

Overweight | **PYX Resources: Raising Target Price on an Accretive Acquisition;
Price Target: AU\$2.50** | **Transforming PYX into the Zircon Producing Company with 2nd Largest
Resource Base Globally**

Introduction

PYX Resources Limited (“PYX” or “Company”; NSX: PYX) is a leading and fast-growing premium zircon producer with enormous potential to grow output and enhance profitability. On 13 January 2021, PYX announced its **plan to acquire Tisma Development (HK) Limited (“Target”), which holds a mineral sands project in Kalimantan, Indonesia (“Tisma Project”).**

This report provides an update on PYX regarding this proposed acquisition, which is still subject to the approval of the Company’s shareholders. Analysis made in this report assumes that shareholders’ approval is obtained, and PYX is able to complete the transaction as well as consolidating the Target both operationally and financially.

If the proposed transaction is completed, we believe it will deliver substantial value to PYX’s existing and new shareholders, as the Company will become the second-largest zircon producing company worldwide in terms of the amount of mineral resources it holds. Besides that, execution of its growth strategy, continued shareholder value enhancement, and highly positive outlook of the mineral sands industry are contributing factors for the promising prospects of PYX.

Some details about the deal are as follows:

- a) By completing the acquisition, PYX will **add to its mineral resource base about 137 million tonnes of JORC-compliant inferred mineral resources** containing 4% heavy minerals (“HM”) to a total of around 263 million tonnes, **ranking No. 2 globally** after the market leader Iluka Resources Limited (ASX: ILU) **in terms of zircon content of JORC-compliant resources** amongst mineral sands companies in production;
- b) The Tisma Project has a **zircon grade of 3.27%, making it a clear global outlier** with respect to zircon content but is in line with the grade of PYX’s own Mandiri mineral sands deposits (zircon grade 4.76%) in Kalimantan, Indonesia;
- c) There is **great potential to create extraction, production, logistics and other synergies** given the proximity of Mandiri and the Tisma Project; and
- d) **Accretive transaction** for PYX’s existing shareholders driven by a boost to the Company’s contained zircon and inferred mineral resource base, while issuing new shares to the vendors equivalent to only 55% of its total number of outstanding common shares prior to the acquisition.



Share Price (as of 22 Jan 2021):
AU\$0.55
12- to 18-month Target Price:
AU\$2.50
Market Cap (as of 22 Jan 2021):
AU\$147.3M
Total Shares: 415 M (Post-
transaction)
Dividend and Yield: N/A

Recommendation Summary

- a) We continue our coverage of PYX and reiterate an **Overweight** rating with a **new 12- to 18-month price target of AU\$2.50** (up about 11% from the previous target of AU\$2.26), representing an **upside potential of about 355%** over the share price of AU\$0.55 as of 22 January 2021.

- b) PYX is a leading premium zircon producer globally. Its contained zircon within its resource base (largest discovery worldwide since 2012) is not only abundant but also the one with one of the highest HM assemblage value of US\$1,087 per tonne in the industry. The acquisition of the Tisma Project **will lift the HM assemblage value by approximately 5.3% to US\$1,145 per tonne**. As the **weighted average of the HM assemblage value is highly correlated with market valuation**, we see PYX trading at the very high end of the valuation range on a per tonne of HM resource basis among its peers in the short term.
- c) Upon completion of acquiring the Tisma Project, PYX will control about 263 million tonnes of JORC-compliant mineral resources, with 10.5 million tonnes of contained zircon, representing **a surge of 109% and 75% respectively**;
- d) The synergistic acquisition of the Tisma Project is expected to **help improve PYX's financial results through higher output and profitability**. According to our model, the Company's total zircon production will have a 7X upswing to 84,000 tonnes in 2026 from 12,000 tonnes in 2021, while gross profit will spike approximately 47X to US\$96.24 million in 2026 relative to US\$2.03 million in 2021;
- e) Importantly, PYX is better positioned to cope with short-term fluctuation in demand and continue to grow because it **signed two offtake agreements** in 2020 for **supplying a total of 14,000 tonnes of premium zircon to two customers both for a two-year period**; and
- f) **Outlook for the mineral sands industry in general and zircon in particular remains robust**, as long-term demand is sustained by global economic growth, increasing urbanization especially in China and India, and new applications resulted from technological advancements in areas such as nano-materials and nano-structures coupled with nonexistent of notable discovery of zircon deposits in recent years that could lead to shortage in supply. Although the COVID-19 pandemic has pressured short-term demand to some extent, **full recovery is expected within the next 12 months**, as effective vaccines have recently been approved and are being distributed worldwide.

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

Table of Contents

I.	THE PROPOSED TRANSACTION	4
	1.1 Key Terms and Conditions.....	4
	1.2 Indicative Capital Structure.....	4
	1.3 Information of the Tisma Project	5
	1.4 Comparisons of Mandiri and Tisma Projects.....	8
	1.5 Transaction Rationale	9
II.	VALUATION ANALYSIS OF PYX POST ACQUISITION.....	12
	2.1 Discounted Cash Flow (DCF) Valuation	12
	2.2 Comparable Company Analysis – EV/Resources.....	13
	2.3 Comparable Company Analysis – PYX Standalone	14
	2.4 Valuation Results.....	14
III.	A GLANCE OF THE FUTURE PYX	16
	3.1 Latest Developments of PYX	16
	3.2 Production Plan.....	17
	3.3 Post-acquisition Financial Forecasts of PYX	17
	3.4 Positioning of PYX after the Acquisition.....	18
IV.	CONCLUSION	19
	Important Disclosures	20

I. THE PROPOSED TRANSACTION

On 13 January 2021, PYX Resources Limited (listed on the National Stock Exchange of Australia (“NSX”) under the symbol “PYX”) announced its proposal to acquire Tisma Development (HK) Limited (“**Target**”), which owns a mineral sands asset in Kalimantan, Indonesia (“**Tisma Project**”). The acquisition is pending approval by PYX’s shareholders. Analysis made in this report assumes that shareholders’ approval is obtained, and PYX is able to complete the transaction and integrate the Tisma Project successfully into its own operations.

1.1 Key Terms and Conditions

Subject to its shareholders’ consent, PYX will acquire the entire share capital of the Target via the issuance of new PYX common shares (the “**Proposed Transaction**”) to the shareholders of the Target (the “**Vendors**”).

Based on the key terms announced, PYX will be issuing 147,277,370 new common shares as the consideration of the proposed transaction. Therefore, this is equivalent to approximately AU\$80.41 million based on PYX’s 10-day average share price of AU\$0.5460.

Completion of the proposed transaction is subject to and conditional upon satisfaction of the following criteria by 31 March 2021 (or such other dates as agreed between the parties involved):

1. Completion of due diligence investigations by both the Target and PYX;
2. Execution of formal and detailed legally-binding documents to effect the proposed transaction;
3. The parties obtaining all relevant approvals, including shareholder approval, board approval, and any third-party consents necessary to implement the proposed transaction; and
4. No government or regulatory intervention that would prevent completion of the deal.

1.2 Indicative Capital Structure

The table below details the Company’s current capital structure and its indicative capital structure after the completion of the proposed transaction.

Exhibit I-1: Capital Structure of PYX Pre- and Post-Proposed Transaction

	Number of Shares	Share of Ownership*
Total number of shares currently on issue	267,777,037	100.0%
PYX’s ownership post-proposed transaction		
Current PYX’s shareholders	267,777,037	64.5%
Tisma (HK) Limited	51,638,685	12.4%
TGN Holdings (HK) Limited	51,638,685	12.4%
Jura Ventures Limited**	17,673,285	4.3%
Zurich Capital Partners Limited**	13,254,964	3.2%
Edelweiss Partners Limited**	13,071,751	3.1%
Total number of shares on issue post-proposed transaction	415,054,407	100.0%

Notes: *Individual shareholders’ ownerships are rounded to the first decimal place; **Shares in the hands of the public
 Source: PYX Resources Limited

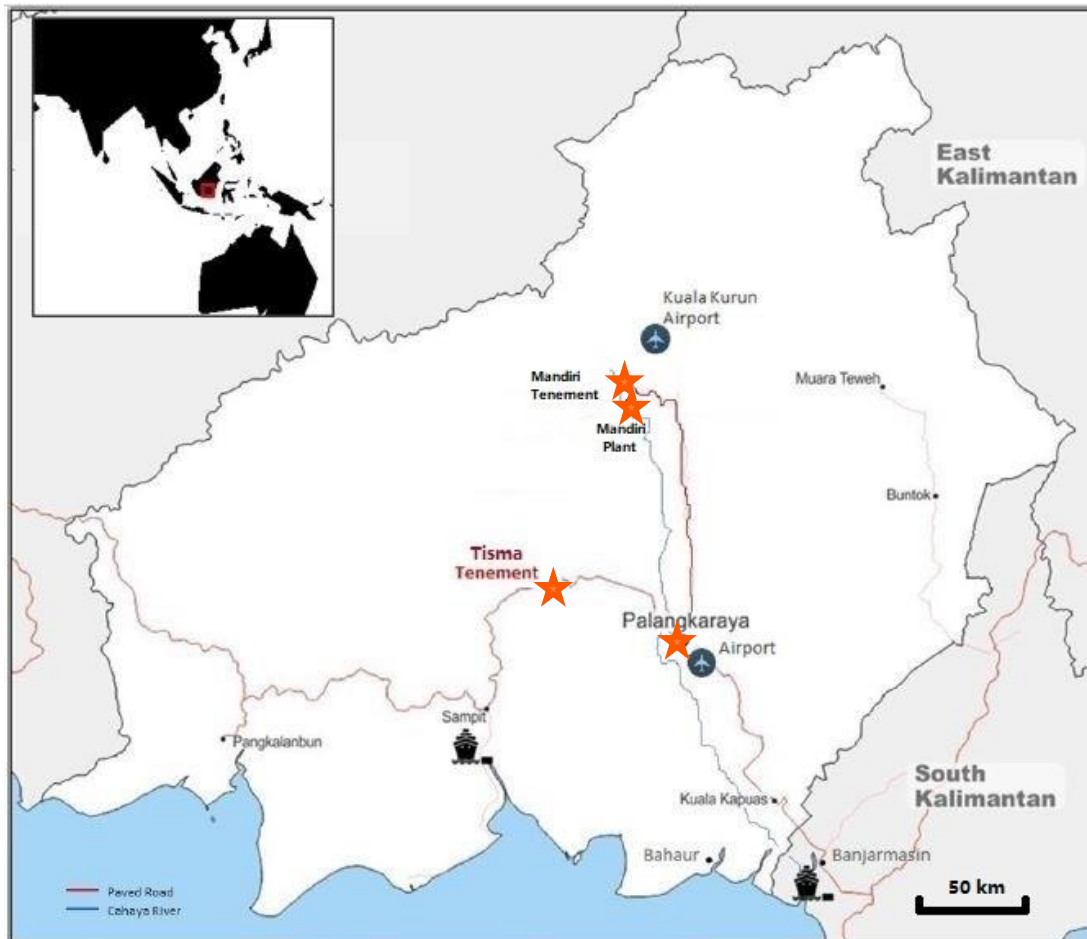
1.3 Information of the Tisma Project

The Tisma Project is a world-class asset strategically located in Indonesia, a Belt and Road country, with a significant amount of JORC-compliant mineral sands inferred resources and high zircon assemblage.

It is comprised of a single tenement (NO. 545/244/KPTS/VIII/2012) granted on 1 August 2012 to PT Tisma Global Nusantara. The tenement covers an area of 1,500 hectare (“ha”). Tisma Project is fully-licensed under current IUP-OP (mining, production and export business license) granted for zircon and potentially other heavy minerals.

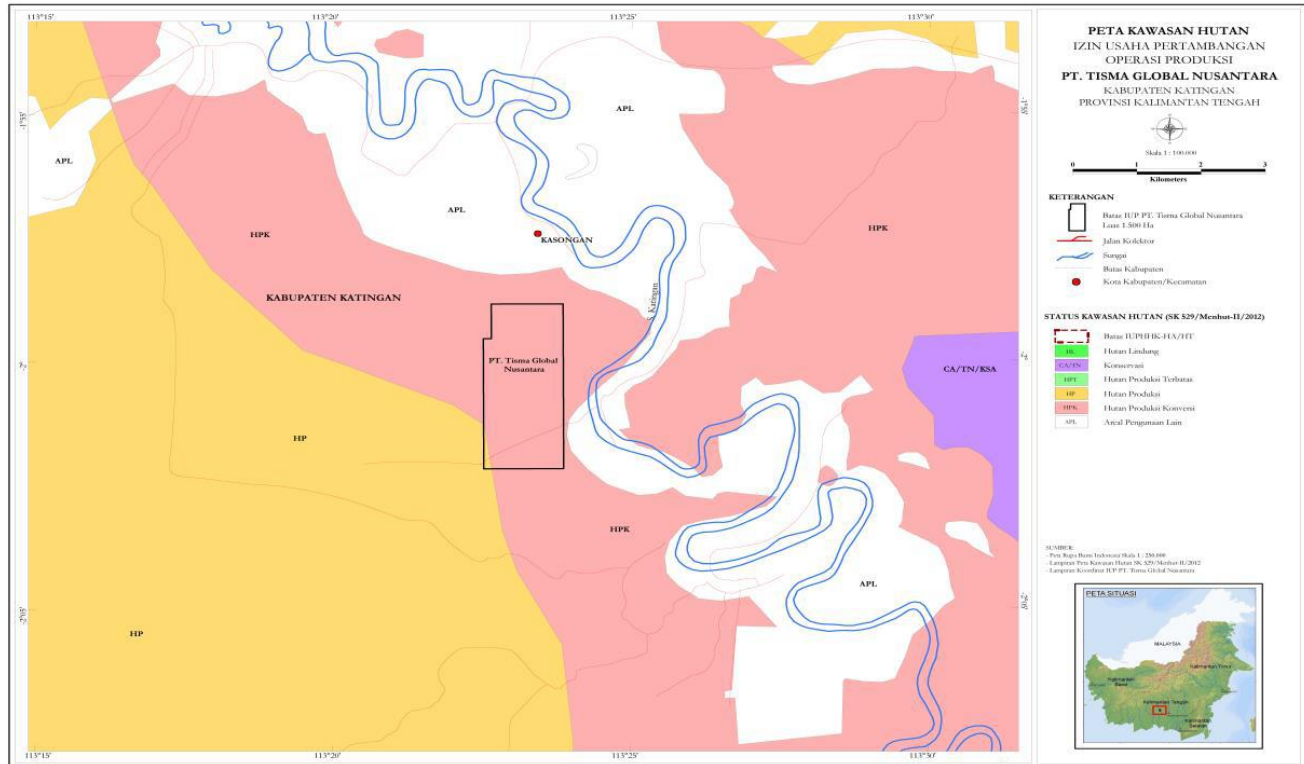
The Tisma tenement is located in Central Kalimantan approximately 50 kilometers (“km”) northwest the regional capital Palangkaraya and around 75 km by bitumen road. Access to the tenement can be described as easy.

Exhibit I-2: Location of the Tisma Tenement



Source: Independent Technical Assessment Report of Tisma Project, Central Kalimantan of the Republic of Indonesia, CRM Australia, November 2020

Exhibit I-3: Land Use Map of the Tisma Project Area



Source: Independent Technical Assessment Report of Tisma Project, Central Kalimantan of the Republic of Indonesia, CRM Australia, November 2020

Tisma Project has access to well-developed infrastructure such as paved road to the deposits.

Historically, the sedimentary basins of Central and Western Kalimantan have been mined for alluvial gold and in some areas also for diamond. More recently, it has been recognized that the alluvium hosting gold is also prospective for heavy mineral sands (“HMS”).

A drilling program has ended, involving a total of 30 holes with a drill hole spacing of 400m x 200m. The drilling was conducted using a trailer mounted DP-180YY Drilling Rig that was man-handled between drill sites. Drill samples were geologically logged and panned onsite with composited samples submitted for heavy mineral separation to determine the HM content, oversize (“OS”) and slimes present in each sample. Onsite visual estimation of HM content was made and verified by a portable x-ray fluorescent (XRF)¹ analyzer. Sample documentation and quality assurance (QA)/quality control (QC) procedures were carried out in accordance with a protocol designed to meet the standards of the JORC Code.

¹ A non-destructive analytical technique used to determine the elemental composition of materials

Exhibit I-4: Basic Statistics for the HM, Slimes, Oversize, and Mineralised Intervals (UPTD Lab)

Item	Minimum	Maximum	Mean
HM%	3.14	5.33	4.33
Calculated zircon content	2.02	4.61	3.68
Slimes%	6.22	17.91	13.73
Oversize%	15.80	34.71	25.84
Interval (m)	3.5	7.7	5.37
Overburden	6	10	7.6
ZrO ₂ %	1.36	3.10	2.49
TiO ₂ %	0.17	0.42	0.26
Fe ₂ O ₃	0.53	1.23	0.79
Zircon% - calculated	2.02	4.61	3.68
Rutile% - calculated	0.05	0.13	0.08
Ilmenite% - calculated	0.23	0.56	0.34
HM% - calculated	2.44	5.04	4.03

Note: zircon, ilmenite and rutile content was calculated from elemental Zr, & Ti. The ratio of rutile to ilmenite was based on visual estimates during the geological logging.

Source: Independent Technical Assessment Report of Tisma Project, Central Kalimantan of the Republic of Indonesia, CRM Australia, November 2020

According to the most recent mineral resource estimation conducted by CRM Australia, the Tisma Project contains JORC-compliant inferred mineral resources of approximately 137 million tonnes, containing 4% heavy minerals (“HM”) including roughly 15% slimes and 25% oversize (“OS”) at a lower block cut-off grade of above 2%, with an estimated zircon grade of 3.27%. This implied that the Tisma Project contains some 4.5 million tonnes of zircon at an assemblage of over 80% for zircon. The Tisma deposit also contains other valuable minerals such as rutile (2%) and ilmenite (8.5%).

Exhibit I-5: Total JORC Mineral Resources above 2% HM Lower Block Cut-off Grade (unrounded)

Category	Tonnes	HM (%)	Slimes (%)	OS (%)	Zircon (%) est.
Inferred	137,248,439	3.99	14.75	24.90	3.27

Note: The zircon content was estimated based on the zirconium analyses by the UPTD Laboratory of Energy and Mineral Resources

Source: Independent Technical Assessment Report of Tisma Project, Central Kalimantan of the Republic of Indonesia, CRM Australia, November 2020

The HM assemblage is predominant zircon. Based on chemical analyses, the calculated contents of rutile and ilmenite are low with mean values of 0.08% and 0.34% respectively, leading to a high assemblage value of US\$1,264 per tonne based on today’s commodity prices.

In addition to currently reported mineral resources, there is high exploration potential for HMS within the Tisma tenement. According to the Competent Person, exploration target is in the order of 30-50 million tonnes of mineral sands containing 3-4% of heavy minerals.

Visible gold flakes were identified in nine of the holes drilled during core logging, and UPTD laboratory analyses reported gold in the 4.25-9.76 grams (g)/tonne (t) range in HM concentrate in eight of the holes. Gold represents a potentially significant component to the valuable heavy mineral (“VHM”) assemblage.

Visible gold has a grade in the order of 1-2 g/t, while the average grade of the holes for which assay data is available is 7 g/t.

Within the global natural resources industry, mineral sands mining and processing in the form of zircon is a specialized and niche segment. Zircon is in demand owing to a broad range of widespread applications in several industries such as ceramics, refractory, foundry and specialty chemicals that produce everyday goods such as wall/floor tiles, sanitary ware and tableware as well as innovative new applications made possible by technology breakthroughs. Zircon is also used to make synthetic gemstones. Colorless specimens of zircon that display gem quality are popular substitutes for diamond and also known as "matura diamond." Zircon's prospects stand out on the back of expected global supply deficit and definitive soaring demand, leading to price escalation.

1.4 Comparisons of Mandiri and Tisma Projects

The proposed acquisition of the Tisma Project fits PYX's expansion strategy of adding incremental resources in the same geographical region through acquisitions. The acquisition will not only allow PYX to grow its heavy minerals by 58.4% to 14.9 million tonnes from 9.4 million tonnes but also increase the zircon content by 75% to 10.5 million tonnes from 6.0 million tonnes. Critically, assemblage value will be lifted by about 5.3% to US\$1,145 per tonne.

The following table compares the key characteristics between PYX's Mandiri asset and the Tisma Project as well as showing the syngenetic nature of combining the two.

Exhibit I-6: Comparisons of PYX's Mandiri and Tisma Project

	PYX's Mandiri	Tisma Project	PYX's Mandiri and Tisma Project Combined
Mineral Resources	126.3 Mt	137.2 Mt	263.5 Mt
HM Grade	7.43%	3.99%	5.65%
HM Tonnage	9.4 Mt	5.5 Mt	14.9 Mt
Contained Zircon	6.0 Mt	4.5 Mt	10.5 Mt
Assemblage	ZIR: 64% RUT: 8.5% ILM: 9.5%	ZIR: 82% RUT: 2% ILM: 8.5%	ZIR: 70% RUT: 6% ILM: 9.1%
Assemblage Value	US\$1,087/tonne	US\$1,264/tonne	US\$1,145/tonne

Notes: ZIR = Zircon; RUT = Rutile; ILM = Ilmenite; Mt = Million tonne

Source: PYX's annual report, Tisma's independent technical review report

Nonetheless, the Proposed Transaction has its drawbacks, as it is dilutive to existing shareholders. In addition, since the Tisma Project will not commence production until 2022, it potentially poses various risks to PYX just like any other mining project, such as schedule delay for a variety of reasons and disagreement with the workforce. However, PYX has gained invaluable experience from running the Mandiri operations, especially amid the COVID-19 pandemic during which the Company was able to produce premium zircon at levels meeting customers' demand without production interruption even though facing industry-wide headwinds. Hence, we believe that PYX's management has the skill set and experience to deal with any issue and mitigate the associated risks.



1.5 Transaction Rationale

- a) By completing the Proposed Transaction, PYX will boost its contained zircon by 75% and become the world's second-largest player in terms of zircon content within JORC-compliant mineral resources among mineral sands companies with projects already in production, trailing only the bellwether Iluka Resources Limited;
- b) PYX will control about 263 million tonnes of JORC-compliant mineral resources, around 109% more than it owns currently, with 10.5 million tonnes of contained zircon, an increase of 75% upon completion of the deal;
- c) Tisma Project has an estimated zircon grade of 3.27%, making it a stand out in terms of zircon content globally and is in line with that of the Mandiri asset (zircon grade 4.76%);
- d) Since Mandiri and the Tisma Project are in relatively close proximity (both in Central Kalimantan, Indonesia), creation of logistics, extraction and production synergies is likely; and
- e) It is an accretive acquisition, as PYX is required to issue new common shares to the Vendors equivalent to merely 55% of its total number of outstanding shares prior to the deal.

To illustrate point (e) in details, we have performed a Discounted Cash Flow ("DCF") analysis on the Tisma Project to estimate its valuation based on its future cash flow generation by applying a discount rate that is deemed suitable for the Tisma Project in our opinion. The discount rate is derived after taking into consideration a moderate production plan, operating expenses and capital cost based on actual numbers from PYX's own operations (both have the same business nature and similar scale) and the following key assumptions.

Key Assumptions

According to the Independent Technical Assessment Report ("ITAR"), the Tisma Project is in possession of JORC-compliant inferred mineral resources of around 137 million tonnes, which contain 5.5 million tonnes of heavy minerals at a high heavy mineral grade of 3.99%.

Other key assumptions include the following:

- A risk-adjusted (real) discount rate of 10% is applied to derive the valuation;
- Zircon price of US\$1,400 per tonne, ilmenite price of US\$150 per tonne, rutile price of US\$1,200 per tonne and gold price of US\$1,800/oz were used;
- Using only JORC 2012-compliant mineral resources;
- Assumed effective tax rate of 20%;
- The likelihood of discovering and developing new deposits in the future was ignored;
- Recurring additional working capital of US\$125,000 for every 100 tonnes of incremental production/supply increase per month;
- All cost assumptions are based on historical or current actual cost structures, with a 35% discount due to the favorable long-term trend of exchange rate movement between Indonesia rupiah and U.S. dollar;

- Mining and concentration cost are referenced to PYX’s existing operations, assuming common practices will take place in the Tisma Project.
- All mining and processing are carried out by the in-house team only;
- Administrative and head office expenses are excluded, as it is reasonable to assume that they are incorporated into PYX’s book of accounts after the completion of the acquisition and deemed as an immediate synergy brought about by the deal;
- Export tax based on a rate of 1.5% on free on board (“FOB”) price; and
- Depreciation of fixed assets accounted for at the rate proportional to the production level (specifically based on the volume of zircon produced).

Based on the above assumptions, the **net present value (“NPV”) of the Tisma Project using the DCF method is US\$340 million**. We used this amount in our valuation assuming the Target has only minimal cash balance and without debt or preferred shares.

In addition, our analysis of publicly-listed mineral sands companies also suggests that the valuation of mineral sands assets is highly correlated to the assemblage value of their resources. Therefore, we conducted a comparable-company analysis using the enterprise value (EV)/resources parameter to supplement the DCF valuation of the Tisma Project.

The table below lists all the major publicly-listed mineral sands companies, some of their market data as well as an analysis of their resources (in-situ total heavy minerals or “THM” and assemblage value). Based on this information, a weighted average assemblage value of the mineral sands assets each peer company owns is calculated with reference to their HM grade and assemblage. Enterprise value over total mineral resources as expressed in the form of in-situ total heavy minerals is used as the valuation metric.

Exhibit I-7: Peers’ Valuation Analysis

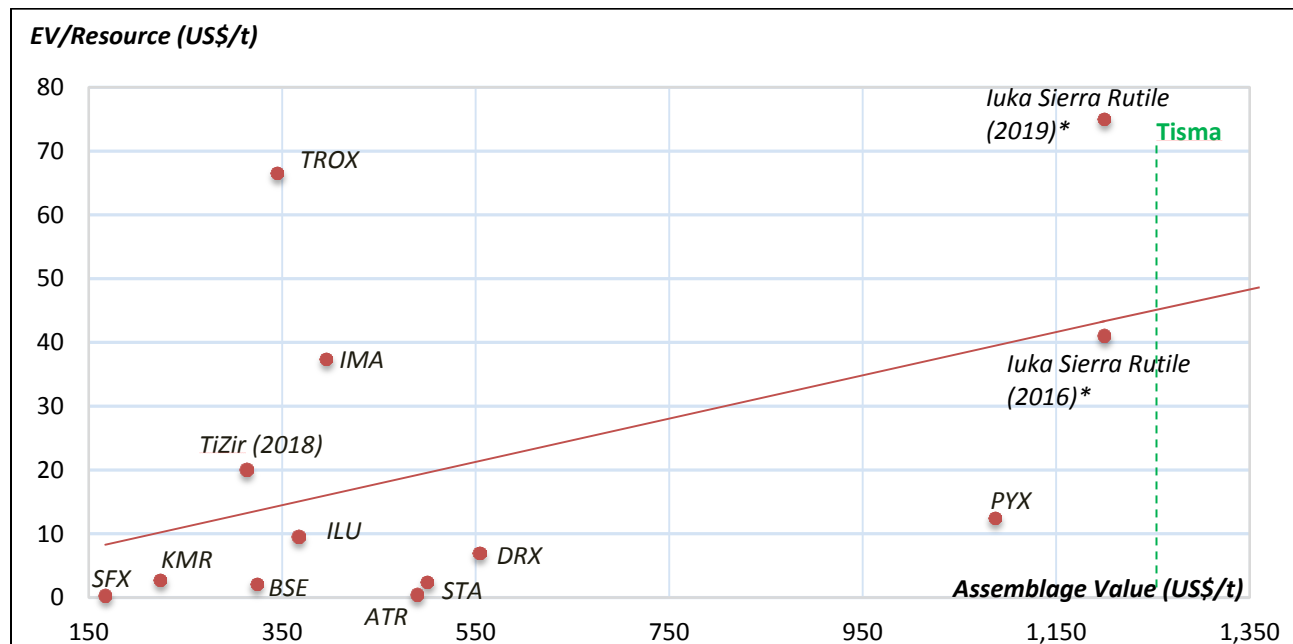
	Market Cap	Enterprise Value	Resources (in situ THM)	Weighted Avg. Assemblage Value	EV/Resources (in situ THM)
	US\$ million	US\$ million	Million tonne	US\$/tonne	US\$/tonne
Iluka Sierra Rutile 2019	N/A	600.0	8.0	1,200	75.0
Tronox Holding (TROX)[#]	2,446.2	5,200	78.1 [^]	345	66.6
Iluka Sierra Rutile 2016	N/A	336.8	8.2	1,200	41.1
Image Resources (IMA)	122.8	132.2	3.5	396	37.4
TiZir Limited*		525.0	26.2	313	20.0
PYX Resources (PYX)	110.5	116.8	9.4	1,087	12.4
Iluka Resources (ILU)	2,203.7	1,603.4	167.8	367	9.6
Strandline Resources (STA)	80.4	70.6	29.0	500	2.4
Base Resources (BSE)	256.2	121.3	70.9	324	2.1
Kenmare Resources (KMR)	604.3	493.0	237.9	224	2.1
Astron Corporation (ATR)	18.8	25.0	57.1	490	0.4
Sheffield Resources (SFX)	110.3	75.5	223.0	167	0.3
				Mean	18.2

Notes: # Including downstream pigment production business; ^ Only ore reserves estimation is available in the public domain; * Based on consideration of an equity transaction in 2018; Market cap as of 22 January 2021

Source: Bloomberg, annual reports of the above-mentioned companies and Cedrus

It is clear from the chart below that mineral sands assets with higher weighted average assemblage value generally have higher EV/Resource multiples.

Exhibit I-8: Correlation between EV/Resource Multiple and Assemblage Value



Source: Companies' annual reports and Cedrus

Owing to the ultra-high zircon content of its deposits, the Tisma Project has an outstanding assemblage value of US\$1,264 per tonne, the highest among its peers, so that it is positioned at the far right of the x-axis of Exhibit I-8 (as represented by the green dash line). This is the key driver of the valuation of the Tisma Project. This assemblage value line intersects the valuation multiple trend line near US\$50 per tonne of HM.

Therefore, we believe the **Tisma Project should be traded at a valuation of approximately US\$50 per tonne of defined heavy mineral resources of 5.5 million tonnes, or approximately US\$275 million**, which is relatively close to the DCF valuation of US\$340 million and deemed reasonable.

Based on the key terms announced, PYX will be issuing 147,277,370 new common shares as the consideration of the Proposed Transaction. Therefore, based on PYX's 10-day average share price of AU\$0.5460, these shares are equivalent to around AU\$80.41 million or roughly 55% of the Company's market capitalization as of 22 January 2021. However, upon completion of the Proposed Transaction, PYX's mineral sands resources and contained zircon content will be boosted by 109% and 75% respectively.

Exhibit I-9: Effects of the Proposed Transaction on PYX

	Position of the Company prior to Transaction	Effect of the Transaction	Post Transaction - Pro forma	Percentage Change due to the Transaction
JORC-Compliant Mineral Resources	126 Mt	137 Mt	263 Mt	109%
JORC-Compliant Contained Zircon	6.0 Mt	4.5 Mt	10.5 Mt	75%
PYX's Common Shares on Issue	267.8 million	147.3 million	415.1 million	55%

Source: Cedrus' analysis

Therefore, the proposed acquisition of the Tisma Project will create significant value to PYX's shareholders, as the former will heighten PYX's zircon content it owns by 75% by issuing merely 55% of its total number of common shares outstanding pre-acquisition. For this reason, the deal is already highly accretive for PYX's existing shareholders. For PYX's prospective shareholders, especially those with long-term investment horizon, they will benefit from the upside potential that the Tisma Project will bring like the materialization of exploration targets. Furthermore, as the assemblage value of the Tisma Project is also higher than Mandiri's, PYX will own an "even better quality" portfolio of zircon assets at a very attractive price for existing investors of PYX.

II. VALUATION ANALYSIS OF PYX POST ACQUISITION

We have also analyzed and compared the valuation of PYX pre-acquisition with PYX post-acquisition to assess the impact of the Proposed Transaction and form the basis for our recommendations as well. Our valuation is comprised of three methodologies, namely discounted cash flow analysis, comparable company analysis, and company specific valuation.

2.1 Discounted Cash Flow (DCF) Valuation

We performed a DCF analysis with the following key assumptions to estimate the current value of PYX (pre-acquisition) based on its future cash flow generation by applying a discount rate in our opinion appropriate for PYX's operations.

Key Assumptions

According to the Independent Technical Assessment Report ("ITAR"), the Mandiri deposits are in possession of JORC-compliant inferred mineral resources of about 126 million tonnes, which contain 9.4 million tonnes of heavy minerals at a superb heavy mineral grade of 7.43%.

Key assumptions include the following:

- A risk-adjusted (real) discount rate of 10% was used to reach the valuation;
- Using zircon price of US\$1,400 per tonne, ilmenite price of US\$150 per tonne, rutile price of US\$1,200 per tonne and gold price of US\$1,800/oz to determine the valuation;
- Only JORC 2012-compliant mineral resources were used;
- Effective tax rate assumed was 20%;

- Disregarding the likelihood of discovering and developing future new deposits;
- Assuming extra working capital of US\$125,000 is needed to run every 100 tonnes/month of additional production/supply;
- All cost assumptions are based on historical or current actual cost structures with a 35% reduction owing to favorable long-term trend in Indonesian rupiah to U.S. dollar exchange rate movement;
- Export tax calculated based on a rate of 1.5% on free on board (“FOB”) price;
- Depreciation of fixed assets is charged at the rate in proportion to Mandiri’s production levels. More precisely, on the volume of zircon produced; and
- In-house mining and processing using third-party funded equipment co-exist with in-house operations in the next 4 years.

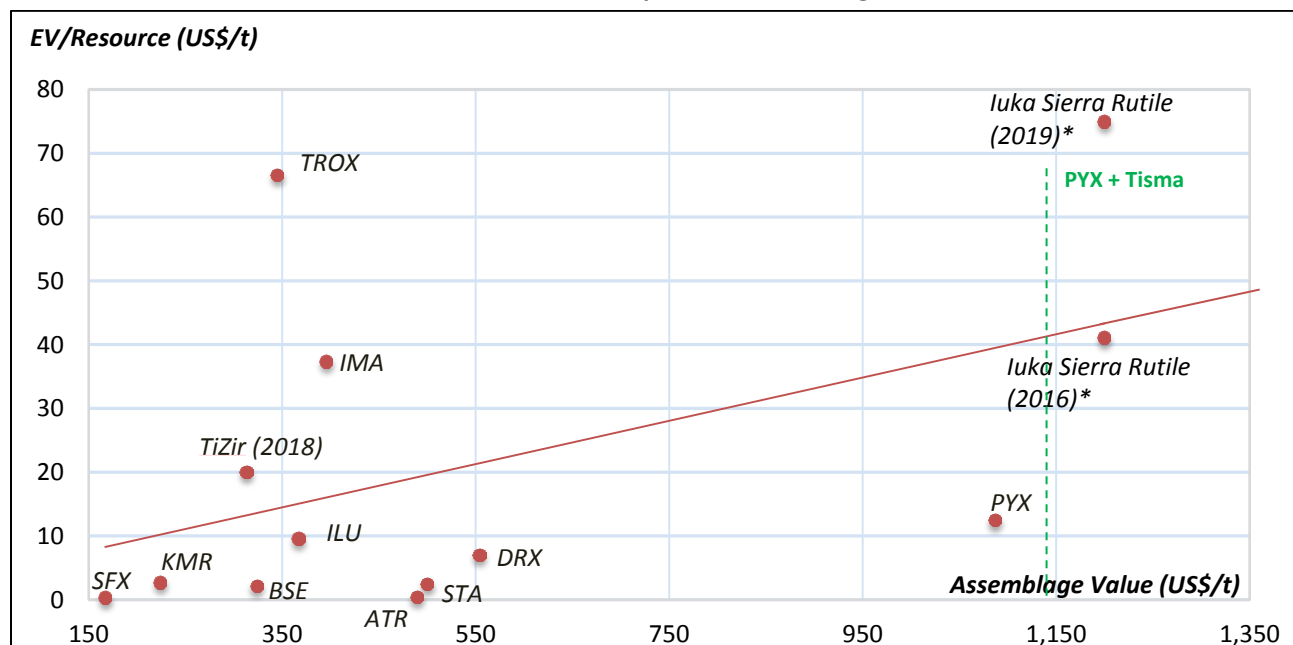
In accordance with the above assumptions, the **net present value (“NPV”) of the Mandiri operations using the DCF method is US\$463 million.**

We then add the DCF valuation of the Tisma Project of US\$340 million to get the post-acquisition equity value of PYX after adjusting for its cash balance as of 30 June 2020. PYX does not have any debt outstanding or preferred shares issued, resulting in a **total equity value of US\$801 million (after rounding) post acquisition.**

2.2 Comparable Company Analysis – EV/Resources

As discussed and shown in Section 1.5 Transaction Rationale, the valuation of a mineral sands asset is highly correlated to the assemblage value of its resources (please see Exhibit I-7). Enterprise value over total mineral resources as expressed in the form of in-situ total heavy minerals is used as the valuation metric.

Exhibit II-1: Correlation between EV/Resource Multiple and Assemblage Value



Source: Companies’ annual reports and Cedrus’ analysis

Owing to the extremely high zircon content, both PYX's Mandiri asset and the Tisma Project have impressive assemblage value, resulting in an average assemblage value for the two assets being US\$1,145 per tonne as represented by the green dotted line in the above exhibit, topping most of their peers except Iluka Sierra Rutile (2016) and Iluka Sierra Rutile (2019). This assemblage value line intersects the valuation multiple trend line between US\$40 per tonne and US\$50 per tonne of HM.

Therefore, we believe **PYX (post-acquisition)** should be traded at a **valuation** of approximately US\$40-50 per tonne of the aggregate defined heavy mineral resources of 14.9 million tonnes, or around **US\$745 million**.

2.3 Comparable Company Analysis – PYX Standalone

We have also compared with the current market multiples of PYX. With a market capitalization of AU\$147.3 million, it implies that PYX's enterprise value is AU\$143.1 million, after adjusting for the Company's cash balance and debt. Through the Mandiri asset, PYX's currently owns 126.3 million tonnes of inferred mineral resources with 9.4 million tonnes of HM at a grade of 7.43% and contain 6.0 million tonnes of zircon content at an assemblage of 64%. This means that PYX's current EV/Resources (zircon content) multiple is US\$21.3/tonne. The assemblage value of its HM is US\$1,087 per tonne.

Meanwhile, the Tisma deposits have 137.2 million tonnes of inferred mineral resources with 5.5 million tonnes of HM at a grade of 3.99% and contain 4.5 million tonnes of zircon content at an assemblage of 82%. Since Tisma has a much higher zircon assemblage, its assemblage value of US\$1,264 per tonne is about 16% above Mandiri's. Therefore, it is reasonable to add a premium of US\$15-20 per tonne to the multiple to reflect the advantage.

Therefore, we believe PYX (post-acquisition) should be traded at a valuation of approximately US\$40 per tonne of zircon content of 10.5 million tonnes, or approximately **US\$420 million**.

2.4 Valuation Results

We take the valuation result from the DCF method discussed above of US\$801 million or AU\$1,068 million as the risk-adjusted equity value for PYX (post-acquisition) and our near-term (12- to 18-month) valuation target, corresponding to a share price of **AU\$2.50**, or approximately a 355% potential increase over PYX's share price of AU\$0.55 with market capitalization of AU\$147.3 million as of 22 January 2021.

Exhibit II-2: Key Valuation Metrics

Valuation Metrics	
Market Capitalization (pre-acquisition as of 22 January 2021)	AU\$147.3 million
Total Outstanding Shares (pre-acquisition of Tisma Project)	267,777,037
Total Additional Shares to be issued to the Vendors	147,277,370
Total Outstanding Shares (post-acquisition of Tisma Project)	415,054,407
Estimated Performance Shares to be Issued to PYX's Management	12,488,808
Estimated Total Outstanding Shares (post-acquisition of Tisma Project and including the above-mentioned performance shares)	427,543,215
Enterprise Value	US\$797 million
Implied Equity Value (US\$)	US\$801 million
Implied Equity Value (AU\$)	AU\$1,068 million
PYX Share Price (as of 22 January 2021)	AU\$0.55
12- to 18-month Target Price	AU\$2.50
Upside Potential	+355%

Source: Company reports, Bloomberg and Cedrus' estimates

Cedrus' analysis of PYX's current and future financial positions rests on the following publicly-available information obtained from company reports and Bloomberg.

To arrive at our price target, we have taken into consideration the performance rights to be issued to PYX's management with details as follows:

- Potentially, PYX's management will be granted in aggregate 21,110,195 shares following the conversions of performance rights between 1 November 2019 and 31 December 2022 upon the satisfaction of certain conditions or performance criteria such as continuous employment with the Company, attaining pre-defined sales volume and EBITDA targets in each assessment year and PYX's shares hitting certain pre-determined price targets;
- Assessment of the issuance of these performance rights will be made in tranches, namely on each of the following expiry dates: 31 March 2020 (already issued), 30 June 2020 (already issued), 30 June 2021, 30 June 2022, and 31 December 2022.
- Based on our analysis and assumptions, PYX's management will most likely receive a total of 12,488,808 new shares up to the date of expiration of the performance rights. We have accounted for these shares when doing our valuation analysis and setting our target price.

The current valuation has also taken into consideration current operations based on ore reserves as well as mineral resources from all deposits and mines PYX owns. Nonetheless, it has not included other upside potential arising from resources of new discoveries; therefore, in our view, the current valuation is relatively conservative.

We believe, in the long term, PYX's valuation should be much higher amid the likely discoveries of additional mineral resources and the emergence of more favorable economic conditions worldwide, boosting demand for zircon and other heavy minerals potentially accompanied by their rising prices.

Valuation upside Potential

Moreover, there are still significant upside potentials for the Tisma Project, including the following:

- Extra mineral resources to be uncovered from deeper zones in existing resource definition areas;
- Other exploration targets available within the tenement not covered by current exploration and drilling campaign;
- Existence of gold is evidenced by assay from past operations, but this has not been taken into account while making the JORC-compliant resource estimation and arriving at PYX's current valuation. Recovery of gold in future operations would likely boost the value of PYX notably; and
- Potential opportunity for further operating cost reduction due to synergy with PYX's existing operations.

III. A GLANCE OF THE FUTURE PYX

3.1 Latest Developments of PYX

1) Changes made to Functional and Presentation Currency as well as Financial Year End to Align Financial Reporting of Companies within the Group and Facilitate Consolidation

In September, PYX changed its functional currency and the Group's reporting ("presentation") currency to U.S. dollar from Australian dollar to better reflect the business activities undertaken (about 95% of the Company's revenue generated is in U.S. dollar) and make it easier for investors to compare the Group's financial results with other publicly-traded entities in the global mining industry. In addition, in November, PYX also changed the end of its financial year from 30 June to 31 December to align the Company's year-end with the financial year-end adopted by all companies within the Group.

2) Offtake Agreements Secured Safeguard Production and Help Company Remain Competitive

At the end of November 2020, PYX signed a binding offtake agreement with Taiwan-incorporated Euronics Inc. for 8,000 tonnes of premium zircon in aggregate for two years. Together with the binding offtake agreement secured with China's Qingyuan Jinsheng ZR&TI Resources Co., Ltd. in July 2020 for a total of 6,000 tonnes of premium zircon over a two-year period, PYX entered into offtake agreements in 2020 for a total of 14,000 tonnes. These deals reduce at least to some extent uncertainty associated with sales and price in addition to helping PYX plan its operations, future capital investment and production so that it remains competitive against its peers and mitigate the adverse impact stemming from market volatility and cyclicity of global economic growth on the demand for zircon product.

3) Remained Fully Operational amid the COVID-19 Pandemic

Despite the ongoing COVID-19 pandemic, PYX has been able to operate at capacity levels meeting customers' demand. The Company has a solid order book and positive outlook even though the production ramp up has been delayed as a result of demand contraction induced by the COVID-19 pandemic. PYX's financial position remains very favorable, with strong cash reserves entering 2021.



3.2 Production Plan

We believe that PYX will likely constrain its output of zircon product proactively to cope with overall softened demand owing to the COVID-19 pandemic just like many of its peers, including the market leader Iluka Resources Limited, which have already cut their production. Therefore, PYX is expected to defer its previously planned production ramp for 12 months and only start increasing its production from 2022 to avoid disrupting the current market equilibrium and depressing zircon price as a result. Annual production at its Mandiri operations will reach 18,000 tonnes of zircon product by 2022. We believe a delay in production ramp up is the best strategic decision for PYX given the current market environment, as it preserves cash and avoid inventory buildup.

In our view, the prospects of PYX and the mineral sands industry continue to be highly promising because a steady recovery in demand for zircon can be expected after the spread of the novel coronavirus has been brought under control. The recent approvals of the COVID-19 vaccines from Pfizer-BioNTech and Moderna by the U.S. Food and Drug Administration (“FDA”) have strengthened our confidence that the global economic growth will be back on track, led by a “V-shaped” recovery of China’s economy evidenced by the country’s latest bunch of economic statistics.

China's economy has staged a remarkable rebound after the COVID-19 induced regional lockdowns and global economic fallout took the toll on the country’s GDP, which contracted 6.8% year-on-year (“yoy”) in 1Q 2020. However, China’s GDP has quickly turned around with GDP growing at 3.2%, 4.9% and 6.5% yoy in 2Q, 3Q and 4Q 2020 respectively. Importantly, China is the only G20 economy anticipated achieving a positive economic growth of 1.9% yoy in 2020 by the International Monetary Fund (“IMF”) on the heels of its success in tackling the COVID-19 crisis (China announced recently that its 2020 GDP expansion was 2.3%). Furthermore, China’s global trade surplus for 2020 surged 27% yoy to US\$535 billion, the highest since 2015 and boding well for imports.

3.3 Post-acquisition Financial Forecast of PYX

We believe that PYX will realize remarkable synergy following the completion of the proposed acquisition. The Tisma Project is expected to begin production in 2022, adding considerable output to PYX when the Company plans to raise its own annual production to 18,000 tonnes. Expected rising output will lead to PYX becoming a major producer of zircon globally and gaining market share. Along with production increases, PYX is expected to be able to lower its unit operating cost because of economies of scale, synergy and other factors, resulting in improved profitability.

Exhibit III-1: Production and Financial Forecasts of PYX after the Proposed Acquisition

	2021	2022	2023	2024	2025	2026
Total zircon production (tonne)	12,000	24,000	54,000	60,000	72,000	84,000
Zircon revenue (US\$, million)	16.23	33.29	75.11	83.38	100.15	116.68
Total revenue (US\$, million)	20.25	39.99	89.05	97.65	119.00	136.19
Total direct cost (US\$, million)	7.82	12.91	27.36	29.46	35.77	39.95
Cost per tonne (US\$)	652	538	507	491	497	476
Gross profit (US\$, million)	2.03	27.09	61.69	68.19	83.23	96.24
Gross profit margin (Gross Profit/Sales)	10.0%	67.7%	69.3%	69.8%	69.9%	70.7%
EBITDA margin (EBITDA/Sales)	5.4%	64.1%	67.6%	68.4%	68.7%	69.6%
Operating margin (EBIT/Sales)	2.4%	61.8%	65.6%	66.5%	66.7%	67.8%
Net profit margin (Net Income/Sales)	1.8%	46.4%	49.2%	49.9%	50.0%	50.9%
Total zircon production growth (yoy)	-	100%	125%	11%	20%	17%
Zircon revenue growth (yoy)	-	105%	126%	11%	20%	17%
Total revenue growth (yoy)	-	97%	123%	10%	22%	14%

Source: Cedrus' analysis

3.4 Positioning of PYX after the Acquisition

Should shareholder approval be obtained and the Proposed Transaction is completed, PYX's market capitalization is expected to soar by 55% as a result of the issuance of the new common shares to the Vendors as a consideration.

More importantly, after completing the Proposed Transaction, the Tisma deposits will boost PYX's existing JORC-compliant contained zircon by 75% to 10.5 million tonnes, making PYX rank the second-largest globally in terms of ownership of zircon content within its mineral resources among all the mineral sands companies already in production.

In addition, after starting production in 2022, the Tisma Project is estimated to help elevate PYX's total zircon output by a triple-digit percentage yoy in both 2022 and 2023 followed by a double-digit percentage increase yoy in 2024 through 2026 to 84,000 tonnes per annum so that the Company will represent a more significant share of the world's total zircon output.

With the acquisition of the Tisma Project, PYX will own yet another world-class mineral sands asset strategically located in the same geographical region as its current Mandiri operations, delivering notable synergy and advantage regarding logistics, familiarity of local knowledge and practices, among others. Along with other developments, PYX is expected to become a new emerging force in the global mineral sands industry, in control of zircon resources that are among the largest worldwide, with established production, significant growth potential and appealing valuation.



IV. CONCLUSION

The proposed acquisition of Tisma Development (HK) Limited and its mineral sands project in Kalimantan, Indonesia through the issuance of about 147 million of PYX's common shares or around 55% of the Company's current total outstanding shares will confer substantial benefit and value to PYX's existing and prospective shareholders as follows:

- PYX will **become the second-largest zircon producing company globally** in terms of contained zircon in mineral resources;
- PYX's **JORC-compliant mineral resources and contained zircon will spike 109% and 75% respectively**;
- **Assemblage value is estimated to increase approximately 5.3%** to US\$1,145 per tonne (among the highest of its peer group) from US\$1,087 per tonne;
- **Expected seven-fold jump in total zircon production in five years** from 12,000 tonnes in 2021 to 84,000 tonnes in 2026, and
- **Gross profit of PYX is projected to surge about 47X** to US\$96.24 million in 2026 from US\$2.03 million in 2021.

Apart from what is mentioned above, PYX's prospects are auspicious stemming from its continued efforts to enhance shareholder value like securing accretive deals, and robust outlook for the overall mineral sands industry and zircon in particular with the following contributing factors:

- **Persistent trend of growing urbanization and rising standard of living especially among the developing countries such as China and India.** According to a research recently conducted by the McKinsey Global Institute, the number of China and India's city dwellers will expand by an astonishing pace of 400 million and 215 million respectively by 2025;
- As a result of its unique attributes such as high melting point and thermal conductivity, alongside chemical stability at high temperatures, there is **no perfect substitute for zircon in many applications**;
- Research and development is being carried out on zircon and its derivatives to **develop novel applications with expected widespread adoption** by exploiting the advantages of nano-materials and nano-structures; and
- **A shortage in premium zircon in the foreseeable future** because of declining ore grades of existing mines and the lack of significant discovery of zircon deposits since 2012 except PYX's Mandiri asset.

Hence, we reiterate an **Overweight** rating on PYX with a **12- to 18-month price target of AU\$2.50**, representing an upside potential of about 355% over the share price of AU\$0.55 as of 22 January 2021.

IMPORTANT DISCLOSURES

STOCK OWNERSHIP AND CONFLICT OF INTEREST DISCLOSURE

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

Cedrus Investments Ltd. (“Cedrus”) does and seeks to do business with companies covered in research reports distributed by Cedrus, and Cedrus may or may not be an investor of the subject company and may have investment banking relationship with the subject company. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Cedrus will identify such companies in the reports of the companies covered. Therefore, investors should consider this report as only a single factor in making their investment decision. Specifically for PYX Resources Limited, Cedrus does not own any shares directly, but holds shares on behalf of its clients in the capacity as a custodian only through Cedrus Investments – Nominees.

Cedrus will receive or has received compensation for investment banking services provided within the past 12 months from PYX Resources Limited.

Cedrus will receive or has received within the past 12 months compensation from PYX Resources Limited.

ANALYST CERTIFICATION

Dr. Thomas Kenny and Charlie Yang hereby certifies that the views expressed in this research report accurately reflect his personal views about the subject companies and their securities. He also certifies that he has not been, and will not be, receiving direct or indirect compensation in exchange for expressing the specific recommendations in this report.

For additional information, please send an e-mail to information@cedrusinvestments.com

For private circulation only. This report is prepared by Cedrus and is for informational purposes only and is not intended to be, nor should it be construed to be, an advertisement or an offer or a solicitation of an offer to buy or sell any securities. The information herein, or upon which opinions have been based, has been obtained from sources believed to be reliable, but no representations, express or implied, or guarantees, can be made as to their accuracy, timeliness or completeness. The information and opinions in this report are current as of the date of the report. We do not endeavor to update any changes to the information and opinions in this report. Unless otherwise stated, all views expressed herein (including estimates or forecasts) are solely those of our research department and subject to change without notice.

The information provided in this research report is not provided to and may not be used by any person or entity in any jurisdiction where the provision or use thereof would be contrary to applicable laws, rules or regulations of any governmental authority or regulatory or self-regulatory organization or clearing organization or where Cedrus is not authorized to provide such information.

This report does not take into account the specific investment objectives, financial situation, and the particular needs of any specific company that may receive it. Before acting on any information in this report, readers should consider whether it is suitable for their own particular circumstances and obtain professional advice related to their own investment needs and objectives. The value of securities mentioned in this report and income from them may go up or down, and investors may realize losses on any investments. Past performance is not a guide to future performance. Future terms are not guaranteed, and a loss of original capital may occur.

Neither the analysts responsible for this report nor any related household members are officers, directors, or advisory board members of any covered company. No one at a covered company is on the Board of Directors of Cedrus or its affiliates. The compensation for the analysts who prepare reports is determined exclusively by senior management. Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of Cedrus as a whole, of which investment banking, sales and trading are a part.

Cedrus does engage in investment banking. Cedrus does trade securities on a principal basis; however, Cedrus’ research analysts are prohibited from owning securities they cover through Research Reports.

Copyright 2021 Cedrus Investments Ltd. All rights reserved. Any unauthorized use or disclosure prohibited.