Cash flow	US\$'000	-258	-2,924	1,142	15,319	36,943	56,700	61,882
Cash Cost Per tonne of Zircon	US\$	1,119	1,153	1,427	532	500	497	489

Source: Company reports and Cedrus' estimates

¹ Underlying EBITDA excluded non-recurring items, which are expenses that do not fall within the normal course of business or are not costs that occur every year

IV. VALUATION

We reiterate our Overweight on PYX, as the stock is trading much lower than our estimated net present value (“NPV”). PYX offers investors exposure to premium zircon and other valuable heavy minerals through its flagship Mandiri and Tisma deposits, both located in Central Kalimantan, which is a prolific geological location highly recognized for hosting high-quality mineral sands, including zircon, rutile and ilmenite among others. Given the nature of PYX’s business and the current status of its operations, we have adopted **Comparable Company Analysis (“CCA”)** and **Discounted Cash Flow (“DCF”)** valuation methodologies to value the company.

After identifying and analyzing mineral sands companies listed on the Australian Securities Exchange (“ASX”) with similar business nature as PYX, we used the CCA valuation method to calculate their median enterprise value (“EV”)/resource multiple, which is applied to the JORC-compliant resources of PYX to come up with its estimated market value. Our analysis suggested that PYX should be traded at a valuation of approximately US\$40-50 per tonne of defined valuable HM resources of 14.9 million tonnes equivalent to approximately US\$671 million or around AU\$894 million, higher than PYX’s market capitalization of AU\$485.4 million as of 23 June 2021 by roughly 84%. Upside of this magnitude should be particularly appealing to long-term investors.

Our DCF model is constructed based on the scenario that mineral resources as defined in PYX’s JORC report are extracted and produced in the long run. A risk-adjusted (real) discount rate of 10% is applied to derive PYX’s valuation. Accordingly, total NPVs of the Mandiri and Tisma assets is US\$999 million or AU\$1,332 million.

Between the two valuation methodologies, we have given more weight to the DCF because we believe it better captures the uniqueness of PYX’s financial outlook (especially in view of its higher weighted average heavy mineral assemblage value compared to its peers) and as a result of PYX’s estimated enterprise value of US\$971 million we obtained from our analysis. After adjusting for cash balance, minority interest, and performance rights to be issued to the management on an incentive scheme, PYX’s implied equity value is US\$983 million (AU\$1,311 million), which is our near-term (12- to 18-month) valuation target, corresponding to a share price of AU\$3.00 and representing an approximately 165% potential upside over PYX’s closing price of AU\$1.13 on 23 June 2021.

Exhibit 6: Key Valuation Metrics

Valuation Metrics	
Market Capitalization (as of 23 June 2021)	AU\$485.4 million
Total Outstanding Shares before the Share Placement	418.6 million
Total Additional Shares to be issued after the Share Placement	10.9 million
Estimated Performance Shares to be Issued to PYX’s Management	7.4 million
Estimated Total Number of Outstanding Shares	436.9 million
Enterprise Value	US\$971 million
Implied Equity Value (US\$)	US\$983 million
Implied Equity Value (AU\$)	AU\$1,311 million
PYX Share Price (as of 23 June 2021)	AU\$1.13
12- to 18-month Target Price	AU\$3.00
Upside Potential	+165%

Source: Company reports, Bloomberg and Cedrus’ estimates



V. CONCLUSION AND RECOMMENDATION

- PYX has already raised the price of its premium zircon for three times this year, resulting in a US\$355 per tonne total increase. We believe the increases were mainly fueled by the tightening of premium zircon supply globally as a result of the supply issues occurred in South Africa and the low inventory levels in China amid strong demand worldwide. The favorable pricing environment for zircon should be beneficial to PYX's financial performance and share price.
- The company is evaluating the option of launching a due listing on the Main Market of the LSE based on enthusiasm shown by European family offices and institutional investors. An LSE listing would enable the company to raise its profile particularly in Europe and facilitate fundraising if needed. Moreover, the listing would allow new shareholders to take part in the growth of PYX's business, as well as benefitting existing shareholders in the form of improving the liquidity of the company's shares.
- The completion of a recent share placement to professional and sophisticated investors will add AU\$11.2 million (before expenses) to PYX's balance sheet. The proceeds will fund the development of PYX's newly acquired Tisma tenement and its operations. The successful fundraiser is a tangible evidence of support to PYX's business strategy of becoming a leading premium zircon producer.
- Capacity increases at PYX are progressing well and as planned. Importantly, they coincide with the demand uptrend. Moreover, PYX has succeeded in entering the highly-specialized fused zirconia market with its premium zircon (standard zircon does not meet the stringent requirements) and will start supplying premium zircon to China-based Fujian Sanxiang, building up its market presence in the largest zircon consuming country.
- Besides focusing on expanding premium zircon production, PYX is also in the process of broadening its revenue sources through the sales of by products, with the ultimate goal of maintaining rapid growth.
- In our view, the fundamental outlook for zircon remains robust in the long term owing to the absence of notable new supplies in the foreseeable future, while demand is forecast to trend up, likely resulting in a supply deficit. Tightening of supply will be more obvious when the recovery of the global economy is on a firm footing, boosting zircon demand further. Consequently, we expect zircon prices to go even higher over the next few months.
- We increase our 12- to 18-month price target of PYX to AU\$3.00. Our optimism is based on the expectations of 1) zircon and other commodities are riding an up-cycle amid a global economic recovery; 2) further price increases of the company's premium zircon following the thrice thus far this year due to imbalance of supply and demand; 3) mitigation of investment risks on the company after the recent fund raising and a possible dual listing on the LSE; and 4) ongoing improvement in the company's overall efficiency and productivity.
- In our view, PYX shares are significantly undervalued based on our estimated implied equity value of US\$983 million (AU\$1,311 million), which is more than two-fold of the company's market capitalization of AU\$485.4 million as of 23 June 2021. Thus, we recommend long-term investors to take advantage of this opportunity to invest in PYX's shares that could potentially deliver a return of about 165% based on PYX's closing price of AU\$1.13 on 23 June 2021.

IMPORTANT DISCLOSURES

STOCK OWNERSHIP AND CONFLICT OF INTEREST DISCLOSURE

- Neither Dr. Thomas Kenny nor any member of the research team or their households is an owner of PYX Resources Limited common shares.

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