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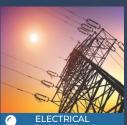


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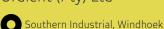
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Please visit www.namibianresourcesreview.com for regular updates on what's happening with Namibian mining companies and their personnel both here and abroad. A digital version format of the magazine is also available at www.namibianresourcesreview.com and is replica of a print version format magazine.



# NAMIBIA MINING EXPO EVENT WEEK



innpartnership, Mining Finland, Geological Survey of Finland (GTK) and the Embassy of Finland in Windhoek, in collaboration with the Chamber of Mines of Namibia, invite Finnish mining and supporting companies to the Namibia Mining Expo on 30-31 August 2023.

Organised in Windhoek, the Namibia Mining Expo brings together the key stakeholders of the sector as well as international companies. Mining Finland, GTK, Finnpartnership and the Embassy in Windhoek will provide a pavilion for Finnish companies at the exhibition. Additionally, during the event week, site visits to selected promising mines will be organised for Finnish participants as well as meetings with mining sector companies on Monday and Tuesday 28-29 August.

There will also be a stakeholder reception organised by the Embassy on Wednesday 30 August. Therefore, make sure to book the entire week of 28 August (28 August – 1 September) to make most of your visit.

Namibia is one of Africa's leading

mining countries. The country is a major global exporter of uranium, gold, copper, zinc, and high-quality diamonds.

With the green transition and the post-pandemic recovery of the global economy, world market prices for many minerals are high, which is reflected in a number of ongoing exploration projects in Namibia.

The country is also estimated to have significant unexploited deposits of critical raw materials such as battery minerals.

Securing the sustainable supply of critical raw materials is also a key issue for the EU. In late 2022, Namibia became the first African country to sign a Memorandum of Understanding (MoU) with the EU on a strategic partnership for developing the sustainable value chains of critical raw materials. The aim of the partnership is to support Namibia in becoming a key producer of critical raw materials and to develop mineral processing locally. From the EU perspective, the aim is also to facilitate European investments in Namibia's mining sector and ensure a diverse and sustainable supply of critical raw materials. For Finnish operators, the strategic partnership between the EU and Namibia creates interesting business opportunities. The trip is also part of Finnpartnership's Global Gateway campaign, which aims to guide Finnish companies into the value chains of EU-supported projects.

In addition to mining companies, Namibia's mining sector provides versatile opportunities for companies specialised in e.g., water, energy, ICT, and technology. Finnish expertise is sought especially in sustainable and digital mining solutions, mineral extraction and processing as well as wastewater and water supply solutions.

Namibia is also interested in developing the training of mining professionals in collaboration with Finnish organisations. You can learn more about the Namibian mining sector in the annual review by the Chamber of Mines of Namibia, and in the country outlook provided by the Embassy of Finland.

04 Event

#### NAMDEB AND MUN SIGN A THREE YEAR WAGE **AGREEMENT**



ollowing months of rigorous negotiations, Namdeb and the Mine Workers Union of Namibia Oranjemund branch has announced the successful conclusion of a three (3) year wage agreement for the periods 2023, 2024 and 2025 respectively.

The settlement agreement reaffirms the importance of harmonious stakeholder relationships and commitment of both parties (Namdeb and MUN) in ensuring a sustainable future. The agreement further demonstrates a common goal, vision and understanding of where the business is going in pursuit of Mining for Good.



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amibia is seeing a rise in seismic surveys, and by the end of the year, the government is planning to announcement a series of drilling projects that will take place during 2024, Petroleum Commissioner at the Ministry of Mines and Energy Maggy Shino has said.

Speaking during a webinar on Guyana-Namibia upstream trends, Shino provided an update on the country's exploration activities, stating that the country is open for investment as new exploration campaigns kick off.

"We have an ongoing drilling campaign with three rigs currently busy drilling appraisal and exploration wells. We are expecting two more wells to be drilled before the end of 2023 in the deep waters," added Shino.

The African Energy Chamber (AEC) partnered with global energy and commodities information provider

S&P Global Commodity Insights for a webinar on June 27. Exploring the respective upstream markets of Guyana and Namibia, the webinar - moderated by Verner Ayukegba, Senior-Vice President at the AEC and Justin Cochrane, African Upstream Regional Research Director, S&P Global Commodity Insights - provided insight into ongoing exploration efforts across both countries, with presentations investigating how Namibia - as a relatively new upstream play - can learn from Guyana's experiences.

Namibia has quickly risen to become a highly attractive E&P market, with three major discoveries made in 2022 and 2023 incentivizing a strong slate of regional and global players to the country's offshore basins.

Eager to maintain this exploratory momentum, Shino also stated that for now, the government has no plans in place to change the current licensing structure in the country, but rather, it is committed to ensuring that the upstream market is "open for investment.

We don't want to force companies to make a decision in a licensing round but want to remain open for investment so that companies come when they are ready."

To date, the Orange Basin represents the only de-risked acreage in Namibia, however, ongoing seismic campaigns in the Namibe and Walvis Basins are likely to reveal sizeable finds, particularly following successful exploration campaigns in the Angolan side of the offshore acreage.

Notwithstanding E&P incentives, Shino explained that the country is seeing heightened interest by global players, owing largely to Namibia's attractive fiscal and regulatory environment.

She stated that, "as a country, there is a benefit of being a late comer because we have gained insights from other countries on how to maximize our [legislation]."

06

While other countries continue to face challenges associated with environmental concerns, Namibia's position as a new market has enabled the country to include environmental provisions in the drafting of its legislation.

This has not only enhanced its attractiveness as an investment destination but ensures the protection of the environment - a top priority for the southern African country. According to Shino, "the Environmental Management Act has taken into consideration many scenarios to ensure industry growth as well as environmental sustainability. We continue working with civil society to ensure that our laws improve and will continue to provide the muchneeded protection of the environment."

Meanwhile, as a nascent energy market, Namibia has the opportunity to learn from those that went before it. Historically, resource-rich countries have all witnessed an 'oil boom,' a trend in which only the communities directly connected to energy developments reap the rewards. However, Namibia is committed to turning this trend around, implementing a number of local content mechanisms to enhance value addition and economic prosperity. According to Shino, the country is turning to its neighbors including Angola, Nigeria, Equatorial Guinea and others to strengthen local content ahead of first oil and gas.

The government is also prioritizing economic diversification to ensure the development of various segments of the economy, with tourism having been identified as a top industry.

Shino also provided insight into the country's potential Organization of Petroleum Exporting Countries

(OPEC) membership, stating that "we see great value that an organization like OPEC has in managing the dynamics of the market to ensure that the industry strives. We would like to join at the right time."

While the offshore basins of Guyana and Namibia show few geological similarities, the timelines by which exploration efforts were undertaken and major discoveries were made are remarkably similar. Both countries witnessed over 50 years of exploratory efforts which yielded few results. However, following initial major discoveries, the pace at which developments, as well as associated E&P campaigns, kicked off rapidly accelerated.

According to Joaquim de Azevedo, Principal Petroleum Economist for Upstream Solutions at S&P Global, the contribution towards GDP growth by the oil and gas sector will trigger an increase in wealth and improvement regarding the well-being of the population of both countries.

He said both countries have fiscal terms which are attractive to global investors and are both prioritizing the rollout of gas-toshore facilities to meet local demand using domestic resources. Erik Meyer, Senior Technical Research Analyst at S&P Global, added that Guyana and Namibia both rank among the world's top 25 basins by identified reserves, with Guyana leading at 18 billion barrels of discovered hydrocarbons while Namibia ranks high with its Venus and Graff-1 discoveries.

Meyer emphasized that the discoveries made in the southern African country has "unlocked Namibia's deepwater potential, with a number of prospects not yet explored in the Orange Basin. There is a lot of potential in the basin and we could see future large-scale discoveries."

For Guyana, the country made 30 discoveries offshore, finds which have enabled further exploration as revenue increases.

Similarly, with its three discoveries made to date, Namibia, according to Cody Schulte, Senior Technical Research Analyst, Upstream at S&P Global, is well positioned to attract a new wave of funding.

He said that both countries are similar in the fact that testing and drilling across ultra-deep waters have been key for players present in Namibia and Guyana.



Energy News 07



&L Nexentury, a subsidiary of the Ohlthaver & List Group (O&L) plans to construct a 100 megawatts solar plant to be located outside Windhoek at a cost of more than N\$1 billion.

The mega project which has already obtained a power generation and export license from the Electricity Control Board (ECB), will be financed through a mix of debt and equity.

"Our aim is to not only export the electricity produced by this plant but also supply interested energy users within Namibia. These can be industrial companies, mines, Nampower, Regional Electricity Distributors and others," O&L Nexentury Managing Director, Bernd Walbaum told The Brief.

The first phase of the project is expected to be operational by the middle of 2024.

"A part of the produced electricity will be exported to the Southern African Power Pool that provides sustainable energy for the SADC region and beyond," Walbaum said.

This comes as the company's German unit, O&L Nexentury GmbH is in the process of constructing a solar park on the gravel lake of Philipp & Co KG in Bad

Schönborn through an approximately N\$350 million investment.

O&L Nexentury GmbH was granted the necessary construction permit in February 2023, valid for 25 years.

In May the O&L subsidiary was granted an advanced water management permit to construct and operate Germany's largest floating solar photovoltaic (PV) park, which will consist of over 27,000PV panels and cover more than eight hectares of water surface area.

O&L Europe (fellow O&L subsidiary) and Phillip & Co KG are the co-investors of the solar project and about 70% of Phillip & Co KG's energy needs will be supplied by this solar park, with the remaining energy going into the local power grid.

O&L's foray into the renewable space also comes after its disinvestment in Namibia Breweries Limited (NBL) and its foray into the green hydrogen space through a partnership with Belgium-based partner, CMB.TECH to create Cleanergy Solutions Namibia (Cleanergy).

Cleanergy was awarded a grant to set up a Hydrogen pilot plant and refueling station on the coast of Namibia.

#### NAMIBIA'S MANUFACTURING AND MINING INDUSTRIES BOOST MAY TRADE

he manufacturing and mining sector in May enhanced the country's trade deficit, accounting for 47.4 percent of total exports valued at N\$4.4 billion, official data shows.

The manufacturing industry however recorded a decrease of N\$473 million compared to April 2023 while the mining sector recorded an increase of N\$2.1 billion from the previous month.

According to the latest figures from the Namibia Statistics Agency (NSA), the manufacturing and mining sectors absorbed 47.0% of the export bill in May.

NSA said in terms of imports, the demand side was primarily driven by the manufacturing industry, with goods valued at N\$6.9 billion during the month.

"This represented a decrease of 4.6 percent from the previous month's import bill of N\$7.3 billion. Simultaneously, the mining and quarrying industry experienced a remarkable increase of N\$3.7 billion, contributing 40.4 percent to the total imports," NSA Statistician General & CEO Alex Shimuafeni said.

This comes as Namibia recorded a trade deficit of N\$2.8 billion in May

2023, indicating a widened trade balance compared to the N\$1.3 billion deficit in the previous month. However, the deficit showed improvement when compared to the N\$5.2 billion deficit recorded in May 2022.

"Namibia witnessed trade surpluses with Botswana of N\$1.7 billion, Canada (N\$691 million) and China (N\$679 million). However, trade deficits were recorded against South Africa (N\$2.4 billion), India and Peru both recorded a trade deficit of N\$1.5 billion each during the period under review," Shimuafeni said.

Namibia's trade balance worsened in May 2023 when compared to the month of April 2023 with petroleum oils recording an import bill of N\$2.9 billion and a deficit of N\$2.5 billion, in second place was copper ores and concentrates with an import bill of N\$1.7 billion and a deficit of N\$1.7 billion.

NSA noted that Namibia exported uranium and precious stones (diamonds) worth N\$2.0 billion in May.

"Uranium recorded a trade surplus of N\$2.0 billion while precious stones (diamonds) yielded a trade surplus of N\$1.7 billion. The country continued to be a net exporter of fish with N\$1.1 billion worth of fish exported and only N\$11 million imported during the month under review," NSA said.

This comes as Namibia's exports were dominated by uranium, accounting for 21.5% of total exports. Precious stones (diamonds) followed closely with 21.1%, and fish contributed 12.0%.

"Non-monetary gold and 'Copper and articles of copper' held the fourth and fifth positions, contributing 9.8 percent and 5.5 percent, respectively. On the import side, petroleum oils constituted the highest valued commodity with 24.2 percent, followed by 'Copper ores and concentrates' at 13.9 percent, and motor vehicles for the transportation of goods at 4.2 percent," the NSA said.

South Africa remained Namibia's largest import market, accounting for 33.6% of imports. India followed in the second position with a share of 12.7%, while Peru ranked third with 12.1%.

China and Saudi Arabia completed the top five import markets with 8.3% and 4.7%, respectively.



Business News 09



ratomic Inc has announced that commercial commissioning has begun at its Aukam Graphite mine in Namibia to prepare the first 100 tonnes of product to send customers for final inclusion into value-added applications.

Aukam's primary focus in product development has been to become one of the first projects in the world to successfully introduce Vein Graphite into anode on a large scale. The Company succeeded in achieving this milestone with the assistance of its partner Graphex Technologies LLC.

Through independent testing, Graphex was able to verify the suitability of Vein Graphite and its degree of graphitization as suitable for anode inclusion.

Over the next four to six months, Gratomic will be calibrating the Aukam Processing Plant on a scale large enough to meet exact end-user specifications.

This program is the final step before commencing full operation of the facility.

Once the plant is wholly operational and optimized, the Company will focus on fine-tuning costs to ensure the best outcome for all parties involved.

The cost optimization phase will involve installing a solar power station on site to reduce the overall power cost and ESG footprint.

The past four months have seen ground crews working tirelessly to accomplish this momentous achievement.

The Company thanks all its employees and upper management for the late nights and countless hours of overtime to meet the required deadlines three days ahead of schedule.

Gratomic is becoming a pioneer in the mining industry by demonstrating that through innovation, determination, and perseverance, mining companies such as itself can successfully transition to operation without the aid of debt, streaming, or royalty instruments that generally result in strenuous economics in the early days of mining. Gratomic has recently appointed a reputable sales representative in Europe to sell all the non-anode material the Company produces over the duration of mining activity at Aukam.

Gratomic also wishes to take this opportunity to thank the Namibian government for its endless support in providing the opportunity to transition successfully to this critical juncture.

You have proven to be a worthy ally in the investment community. We also support the Namibian legislative change banning exports of unprocessed critical minerals, citing that it is important for mining companies to maximize creating value within the borders of the country.

Arno Brand, President and CEO of Gratomic, stated, "It is truly unbelievable that we were able to transition to this enormous achievement for the Company. It has suffered greatly under tough market conditions in the past 18 months. Nonetheless, we were determined to persevere without losing sight of out goal despite any challenges thrown at us. To the shareholders, your backing has given us the means necessary to achieve our objectives. We are indebted to you for your continued support and humbled by your commitment to help us realize our vision."

Gratomic wishes to emphasize that no Preliminary Economic Analysis, Preliminary Feasibility Study, or Feasibility Study has been completed to support any level of production. In fact, no mineral resources, let alone mineral reserves demonstrating economic viability and technical feasibility, have been delineated on the Aukam property.

The Company is working towards completing a Feasibility Study (FS) on the Aukam Processing Plant. The study, its recommendations, and their subsequent implementation, will provide conclusions and recommendation at a FS level of comfort about scaling-up the existing processing plant to a commercial facility that can produce the desired concentrate grades and production rates.

Gratomic wishes to emphasize that the supply of graphite is conditional on bringing the Aukam Project to production phase, and for any graphite produced meeting certain technical and mineralization requirements.

#### **Risk Factors**

No mineral resources, let alone mineral reserves demonstrating economic viability and technical feasibility, have been delineated on the Aukam property. The Company is not in a position to demonstrate or disclose any capital and/or operating costs that may be associated with the processing plant until the Feasibility Study is completed.

The Company advises that it has not based its production decision on even the existence of mineral resources, let alone on a Preliminary Feasibility Study or Feasibility Study of mineral reserves, demonstrating economic and technical viability.

As a result, there may be an increased uncertainty about achieving any particular level of mineral recovery or the cost of such recovery, including increased risks associated with developing a commercially mineable deposit.

Historically, such projects have a much higher risk of economic and technical failure. There is no guarantee that production will begin as anticipated or at all, or that anticipated production costs will be achieved.

Failure to commence production would have a material adverse impact on the Company's ability to generate revenue and cash flow to fund operations.

Failure to achieve the anticipated production costs would have a material adverse impact on the Company's cash flow and future profitability.



Project News 11



# **ANDRADA MINING SEES LITHIUM**

# AND **TANTALUM IN LATEST DRILLING**

ndrada Mining Ltd said programme on acreage near the Uis mine in Namibia intersected lithium and tantalum.

Known as the Spodumene Hill project, the best intercepts were between 14.5 metres (m) at 1.38% Li2O and 11m at 0.81% Li2O at shallow depths with additional tantalum shows of between 282-1,101 parts per million (ppm) in these holes.

Anthony Viljoen, chief executive, said: "These drill results provide an initial glimpse into the potential of the Spodumene Hill project.

"The identified high-grade lithium all holes in its latest drill intersections within the pegmatite could be separated through ore sorting to provide a potentially high-grade pre-concentrate for the lithium processing plant.

> "These results have also highlighted the tantalum potential of this area and the relevance of the recently constructed tantalum recovery circuit.

> "The proximity of the Spodumene Hill Project to the existing operations provides an immediate opportunity for additional revenues from the project area by blending tantalum grades."



### RECONAFRICA CONFIDENT OF FUTURE DRILLING ...INTERPRETING SEISMIC DATA FROM EXPLORATION WELLS

ReconAfrica, the Canadian company drilling for oil in north-eastern Namibia, has squashed unsubstantiated rumours surrounding its exploration activities.

The unconfirmed gossip includes speculation that drilling has ended unsuccessfully and that the company is packing up local operations, given the absence of foreign workers at drilling sites

However, the international company currently looking for commercial oil quantities in the Kavango basin clarified that it is currently interpreting available data obtained from completed exploratory drilling in order to determine where to drill next. In fact, the company's field operational activities are scheduled to recommence once it starts with its next drilling campaign.

"Once the data has been processed and integrated with well data, it is interpreted to understand an integrated image of the geology that will assist with directing the rest of the project, including building a prospect portfolio and identifying the next well locations," reads a project update from the company.

The company update added that interpreted data assists with de-risking in large exploration areas, such as ReconAfrica's licence area, and helps its team rank prospective locations based on size, complexity and geological likelihood.

"Once interpretation is complete, a geological model is built which assists in evaluating the sub-surface, building a prospect portfolio, and guiding the next drilling locations", the recently-published update reads.

Meanwhile, ReconAfrica spokesperson Mwanyengwa Shapwanale explained the absence of foreign workers - which seems to have fuelled speculative rumours

in surrounding communities - on the company's drilling sites.



"Any foreign workers who have left Namibia have done so after completing their work on our 2D seismic and eFTG (Enhanced Full Tensor Gravity) activities. Foreign workers are needed at different stages of the exploration programme as technical specialists, and are brought in when needed. As noted in press releases dated 3 April and 24 May, the 2D seismic and eFTG programmes have reached their planned conclusion, and we are now in the process of integrating all of our subsurface data. We expect to be drilling again later this year when additional local and foreign workers will once again be required," said Shapwanale.

Moreover, following the successful completion of a two-year 2D seismic acquisition programme covering more than 2 700 line kilometres, an eFTG programme covering nearly 5 000 km2 and the drilling of three wells. ReconNamibia has entered the project's data processing, integration and interpretation phase. "With this more comprehensive sub-surface analysis and evaluation, the company is now focused on developing a prospect portfolio and planning a multi-well drilling programme. In 2021. ReconNamibia successfully drilled three stratigraphic wells, the results of which identified a working petroleum system with multiple types of hydrocarbons: oil, natural gas and natural gas liquids. We commenced our two-year geophysical subsurface data acquisition programme with the ultimate goal of drilling wells that have commercial accumulations of oil and gas. Historically, it is usual in the exploration of new basins to undertake similar

drilling, data acquisition and evaluation programmes to ascertain the existence of potential working petroleum systems and subsequent commercial discoveries".

ReconAfrica stated that integrated subsurface analysis and evaluation is necessary to obtain a more accurate understanding of

the hydrocarbon potential of its licence area.

This requires extensive data processing, computer modelling and interpretation, and demands less onthe-ground operational activities.

"In collaboration with and at the invitation of the Namibian Government, we remain committed to the exploration and development of natural resources in the Kavango East and Kavango West regions," the update stated.

ReconAfrica also noted that written project updates were provided to key stakeholders, including the Kavango East and Kavango West Regional Governors' offices, regional councillors, traditional authorities and their respective village representatives, farmers unions and associations, and surrounding conservancies.





# STEINERT KSS SORTING SYSTEMS EXTEND MINE LIFESPAN AND PRESERVE RESOURCES

Ore sorting is gaining acceptance in the mining industry with more and more sorting plant installations worldwide. Already in 2018, an industrial mineral mine in central Mexico installed its first Steinert ore sorter to improve the run of mine grade, which had gradually been decreasing with the aging of the mine. This first successful installation was followed by two more Steinert multi-sensor sorters which are now processing most of the medium- to low-grade ROM, producing a high-grade product, which can be sold directly to the market. This ore sorting plant has thus enabled the mine to extend its resources to include low-grade areas which were previously below cut-off grade.

Nowadays there is an increasing emphasis on responsible mining relating to sustainability, preservation, and rehabilitation of the environment, as well prioritizing a fair division of economic and financial benefits for all stakeholder. Large mining groups are rethinking their traditional mining models by applying innovative technologies to adress responsible mining issues and also to improve their competitiveness.

#### Sensor sorting contributes to responsible mining

Dry processing techniques such as Sensor-Based Sorting (SBS) technology can play a significant part of this innovation process. The use of SBS technology provides better utilization of the ore bodies, extending reserves into lower grade areas, thereby extending the mine lifespan and extending the utilization of expensive catital such as the mine and process plant infrastructure. Eliminating waste rock from down-stream processes, results in the reduction of energy, water consumption and chemical reagents.

It also has a direct impact on tailings generation, once gangue is eliminated on coarser size fractions. All these benefits are contributing to the current social and sustainability demands of the mining industry.

#### One machine, many solutions

STEINERT has developed a unique concept, called "multisensor sorting or in short STEINERT KSS". The STEINERT KSS sorting system applies that concept allowing the combination of one of the three main sensors (X-ray Transmission, X-ray Fluorescence, and NIR) with all the three additional sensors (Induction, 3D laser, and Color). The main combination for mining is the X-ray transmission sensor added by a color, a 3D laser, and an induction sensor. This approach gives customers enormous flexibility to treat very difficult minerals like fluorspar, iron ore, polymetallic ores, gold ore, and others. The sensors are fine-tuned to detect to many physical properties, such as density, size, volume, brightness, color, inductivity, and conductivity. This beneficiation technology can be applied as ROM pre-concentration, to generate a higher-grade and consistent grade mill-feed. Many installations process low-grade stockpiles to recovery of valuable minerals.



Ore sorted by properties: density and color

Steinert's Mexican client for example is continuously facing challenges of inconsistent grades due to waste rock dilution in their ROM ore. The sorters can be set to produce various grades of products depending on market demand for A-grade product at a premium price or lower-grade products.

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# SWANSON TO REMAIN UNAFFECTED BY NAMIBIAN EXPORT BAN - ARCADIA

iversified battery metals explorer, Arcadia Minerals, says it is not affected by the Namibian government's decision to ban the export of unprocessed lithium and other critical minerals, as it plans to construct a processing plant in the country.

The company, which is developing the Swanson tantalum project, is constructing a gravity plant to produce a tantalum concentrate.

Arcadia Minerals stated that tantalum is not considered a 'critical' mineral in Namibia.

"The company has no intention of exporting unprocessed crushed ore, and it has no plans to do so in the near future. As the transaction with Hebei illustrates, Hebei will construct a Multi Gravity Separation Plant at its cost and execute mine development of the Swanson project up to a steady state of production for 3 months, in return for a 38% equity interest in the project. The MGS plant is being

constructed to produce a tantalum concentrate, which involves the processing of raw ore," the company said on Thursday.

Through an earlier announced transaction, Hebei will construct a plant and execute mine development and commissioning of a multi-gravity separation plant (MGS).

"We are very pleased with the progress Hebei is making at a dvancing the Swanson tantalum/lithium project towards production. Since signing our deal with Hebei, construction has already commenced, and work is accelerating both on-site and a roundequipment of a ceipt/ordering," said Arcadia chairman Jurie Wessels.

"At the site, roads are already being constructed, and earthworks around the plant location will commence shortly. Equipment such as the jaw crusher, cone crusher, feeder, screen, and conveyors have been ordered or are en route. Long lead items, such as the drilling machine, ball mill, and crushers, have also been ordered. The balance of equipment, particularly the gravity plant equipment, is expected to be finalized before the end of July."

The plant is designed to receive around 20,000 tonnes of feed per month, with production expected by the first quarter of 2025.

Based on results from a recent definitive feasibility study, capital costs are estimated at N\$187 million (A\$14.8 million) to support a run-of-mine production rate of 12,500 t a month over an eight-year mine life.

The study estimated a post-tax net present value of N\$194 million (A\$15.36 million), an internal rate of return of 25.4%, a pay-back period of just over three years, and life-of-mine earnings before interest, taxes, depreciation, and amortization of N\$611 million (A\$48.35 million).

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# ABB AWARDED ELECTRIFICATION AND AUTOMATION CONTRACT FOR ARCELORMITTAL NIPPON STEEL INDIA'S NEW ADVANCED COLD ROLLING MILL

- Order placed through original equipment manufacturer John Cockerill India Limited (JCIL) for the new advanced steel processing lines at the client's flagship Hazira plant in Gujarat
- ABB technology will support increased energy efficiency and optimized zinc consumption, leading to greater sustainability in the steel production process
- The electrification and automation contract is part of a large order placed with John Cockerill India Limited (JCIL)

BB has been appointed to provide electrification and automation systems for ArcelorMittal Nippon Steel India's (AM/NS India) advanced steel cold rolling mill (CRM) in Hazira, Gujarat. The contract at the flagship manufacturing plant comes through John Cockerill India Limited (JCIL), the original equipment manufacturer (OEM) for the project.

AM/NS India – a joint venture between two of the world's leading steel companies ArcelorMittal and Nippon Steel – is setting up the new CRM as part of its downstream expansion plan.

ABB is providing advanced electrification and automation systems, including the ABB Ability™ System 800xA distributed control system (DCS) and associated equipment and components, to support enhanced energy efficiency, optimized zinc consumption and high levels of corrosion resistance throughout the steel production process.

This will support AM/NS India in its bid to reach greater levels of sustainability at Hazira.

"Our goal is to help create smarter steels for brighter futures, brighter futures for people and the planet. To do this, we place safety, innovation, and technology at the heart of our manufacturing operations and product development and ABB's technology will support us in this," said Mr. Dilip Oommen, Chief Executive Officer, ArcelorMittal Nippon Steel India (AM/NS India).

"The new processing lines are designed to produce new-age value-added steel, embedding the most demanding quality standards.

This expansion will help us meet the growing demand for high-end steel, while also enhancing our portfolio of value-added, sustainable steel."

"We are proud of having been chosen by such a first-class steelmaker for the supply of two highly automated processing lines, combining cutting-edge equipment with integrated quality control and enhanced energy efficiency," said Frédéric Midy, Project Director, John Cockerill Industry.

"The fight against climate change is part of John Cockerill's mission. This new contract will not only enable us to accompany AM/NS India on its journey towards sustainability but will also contribute to the country's low-carbon economy ambitions."

"The metals industry is essential for the transition to a net-zero world.

Working with JCIL on this

milestone project will support AM/NS India in developing one of the most sustainable, efficient, and modern steel operations," said Vinod C, Local Division Manager, Process Industries, ABB.

The new CRM with advanced processing lines is due to be commissioned in 2024.

A leading integrated flat carbon steel producer in India, AM/NS India has a crude steel capacity of 9 million metric tons per annum with state-of-the-art downstream facilities.

It produces a fully diversified range of flat steel products, including value-added steel, and has a pellet capacity of 20 million metric tons.

ABB's Process Automation business automates, electrifies and digitalizes industrial operations that address a wide range of essential needs – from supplying energy, water and materials, to producing goods and transporting them to market.

With its ~20,000 employees, leading technology and service expertise, ABB Process Automation helps customers in process, hybrid and maritime industries improve performance and safety of operations, enabling a more sustainable and resource-efficient future. go.abb/processautomation

# APPIAN ACQUIRES CONTROLLING STAKE IN ROSH PINAH



in in g - focused investment adviser Appian Capital Advisory has acquired an 89.96% interest in the producing Rosh Pinah zinc/lead mine, located in the Kharas region in southern Namibia, from Trevali Mining.

Rosh Pinah is an operating underground zinc/lead mine with a 2 000 t/d milling operation.

Controlling ownership will enable Appian to apply its technical and operating capabilities to restart the Rosh Pinah 2.0 mine expansion project, which will nearly double the mill's ore throughput from 700 000 t/y to 1.3-million tonnes a year, increasing zinc-equivalent production to 170-million pounds a year, on average.

The expansion project envisages

the construction of new processing facilities, including the addition of a paste fill and water treatment plant, as well as a dedicated portal and decline to extended deposits. It will also focus on improving the mine's safety and environmental performance.

Appian believes the expansion project will improve the mine's cost position and extend mine life, with a significant upside from near-mine exploration and already identified prospects also in play.

The company said in a statement on June 27 that it would retain the existing site management team and workforce, who have substantive technical expertise and understanding of the asset.

Rosh Pinah is one of three recent investments by Appian in the zinc market, following investment in Vedra Metals, in Italy, and Pine Point, in Canada. Appian believes zinc is playing an increasingly important role in the global energy transition.

"This acquisition marks a significant milestone for Appian. We look forward to welcoming the 450 employees at Rosh Pinah to Appian as we use our extensive operational and project development expertise to support the existing management team with delivering the Rosh Pinah 2.0 expansion project," Appian CEO and founder Michael W Scherb said.

Rosh Pinah has been in continuous operation since 1969, producing zinc and lead sulphide concentrates, as well as smaller amounts of copper, silver and gold.



ortescue Future Industries (FFI), a Kenyan sustainable energy company, has made a commitment to a 2022 offer to collaborate with the Namibian government on an investment in the country's Green Hydrogen industry through a 50-50 partnership.

FFI Chief Executive Officer Mark Hutchinson was in the country on Friday and held closed door discussions with President Hage Geingob at State House.

The discussions were to further deliberate on the modalities of how the proposed 50-50 Green Hydrogen Joint Venture can be rolled out, including the terms and conditions as well as the acquisition of prime operational land.

"President Geingob recognised the potential of Green Hydrogen in terms of addressing youth unemployment and stressed the importance of investing and creating job opportunities," the State House said in a statement.

The company cited increased demand for green hydrogen and green ammonia, a form of renewable energy to which the world is venturing as it shifts from fossil fuels, seeing that Namibia has the potential to serve as the global energy hub, as one of its major drives to assist Namibia.

According to details laid out by the company in a letter to Geingob

after the Davos meeting in May last year, FFI is seeking to develop a large-scale multibillion dollar industrial investment spanning the entire energy sector and green hydrogen value chain, including downstream processing of industry product such as fresh water glass, aluminum, green iron, green steel, green ammonia, green fertilisers, green methanol, green jet oil.

The partnership according to initial details, will create huge industries and employment opportunities, and it is through working together that Namibia's ambitions of becoming Africa's centre for green industry and green energy can be realised.

The JV is sought to include features and interests that would maximise Namibia's wind and solar resource potential.

It will further focus on associated green products which are planned to be established in a large area to be controlled by the state, while in return the govt would grant preferred development status for all relevant undertakings to enable the agents to be able to obtain all necessary permits and approvals.

The green industry seeks to employ tens of thousands of Namibians and proposes to establish training facilities.

FFI, a subsidiary of Fortescue Metal Group, is a global green energy company committed to producing green hydrogen, containing zero

#### KENYAN COMPANY PUSHES 50-50 GREEN HYDROGEN JV WITH NAMIBIA

carbon, from 100% renewable sources.

FFI is leading the green industrial revolution, developing technology solutions for hard-to-decarbonise industries, while building a global portfolio of renewable energy, green hydrogen and green ammonia projects.

FFI is also leading the world effort to decarbonise hard-to-abate sectors and is responsible for the proposed decarbonisation of one of the biggest resources companies, Fortescue Metals Group, by 2030. The group is heavily involved in the mining of Iron Ore.

This comes as Namibia is banking its abundance of sunlight and wind resources, in which it seeks to be Africa's leading energy distributor and being self-reliant through the development of Green Hydrogen projects.

So far four pilot projects have been initiated which include a N\$200 billion Hyphen Green Hydrogen to be situated in the South. A Feasibility Implementation Agreement to determine its viability is being rolled out, and this project has the potential to create up to 15,000 jobs.

If all goes well, Green Hydrogen projects have the potential of attracting more than US\$6 billion in foreign direct investment which is anticipated to generate annual revenues in excess of US\$800 million, while also contributing to its much-anticipated Sovereign Wealth Fund.

#### DE BEERS: AFTER BOTSWANA DEAL, NAMIBIA COULD SEEK BIGGER SHARE

he government of Namibia could seek an increased share in its sales agreement with De Beers, after the mining giant agreed a phased move to a 50/50 split with Botswana.

Namdia, the state-owned diamond company currently receives 15 per cent of the diamonds produced by Namdeb, the 50/50 joint venture between the government and De Beers.

The 10-year agreement expires in May 2026. Namibia is De Beers' second biggest diamond-producing country, after Botswana, with a output of 2.3m carats in the year to the end of Q1 2023.

In April, Namibia's mines and energy minister Tom Alweendo told reporters: "Right now we are at 15 per cent, and therefore, when we review the agreement, we would also look at increasing the 15% to something else."

That was before De Beers announced new agreements with Botswana, which will, in a decade, double its share of diamonds from 25 per cent to 50 per cent, and guarantee mining rights for 25 years.

Diamonds recovered on land by Namdeb and at sea by Debmarine, account for over half of Namibia's mining exports and tax revenues.

Fifteen per cent of diamond production is allocated to Namdia and 35 per cent is allocated to the local cutting and polishing industry.



#### AI IS KEY TO DRIVING AUTOMATION IN THE MINING INDUSTRY

rtificial Intelligence (AI) stands to be a good enabler with the adoption of unmanned equipment and machinery in mining. The industry is already au fait with extracting smart data from sensors, which is the application of technology in terms of machine interconnections and boosting operational safety and efficiency.

"It is a matter of how mining will take advantage of such developments in both the broader industry and individual mining operations themselves," says Heinrich Jantzen, Senior Mining Advisor at leading consulting engineering and infrastructure advisory firm Zutari. "The question is how you apply such advances within the mining space, as the industry strives to become a safer occupation and a more sustainable industry. I think the future is quite rosy in terms of AI."

Zutari is developing specific mining expertise to assist clients to embrace Industry 4.0 and the Internet of Things.

"Integration is critical, which refers to finding common ground from logistics to process optimisation and ultimately the engineering services provided," says Jantzen. The current focus of unlocking value in mining by means of technology looks at how workers interface with machines themselves. Jantzen believes that digital transformation continues to drive this process across the entire industry. Mining is pushing the envelope in terms of the remote operation of heavy equipment.

"The questions that need to be answered are how much can be done remotely, what is the capability to monitor such remote operations, and how to achieve the



automation of fixed heavy assets. This is the ideal combination for mining in terms of what technology can achieve," says Jantzen. "Mines face a complex range of operational challenges that make everything quite risk averse. That is really when it boils down to technology driving the status quo.

It is about the combination of all these factors and increasing the focus on collaborative adoption of technological solutions."

For example, sensors are critical to generating data and early warning of any risks, but it is AI that will ensure robust, reliable, and actionable data.

Jantzen says the mining industry's Environmental, Social and Governance (ESG) goals are propelling it along a path towards carbon neutrality, with a range of commitments and initiatives already in place in this regard. However, AI can easily be deployed to reap lower-hanging fruit.

This presents the challenge of integrating AI successfully into such a scenario. An example of how technology can enhance ESG is the ongoing development of collision avoidance systems,

particularly for underground use. These have progressed from radio frequencies to using high-resolution laser light, which has the advantage of being able to address both indoor environments and machines.

Technology must build capacity and reliability into mining, says Jantzen. If you cannot balance these aspects, it makes it extremely challenging.

While a lot of advances in the mining space have been exponential to date, the result has been isolated pockets of excellence in a general sea of ongoing challenges.

"We really need to collaborate in the sense of standing shoulder to shoulder so we can all learn together," says Jantzen.

Technology changes rapidly, meaning it is easy to fall behind. "We will always have challenges and make mistakes. There will always be risks associated with technology adoption, but we need to improve ourselves and become better. At the end of the day, doing all these things will attract more talent into the mining space," concludes Jantzen.

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# Value creation in sustainable mining





The mining industry has tremendous impact on communities and economies. At Zutari we work with mining companies and stakeholders to ensure business growth, optimise operations, obtain optimal value from assets and ensure responsible social and

environmental stewardship. Zutari's holistic approach to engineering equips mines to create a lasting impact through thriving communities, healthy environments, and growing economies.

ENERGY | WATER | TRANSPORT | RESOURCES | BUILT ENVIRONMENT | MANAGEMENT & SUSTAINABILITY







# Some see today. Some see tomorrow. We see both.

Over the years we've witnessed a lot of change. But nothing compares to the two great challenges our industry faces today: the energy transition and the digital revolution. We're helping our customers rise to these challenges.



