

## PYX Commences Production and Sales of Rutile

### HIGHLIGHTS

- **PYX begins sales activity of natural rutile from its Mandiri deposit as a by-product, having maximised its production capacity at its Mineral Separation Plant to 24ktpa in November 2021**
- **Robust market fundamentals for rutile, an unrefined high-grade titanium dioxide feedstock, where demand is expected to exceed global supply**
- **Production and sales of additional by-products – ilmenite and leucoxene - to follow in 2022**

**PYX Resources Ltd** (PYX or the Company) (NSX: **PYX** | LSE: **PYX**), is pleased to announce that it has started production and sales activity of natural rutile from its Mandiri deposit in Central Kalimantan, Indonesia, as a by- product of its primary zircon production operation.

**PYX’s Chairman and Chief Executive Officer Oliver Hasler, said:** *“PYX has hit the ground running in 2022 having kicked off the production of rutile; this is an integral part of our growth strategy, which assists us in expanding the range of products available to our increasingly diverse customers worldwide. Like zircon, the rutile market is fast-growing, given its increased usage in the high-tech and automotive markets. Consequently, our timing to build PYX’s Heavy Mineral Sands production capacity and global profile comes at an opportune time for the company.”*

PYX initially focused on producing and selling premium zircon but in November 2021, the Company announced that it had increased capacity at its Mandiri Mineral Separation Plant (MSP) to 24,000 tpa, which enabled the addition of titanium dioxide minerals to its sales profile as part of its five-year plan. Accordingly, the Company has now commenced production and sales activity of rutile to customers in Indonesia with other by-products, leucoxene and ilmenite, to follow.

Rutile (TiO<sub>2</sub>) is used in the manufacture of titanium dioxide, which is increasingly used in many industries such as construction, automotive, packaging, and electronics for titanium oxide. Given its growing demand from different industries, the rutile market size is forecast to reach \$4.1 billion by 2025, after growing at a CAGR of 4.8% during 2020-2025<sup>1</sup>. Notably, the Australian Government identified rutile and ilmenite as critical minerals considered vital for the economic well-being of the world’s major and emerging economies, yet whose supply may be at risk.<sup>2</sup>

Rutile maintains one of the highest refractive indices at visible wavelengths of all known crystals, combined with its substantial double refraction and high dispersion, it is commonly manufactured for certain optical elements, especially polarization optics, for longer visible and infrared wavelengths up to about 4.5 micrometers (µm).

Titanium dioxide is a deep coloured, dark mineral, which transforms into a white opaque powder when processed. This dusty white powder is utilised all over the globe, the pigment is a key component in the manufacture of paint, plastic, paper, and fibre. Titanium dioxide is a non-toxic

<sup>1</sup> Industry ARC Research Rutile Market – Forecast (2022 - 2027) <https://bit.ly/3K3gVwL>

<sup>2</sup> Australian Government, Australian Critical Minerals Prospectus 2021 <https://bit.ly/3qfYInX>

12 January 2022

whitener, which also provides UV and chemical resistance. The mineral is used in an abundance of different end of applications, including house and car paints, plastic pipes and packaging, laminates, inks, clothing, sunscreen, toothpaste, and make-up.

Titanium minerals are also vital in producing titanium metal. Titanium metal is chemically impervious, has a high melting point, low conductivity and has the highest strength to weight ratio of all metals. It is utilised across various applications including defence, aeronautics, medical implants, sporting goods and componentry in the offshore mining and petrochemicals industries.

Welding is another significant market of high-grade titanium feedstocks, used in the manufacture of welding flux wire cord, as utilised in the steel construction and ship building industries. Titanium minerals are favoured for their durability, strength, and exceptional chemical resistance abilities.

A modest, though fast-growing factor of titanium demand is in the nanomaterials sector. Numerous unique properties of titanium are taken advantage of in applications such as dye-sensitised solar cells, water purification, cancer treatment and noise absorption.



*Rutile*

**\*\*\* ENDS \*\*\***

**For more information:**

[ir@pyxresources.com](mailto:ir@pyxresources.com)

Tel.: +61 2 8823 3132

*This announcement is authorised for release by Oliver B. Hasler, Chairman and Chief Executive Officer.*

## About PYX Resources

PYX Resources Limited (NSX: PYX | LSE: PYX) is a producer of premium zircon dual listed on the National Stock Exchange of Australia and on the Main Market of the London Stock Exchange. PYX's key deposits, Mandiri and Tisma, are large-scale, near-surface open pit deposits both located in the alluvium-rich region of Central Kalimantan, Indonesia. PYX, whose Mandiri deposit has been in production since 2015, is the 2nd largest zircon producing mining company globally by zircon resources. Determined to mine responsibly and invest in the wider communities where it operates, PYX is committed to fully developing its Mandiri and Tisma deposits, with the vision to consolidate the mineral sands resources in Kalimantan and explore and acquire mineral sands assets in Asia and beyond.

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

This NSX Announcement contains forward-looking statements and forward-looking information within the meaning of applicable Australian securities laws, which are based on expectations, estimates and projections as of the date of this NSX Announcement.

This forward-looking information includes, or may be based upon, without limitation, estimates, forecasts and statements as to management's expectations with respect to, among other things, the timing and amount of funding required to execute the Company's exploration, development and business plans, capital and exploration expenditures, the effect on the Company of any changes to existing legislation or policy, government regulation of mining operations, the length of time required to obtain permits, certifications and approvals, the success of exploration, development and mining activities, the geology of the Company's properties, environmental risks, the availability of labour, the focus of the Company in the future, demand and market outlook for precious metals and the prices thereof, progress in development of mineral properties, the Company's ability to raise funding privately or on a public market in the future, the Company's future growth, results of operations, performance, and business prospects and opportunities. Wherever possible, words such as "anticipate", "believe", "expect", "intend", "may" and similar expressions have been used to identify such forward-looking information.

Forward-looking information is based on the opinions and estimates of management at the date the information is given, and on information available to management at such time. Forward looking information involves significant risks, uncertainties, assumptions and other factors that could cause actual results, performance or achievements to differ materially from the results discussed or implied in the forward-looking information. These factors, including, but not limited to, fluctuations in currency markets, fluctuations in commodity prices, the ability of the Company to access sufficient capital on favourable terms or at all, changes in national and local government legislation, taxation, controls, regulations, political or economic developments in Indonesia and Australia or other countries in which the Company does business or may carry on business in the future, operational or technical difficulties in connection with exploration or development activities, employee relations, the speculative nature of mineral exploration and development, obtaining necessary licenses and permits, diminishing quantities and grades of mineral reserves, contests over title to properties, especially title to undeveloped properties, the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drill results and other geological data, environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins and flooding, limitations of insurance coverage and the possibility of

project cost overruns or unanticipated costs and expenses, and should be considered carefully. Many of these uncertainties and contingencies can affect the Company's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Prospective investors should not place undue reliance on any forward-looking information.

Although the forward-looking information contained in this NSX Announcement is based upon what management believes, or believed at the time, to be reasonable assumptions, the Company cannot assure prospective purchasers that actual results will be consistent with such forward-looking information, as there may be other factors that cause results not to be as anticipated, estimated or intended, and neither the Company nor any other person assumes responsibility for the accuracy and completeness of any such forward-looking information. The Company does not undertake, and assumes no obligation, to update or revise any such forward-looking statements or forward-looking information contained herein to reflect new events or circumstances, except as may be required by law.

No stock exchange, regulation services provider, securities commission or other regulatory authority has approved or disapproved the information contained in this NSX Announcement.

### **Compliance Statement**

The Mandiri mineral sands deposit hosts a 6 Mt Inferred JORC Resource of zircon. The Company originally announced this resource in its Prospectus released on 20 February 2020 and confirms that it is not aware of any new information or data that materially affects the information included in the Prospectus. All material assumptions and technical parameters disclosed in the Prospectus that underpin the estimates continue to apply and have not materially changed.

The Tisma mineral sands deposit hosts a 4.5 Mt Inferred JORC Resource of zircon. The Company originally announced this resource in its Announcement "PYX Resources Limited Agrees to Acquire Tisma Development (HK) Limited, a World-Class, Fully Licensed Mineral Sands Deposit" on NSX on 13 January 2021 and confirms that it is not aware of any new information or data that materially affects the information included in the Announcement. All material assumptions and technical parameters disclosed in the Announcement that underpin the estimates continue to apply and have not materially changed.

Together the Mandiri mineral sands deposit and Tisma mineral sands deposit total 10.5 Mt of contained zircon resource.