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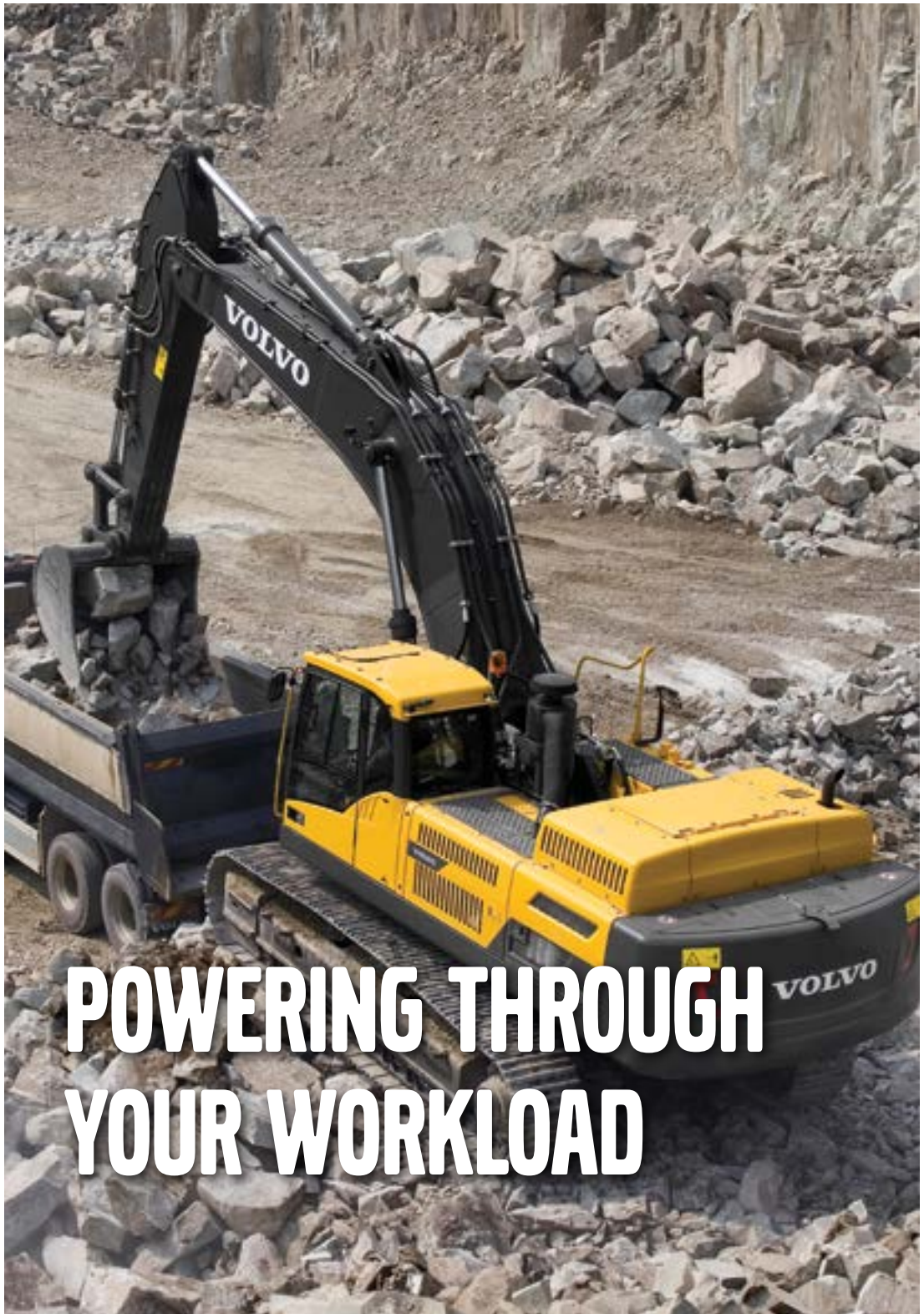
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PUBLISHER

MTI Moçambique Limitada

Editor:
Andrew Maramwidze
drewmara@gmail.com

Editorial Contributors:
More Love Mafu
Dakito Bias
Mario Deus
Casimo Muhimua

ADVERTISING SALES

advertising@mozambiquejournal.com
Domingos Langa
Brito Mamba
Sergio Saidi
Gersholm Twazi

ADDRESS

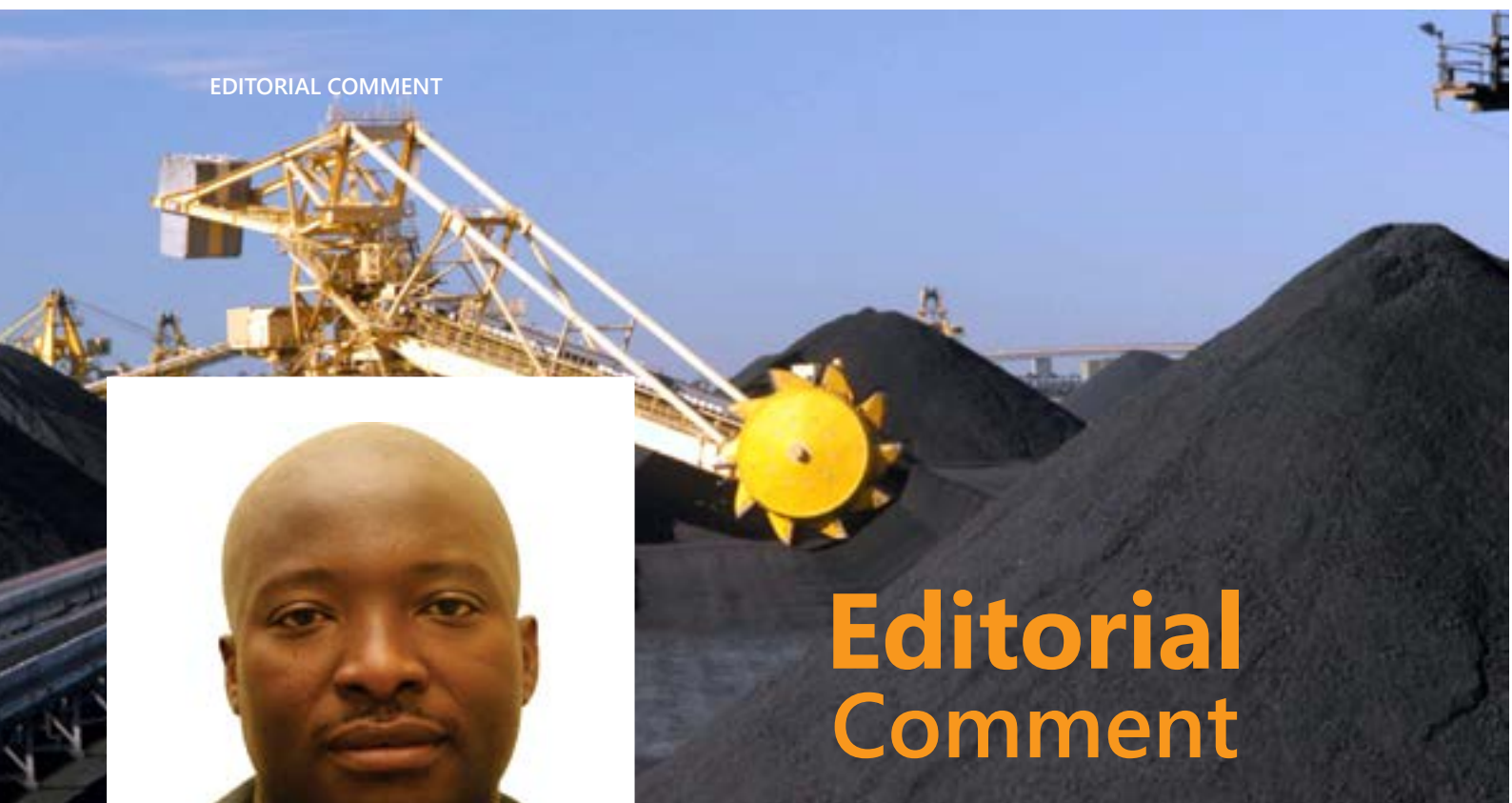
Maputo Office:
628 Julius Nyerere Avenue
Maputo, Mozambique
P.O Box 3236, Maputo
Tel: +258 84 119 4017 / +258 84 445 5339
Fax: +258 82 423 8542

Tete Office:
Talhao 4109
Matundo, Tete
Tel: +258 84 119 4017/ +258 212 230 941
Fax: +258 212 227 698

info@mozambiquejournal.com
www.mozambiquejournal.com

GRAPHIC & PRODUCTION

Rekai Musari Mutisi
rmusari@gmail.com



Andrew Maramwidze

Editorial Comment

More FDI should hit our shores

Let these planned activities come to pass so that we can witness a well oiled economy, once more.

As authorities continue to make efforts to restore the country's lost sparkle, attracting foreign direct investment (FDI) is one of the mandates which remain a headache.

However, the year begins with GOOD NEWS: Standard Bank and ICBC have financed the country's first step as a regional and global offshore natural gas producer and supplier.

The approximately USD 8 billion investment is set to have so many ripple effects across the country and is likely to move the economy forward and make it competitive.

More needs to be done to cement economic relations that exist.

Standard Bank and ICBC have set eyes on the country's potential for long and many more could be on the sidelines.

"Our support of the funding of the Coral FLNG project grew out of our long-term commitment to Mozambique, consistently supporting the country's potential as a future offshore natural gas production and export giant," this indicates that the investors have been monitoring and waiting for the right time.

Government need to identify how to harvest the low hanging FDI fruits to quicken the much needed positive economic activities.

On the other end, Essar Ports' intentions to build new coal terminal at Beira also has huge potential to see a lot of economic activities between Mozambique and her peers - Zimbabwe, Zambia, the Democratic Republic of Congo, Malawi and Botswana.

The strategically terminal is expected to have a cargo handling capacity of 20-million tonnes a year.

Mozambique currently exports 40% of its coal to India, 30% to countries in the Far East, 25% to Europe and the other 5% to countries in other regions.

With the existing of the new port slated to be operational in January 2020, the country stands an opportunity to reap more.

Let these planned activities come to pass so that we can witness a well oiled economy, once more.

Please remember to share your comments, letters and suggestions

Enjoy the read!

drewmara@gmail.com

Ancuabe announce massive resource upgrade

Triton Minerals' Ancuabe Graphite Project resource has increased by 59% to 44-million tonnes, at an average grade of 6.6% total graphitic content (TGC).

According to the company, the development follows a 'highly successful' exploration and resource definition drilling campaign undertaken this year.

"This major resource upgrade continues to demonstrate that Ancuabe is an outstanding deposit with world-class flake size and end product grade, supported by a significant level of independent metallurgical testwork, to underpin development of a long-life, large flake graphite project," said Peter Canterbury, Triton Managing Director.

Ancuabe's T12 and T16 deposits are now estimated to contain 2.9-million tonnes of graphite.

Triton further says the deposits are located just 3 km from each other and remain unconstrained by existing drilling.

"The resource upgrade at the T16 deposit, to 20-million tonnes at 8% TGC, is an exciting achievement for Triton and underlines the prospectivity and quality of the Ancuabe project."

Triton has also significantly advanced confidence in the T12 and T16 deposits, increasing the total indicated mineral resource by nearly 300% to 27.2-million tonnes at 6.9% TGC which alone was sufficient to support targeted graphite concentrate production of up to 60 000 t/y over a 30-year mine life.

Ancuabe project is located in a world-class graphite province, only 90 km from port, and with access to existing road, rail and port infrastructure.

"The logistical advantages of the Ancuabe project and support from the government of Mozambique further distinguish Ancuabe from other graphite projects in Africa," said Canterbury.

Battery Minerals signs another offtake agreement

Australian based company Battery Minerals has signed its fourth binding offtake agreement for graphite concentrate from its Montepuez project.

The company said 80% of the forecast production of mine has been sold a year before its first scheduled shipment.

David Flanagan, the company's Chief Executive Officer said privately owned Chinese company Qingdao Keshuo New Materials Technology –

a specialist spherical graphite and anode producer – has signed up for 10 000 t/y of graphite concentrate over an initial three-year term.

"Keshuo's status as a leading battery anode producer means this agreement is particularly important because it reflects the high quality of the Montepuez graphite," said Flanagan.

The first binding offtake agreement was signed in December with US-based graphite processor Urbix Resources for 11 000 t/y of graphite concentrate.

Battery Minerals is aiming to be in production at Montepuez by December 2018 and is targeting its first shipment in the March quarter of 2019, at export rates of 45 000 t/y to 50 000 t/y at an average flake concentrate grade of 96.7% TGC.

The company also plans to grow production from Montepuez to more than 100 000 t/y graphite flake concentrate through expansion projects by 2022.

CTRG inks US\$189 million funding deal

Central Térmica de Ressano Garcia (CTRG), a joint venture between Sasol Energy and Electricidade de Moçambique (EDM) has inked a \$189-million finance deal to fund its project.

Arranged by Absa Bank, the project finance comprises of two tranches - A and B loans from the International Finance Corporation, a direct loan from Société de Promotion et de Participation pour la Coopération Economique and a political risk covered loan from Absa.

CTRG, in which EDM holds a 51% stake and Sasol Energy the balance, operates a 175 MW gas-fired independent power producer plant, comprising 18 Wartsila gas engines.

Sasol provided the bridge funding to the project up to the successful conclusion of the project finance.

Global demand pushes Savannah's lease applications

Savannah Resources has submitted three applications to government for Mutamba Heavy Mineral Sands Projects' mining leases.

The three applications submitted cover a total area of 417.32km² and comprise the Jangamo, Dongane, Ravene and Chilubane deposits.

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"The submission of the mining lease applications is a key milestone and a great start to 2018.

"This is the final formal step in the process of securing long term Mining Leases over globally significant deposits of heavy mineral sands," said David Archer, Savannah's Chief Executive Officer.

"This follows the commissioning of the pilot processing plant in Q4 2017, which will be used to produce concentrate as a part of the Pre-Feasibility Study which is currently underway.

The Ministry of Mineral Resources and Energy has six months from the date of submission to respond to the Applications.

"We believe our timing means we are well placed to take advantage of the increasing global demand for titanium feedstocks," said Archer.

The mining leases are generally awarded for a term of 25 years and can be renewed at the end of their terms.

Global law firm celebrates Nacala corridor deal

London based White & Case LLP law firm is upbeat after playing a critical role on the development and US\$2.73 billion financing of the landmark Nacala Corridor Railway and Port Project.

"This is a large-scale, innovative, highly complex, cross-jurisdictional infrastructure project.

"It has been a privilege to support our clients and see the positive benefits that they, the project, and the project finance lenders are bringing to Mozambique and Malawi" said London-based White & Case partner Caroline Miller Smith, who led the Firm's deal team.

Nacala corridor is an integrated and transformative infrastructure project supporting growth along a regional corridor shared by two countries - Mozambique and Malawi being developed by Vale S.A. and Mitsui & Co., Ltd.

This major cross-jurisdictional infrastructure project comprises the construction of a 912km railway line to transport coal from Vale's and Mitsui's mine in Moatize, Mozambique across Malawi (including 682km of brownfield land) to a new coal port in Nacala-à-Velha, on the eastern coast of Mozambique.

The project, which also includes the construction of a deep sea port and associated terminal infrastructure at Nacala-à-Velha, required an agreement to be entered into between Mozambique and Malawi governments.

Once completed, the landmark Nacala Corridor Railway and Port Project and its financing will provide a template for other significant resource-based infrastructure projects in Africa.

"There are always the usual challenges with a very large multi-source project financing, but this transaction was truly unique - starting with a highly complex lending structure with eight loan facilities advanced to four borrowers in two countries" said London-based White & Case partner Carina Radford.

White & Case advised Vale S.A. and Mitsui & Co., Ltd. on all aspects of the landmark transaction including project development and drafting and negotiating project, corporate and finance documents.

A team of lawyers from offices across the Firm's global network negotiated 108 sophisticated documents involving a multitude of third party service providers and around 14 financial institutions - commercial banks, development funds and governmental export-credit agencies (including Japan Bank for International Cooperation, Nippon Export and Investment Insurance, Export Credit Insurance Corporation of South Africa and African Development Bank).

New MD for Mustang Resources

ASX-listed Mustang Resources has appointed Dr Bernard Olivier to its board as Managing Director.

Olivier has stepped into the position that fell vacate in November when Christiaan Jordaan left.

Jordaan remains a nonexecutive director of the Mustang board and has replaced Van Wyk as CEO of Regius Resources, which is a substantial shareholder of Mustang.

Regius provides management and technical services to Mustang.

The new MD Olivier a dual Australian and South African national, will be based in South Africa, which is relatively close to the company's operations.

Mustang chairperson Ian Daymond highlighted that Olivier brought significant experience in all aspects of coloured gemstone mining, marketing and sales and was a key person in the development of the TanzaniteOne coloured gemstone mining operation in Tanzania, where he managed a team of over 600 employees.

"In addition, he has a background in the graphite sector and eight years' experience as CEO of a LSE-listed company," said Daymond.

Olivier holds a PhD in Economic Geology from the Stellenbosch University, South Africa, has been the CEO of Bezant Resources since 2012 and of Richland Resources (formerly Tanzanite One) since 2010.



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Coral FLNG project set to return country to growth

Standard Bank and ICBC have financed the country's first step as a regional and global offshore natural gas producer and supplier.

The landmark energy deal is the first of its kind in the country and promises to transform Mozambique's growth prospects.

The approximately USD 8 billion investment is set to return the country to growth.

"This game-changing transaction initiates a cycle of energy investment set to return Mozambique to growth while heralding the country's arrival as a key global liquefied natural gas supplier," says Paul Eardley-Taylor, Head of Oil and Gas, Southern Africa, Standard Bank.

Standard Bank and its 20% shareholder, the Industrial and Commercial Bank of China (ICBC) are collectively the largest lenders to the project.

ICBC plays a critical role in this transaction by acting as the Pathfinder Bank, K Sure agent, Chinese tranche agent and one of the facility account banks.

Standard Bank acts as commercial facility agent, onshore account bank and security trustee in respect of the project.

"Our support of the funding of the Coral FLNG project grew out of our long-term commitment to Mozambique, consistently supporting the country's potential as a future offshore natural gas production and export giant," said Eardley-Taylor.

In addition to broader advisory work currently underway in East Africa,

Standard Bank and ICBC's support for the Coral FLNG project builds on a long history of oil and gas development in Mozambique, including Sasol, ROMPCO, ENH, CMG, and CMH.

Standard Bank also authored Mozambique's landmark LNG macro-economic study informing the development of the 2014 Rovuma Basin Decree law.

This milestone transaction gives life to Standard Bank and ICBC's broader vision and strategy to develop East Africa as global energy production and supply hub – especially to East Asia.

Global interest in Mozambique and the region's potential as future energy suppliers is reflected by broad international participation in the deal.

Export credit agencies, including Coface (BPI), K Exim, K Sure, Sace and Sinosure, are joined in this transaction by leading global energy giants ENI, Petrochina, GALP, ENH and Kogas.

ICBC and Standard Bank believe that this deal is an important signal on Mozambique's longer term growth prospects, especially the implications of this investment for future southern and east African energy trade and security.

"This transaction demonstrates ICBC and Standard Bank's vision of driving Africa's growth by attracting foreign direct investment back into Mozambique's promising energy production and export sector," said Eardley-Taylor.



Beira coal terminal gateway for SADC coal to the east

"I think Mozambique will become one of the big suppliers to India of coking coal. Mozambique's coking coal usually sells at a discount compared with [the] hard prime coking coal of Australia."

Mozambique is set to be the region's gateway for coal exports from the landlocked countries - Zimbabwe, Zambia, the Democratic Republic of Congo, Malawi and Botswana.

This development is hinged on a coal terminal planned for construction at Mozambique's Beira port.

Tej Nargundkar, Essar Ports Chief Executive Officer said the Beira terminal would be an outstanding coking coal terminal and will substantially grow Mozambique's coking coal exports to India.

India-based Essar Ports in August 2017 signed a 30-year concession agreement with the government of Mozambique to develop the new coal terminal in a public-private partnership.

"The new coal terminal at Beira will be the closest evacuation facility for Mozambique's coal reserves in excess of 23-billion tonnes," Nargundkar recently told delegates at the IHS Markit South African Coal Export Conference, in Cape Town.

He said the port was strategically located and is the closest Mozambican port to the country's coal mining region, which is 580 km away. The terminal is expected to have a cargo handling capacity of 20-million tonnes a year.

India currently derives 85% of its coking coal imports from Australia.

"I think the terminal would primarily serve as a coking coal terminal, because India is a growing country in terms of increasing its steel output. In India, 50% of our steel comes from the blast furnace route, which requires coking coal."

India's crude steel production grew by 6.2% year-on-year to 101.28-million tonnes in 2017. The country's Steel and Mines Ministry has asked the steel industry to double its production and reach a production target of 30-million tonnes a year by 2030.

"I think Mozambique will become one of the big suppliers to India of coking coal. Mozambique's coking coal usually sells at a discount compared with [the] hard prime coking coal of Australia."

Mozambique currently exports 40% of its coal to India, 30% to countries in the Far East, 25% to Europe and the other 5% to countries in other regions.

Essar Group expects the terminal to be commissioned in January 2020.

The new terminal is expected to have a fully mechanised cargo handling system for unloading wagons, moving coal in the yard, stockpiling and loading onto vessels.



Caterpillar presents broad range of machines at Mining Indaba

Caterpillar has announced intentions to present its unmatched range of innovative technologies and services at Mining Indaba billed for February 5-8 in Cape Town, South Africa.

With a focus on optimizing operations, whether surface or underground, large or small, Caterpillar and Cat® dealers are dedicated to working with mining companies to resolve the issues that are most important to their success.

The Caterpillar exhibit will feature digital displays of electric power generation systems, surface and underground mining equipment, and Cat MineStar™ technology capabilities—ranging from vehicle safety systems such as object detection to production systems using semi-autonomous and autonomous machine operation.

“Caterpillar is a Gold Sponsor of Mining Indaba, because we and our regional Cat dealers are invested in the African mining industry,” said Michael Latham, region manager for Caterpillar’s mining business in southern Africa.

Latham said the company’s objective is to help customers succeed by partnering with them to meet the challenges that they face.

“Through the use of Cat technologies, equipment and support services we can help customers boost safety and productivity while driving down costs.”

Barloworld Equipment, the Cat dealer in southern Africa, and Caterpillar will staff the Mining Indaba exhibit with experienced personnel able to provide both technical information and practical insights.

Additionally, Cat Financial personnel will be on hand to discuss customized finance—for both projects and equipment—and extended protection solutions designed to keep business moving forward.

Caterpillar recently announced a number of milestones as new underground mining machines are deployed, a mine development system using leading edge rock cutting technology is tested, and development of a battery-electric underground loader progresses.

“Over the past few months we have delivered the first AD22 articulated underground trucks—three of them to Glencore’s Mopani Copper Mines in Kitwe, Zambia,” said David Rea, global director of sales and product support for Caterpillar’s Underground Mining Division.

“At 22 tonnes capacity, the AD22 is the smallest underground truck in the Cat line, yet it offers greater payload than competitors’ trucks in the size class. It’s a robust and maneuverable design that will serve well in smaller underground areas.”

Regional Cat dealers also recently delivered a number of new R1700 underground loaders, the first of the next generation of Cat LHDs.

The new loader is designed to help customers lower cost per ton through increased payload, improved pile penetration and greater breakout force.

As a safe and productive alternative to in-cab operation, Cat Command technology enables teleremote and semi-autonomous operation of the new LHD and others in the Cat line.

“Caterpillar continues to invest in research and development to address the needs that mining customers voice to us,” Rea said.

“For example, testing work continues on our RH55 Rockheader, which is designed to deliver rapid, cost effective mine development using our proprietary rock cutting technology. And we recently took our proof of concept battery-electric LHD underground for testing. We are driving forward with new technologies.”

Caterpillar and Barloworld are currently installing a 7 MW solar power system at B2Gold Corporation’s Otjikoto Mine in Namibia.

The full system, including Cat photovoltaic solar modules and the Cat microgrid master controller, will be used to reduce reliance on a heavy fuel oil power plant currently used to power the mining facility.

Barloworld is supplying engineering, procurement and construction services for the project.



CRONIMET electrifies Chiloane Island

CRONIMET Mining Power Solutions GmbH and MOSTE have signed a deal with FUNAE to supply Chiloane Island with energy.

FUNAE is a public institution promoting energy access in regions where the national grid does not reach, developing the country's largest pre-paid solar mini-grid on Chiloane Island in Sofala Province.

"We're excited to implement this electrification project on Chiloane Island" said David Robinson, head of business development for CRONIMET.

The solar mini-grid will be the country's first privately developed and financed mini-grid, and is expected to generate up to 200kWp of solar power that will electrify the island's households, public institutions, commercial enterprises and water pumps.

"This mini-grid will be transformative for the island's residents and will serve as a scalable rural electrification model for Mozambique, where more than 18 million people currently have no access to electricity," said Robinson.

The island located in the East Indian Ocean approximately one kilometre from mainland has an estimated population of 3 000 inhabitants.

Currently having no access to energy, the residents rely primarily on car batteries to meet their energy requirements.

Due to this lack of electricity, the Island's fishermen cannot produce their own ice to cool their catch sufficiently to be able to bring it to the point of sale.

With the electricity produced by the solar mini-grid, island residents will be able to produce their own ice, which will have an immediate economic impact on the entire community.

CRONIMET, MOTSE and FUNAE will form a consortium to develop the mini-grid as a public private partnership.

The consortium partners expect that the Chiloane pilot project will demonstrate the viability of privately financed and operated pre-paid solar mini-grids in Mozambique, launching a new mini-grid market with the potential to provide new energy access to more than 5 million people.

Upon successful implementation of the Chiloane Island mini-grid, the consortium expects to develop a portfolio of 60 or more mini-grids across Mozambique.

CRONIMET Mining Power Solutions GmbH is a German-based renewable energy company founded in 2013 that develops, builds, finances, owns and operates utility scale solar PV power plants and mini-grids across sub-Saharan Africa.

In just a few years, CRONIMET has become one of the leading solar photovoltaic (PV) developers and independent power producers in Southern Africa, with operating PV plants and projects under development in Botswana, South Africa, Mozambique, Namibia, Zambia and several other African countries.



Fura ready to exploit Montepuez ruby potential (2)

Canadian company Fura Gems expects to complete a drilling program at its four ruby licenses in Montepuez before June 30.

The company said the bulk of mining is to commence in the second half of 2018.

According to Fura, a total of 399 non-core bore holes had so far been drilled and 627 wash samples completed.

"Out of the 399 bore holes, 49 positive bore holes of gravel bed, or secondary ruby mineralisation, had been intersected," said the company in a statement.

In addition, out of 627 wash samples, a total of 316 samples were processed and sorted.

The wash results generated 926.1 carats of ruby, corundum and garnets.

Dev Shetty, Fura Chief Executive Officer said within four months of acquiring the ruby licenses, the company has managed to recruit the key management team, set up infrastructure facilities and deliver 50% of the drilling results from phase 1 of drilling program.

"The initial findings from our drilling program have been encouraging with both secondary gravel bed and primary amphibolite reported.

The finding of rubies and corundum from the samples further confirms our understanding of the geology," said Shetty.

Fura has also established a small-scale field gemmological laboratory in its Montepuez office for immediate reporting of the quality of gemstones identified.

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Moma Mine reports record production

"Over the year, zircon production increased by nine percent, from 68,200 to 74,000 tonnes while rutile production of 9,100 tonnes was a 17 percent improvement on the 2016 figure",

Kenmare Resources has announced a record production in 2017 of the three minerals it extracts at its Moma Mine in the northern province of Nampula,

The Irish company mines ilmenite, titanium and zirconium silicate.

Kenmare's annual report indicates that ilmenite production increased by 11 percent to 998,200 tonnes in 2017 up from 903,300 tonnes in 2016.

"Over the year, zircon production increased by nine percent, from 68,200 to 74,000 tonnes while rutile production of 9,100 tonnes was a 17 percent improvement on the 2016 figure", reads part of a company statement.

Ilmenite and rutile are sources of titanium dioxide, a white pigment used in paints, textiles and plastics. Zircon is used in ceramics like dinnerware, kitchen tiles and bathroom products.

Kenmare added that total shipments of finished products were up by two percent to 1,040,400 tonnes, from 1,024,200 tonnes.

In addition, the company's net debt fell to \$34.1 million from \$44.8 million and it remains optimistic about the future, since prices have increased for all its products, and the outlook is favourable for ilmenite and zircon demand in 2018.

Michael Carvill, Kenmare Managing Director described 2017 as a further consecutive year of record delivery for Kenmare.

"Both production and shipments of all products were at record levels" he said.

He expects production in 2018 to moderate slightly, mainly due to lower opening stockpiles, though ilmenite shipment volumes are expected to be maintained as finished goods inventory is drawn down".



Rio Tinto seek to dismiss Riversdale fraud charges

Rio Tinto and two former executives are seeking to have fraud charges brought by US regulators dropped, arguing that they did not cover up a bungled coal deal in Rio Tinto's coal company - Riversdale Mining

The company raised billions of dollars in the bond market through the sale.

In letters filed with the US District Court in Manhattan, lawyers acting for the Anglo-Australian miner, Tom Albanese, its former chief executive and Guy Elliott, its former finance director, said they would seek to have complaint dismissed.

The Securities and Exchange Commission claim Rio and the former executives knew the assets of Riversdale Mining, purchased for \$3.7bn in 2011, were worthless but hid the facts to "save their own careers".

The charges, announced in October, are among the most high-profile cases brought by the US against executives at a UK-listed company since the financial crisis and dealt another blow to Rio's reputation as one of the world's best managed mining companies.

Rio's foray into Mozambique was one of the worst mining deals of the decade-long commodities boom.

The acquisition unraveled in part because the government of the east African country would not let the company barge the coal down the Zambezi river to a port hundreds of kilometres away.

This destroyed the economics of the project, which was later sold for just \$50m. Rio ultimately took a \$3bn write down on the assets - then called Rio Tinto Coal Mozambique - in January 2013 when it also fired Albanese.

The SEC says Rio and the executives should have come clean earlier when it was raising billions of dollars in the US bond market and admitted a "multibillion-dollar transaction was a failure".

In its letter, Rio's lawyers said the miner did not take an earlier impairment charge because "rigorous feasibility studies were not yet complete," and "certain transportation options had not been adequately addressed."

"There are no allegations that anyone at Rio Tinto believes an earlier impairment were required," the letter said.

Albanese's lawyers said their client made no false statements and "reasonably" relied on specialists to make difficult "valuation and impairment decisions".

Elliott's lawyers said the allegations were "utterly false and the SEC had attempted to "conjure a fraud out of a mere unsuccessful business venture.

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Channel Power Monitor launched in Africa

International manufacturer Bird Technologies has launched the new Channel Power Monitor in Africa.

The tool designed for monitoring the individual transmission sites and antennas of critical communications systems, such as the TETRA Systems is used by the various emergency services.

"The system can also be used to monitor the mission-critical radio systems of Airports, Sea Ports, Coastguards and Private Security Companies," Mike Gathergood, Bird Technologies' Sales Manager for Europe, Middle East and Africa (EMEA).

Channel Power Monitor keeps an eye on critical communication transmissions and alerting operators to a fault, for example, if the transmitters power output has been reduced, or if there is a fault on the antenna or cable.

Corrective action can be taken before the end user is even aware there is a problem, with the optimum being a "no-outage" result.

The device is connected via an IP network back to central monitoring site and incorporated into whatever network management system the end

user is using, and it is also compatible with SNMP.

The goal is to proactively look after the remote sites, so rather than users calling in faults ("My radio doesn't work!") while responding to an emergency call, or trying to land an aircraft!

"There is now an awareness of the situation/fault before the user becomes aware of it, and maintenance can be planned ahead. Very frequently, these initial incidences start slowly and spiral downward over a period of time before actually causing a failure, and this system allows for identification and action-taking."

Commenting on the new tool Gary Casper, Comtest product manager said his team has an in-depth understanding of the Bird product range, and especially the new Channel Power Monitor, enabling them to recommend the right product to customers.

Bird Technologies is an industry leading provider of RF communications products, services, calibration, and training to the public safety, cellular communications, distributed antenna systems (DAS), broadcast, semiconductor, military, government and medical markets.

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Competition in African gas sector heightens

Slow development of gas economy in South Africa may push investors into other investment addresses.

Wayne Lindecke, engineering consultant WSP power generation director said developers may focus their attention on other parts of Africa or other parts of the world where similar opportunities exist if South Africa does not speed up the development of its gas economy,

Several major international independent power producers and power generation developers are interested in South Africa's gas-to-power programme (GPP).

The potential investors are waiting for which direction in the form of request for quotations and request for proposals from the Department of Energy (DoE).

He points out that many African countries are still heavily reliant on resource-based trade, either through investments, development, job creation or driving growth in supporting sectors.

Countries, such as Nigeria, have faced difficulties, owing to outside market problems, such as decreased growth in China, whereas other oil- and gas-producing countries, such as Mozambique, Tanzania and Uganda, have continued to grow.

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De Beers pilot block-chain technology initiative

"Diamonds hold enduring value and represent some of life's most meaningful moments, so it's essential to provide assurance that a diamond is conflict-free and natural."

De Beers Group says is progressing development of the first blockchain technology initiative to span the diamond value chain and provide a single, tamper-proof and permanent digital record for every diamond registered on the platform.

The initiative will underpin confidence in diamonds and the diamond industry by ensuring that all registered diamonds are conflict-free and natural, while also enhancing efficiency across the sector.

Following the success of an initial proof of concept trial that resulted in a working prototype, a pilot is now underway involving a small number of participants.

The pilot will identify key insights and opportunities for enhancement and assess how the platform can be integrated with existing systems and processes, in advance of a full launch later this year.

De Beers is collaborating with technology and industry leaders to ensure the platform is inclusive and meets the needs of all users.

During this development phase, key considerations are being addressed, including the protection of commercially sensitive data, streamlining

processes at various stages of the value chain, and providing further assurance for those that finance the industry.

Once fully established, it is anticipated that the blockchain will operate as an open platform, on top of which a range of applications that benefit the industry can be built.

"Diamonds hold enduring value and represent some of life's most meaningful moments, so it's essential to provide assurance that a diamond is conflict-free and natural."

By leveraging blockchain technology, we will provide an additional layer of assurance to consumers and industry participants, with every diamond registered on the platform having a record as everlasting as the diamond itself," said Bruce Cleaver, Chief Executive Officer, De Beers Group said.

Cleaver said the group is excited about the initiative and the benefits it could deliver across the diamond value chain, from producers through to retailers and consumers.

"We look forward to continuing to engage with industry stakeholders as we progress development of the platform over the coming months."

How to 'safety-check' your meter in the field

Digital multimeters are designed to assist users to carry out, from simple to highly complex test and measurement functions on the bench or increasingly, remotely in the field.

From time to time, users should test meters and other equipment in the field, and by paying attention to the following quick steps, could help ensure the safety and efficiency of the meter.

Use common sense, before beginning, take a closer look at the equipment and accessories.

Does it look shabby and badly worn? If so, perhaps the unit is beyond functional and shouldn't safely be used.

Inspect leads. Before using test leads, perform an inspection to ensure the leads can safely and accurately conduct electricity for the job at hand. Be sure the leads have:

- Shrouded connectors
- Finger guards
- CAT ratings that equal or exceed those of the meter
- Double insulation
- Minimum exposed metal on the probe tips

Use the meters own continuity testing function to check for internal breaks. Check test lead resistance by:

- Inserting leads in V/ Ω and COM inputs
- Selecting Ω , touching probe tips and being sure the leads are 0.1 – 0.3 Ω

Choose accessories that are suitable for industrial work, and check for abrasions and other damage that eventually occur with use.

This way, users will never have to worry about the failure of a test lead or probe—or the consequences thereof.

Inspect test lead insulation.

- Check and ensure that the insulation is not nicked or cracked. With age the insulation material—whether PVC or silicone—can become dried out, brittle and susceptible to cracking.
- A visual inspection will often show any part of the leads that has this problem.
- Ensure that there are no signs of gaps or cracks at the junction between the insulated wire and the molded banana plugs or probes at each end.
- Verify correct voltage rating. Verify that the meter and accessories are appropriately rated and designed for the system and equipment to which they will be connected.
- Check for the IEC rating (e.g., CAT III or CAT IV) on the tester, and only purchase leads and other accessories that meet or exceed that rating.

Safety checking equipment in the field can reduce hazards and ensure that equipment is safely functional.

Whether the equipment is a voltage tester or a digital multimeter, users could benefit greatly by carrying out a quick safety scan before commencing work.

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Ice Insurance Scales Up Mozambique Coverage As Country Prepares For Major Gas And Minerals Industry Boom

Mozambique-registered insurer International Commercial and Engineering (ICE) Seguros has increased its capital to US\$10 million, as it positions itself to take advantage of Mozambique's growing mining, gas and agricultural industries.

Mozambique today is reminiscent of Angola on the cusp of its oil boom 15 years ago, says Group CEO Rob Lewis. "We've seen this exact scenario in Angola in 2003 when we went into that market. The difference is that Mozambique has a broader economy and tighter fiscal and political discipline. If you're not in and well capitalized it may well be too late," he says.

ICE has been involved in the Mozambique insurance industry since 1993 when the sector first opened to private players. In 2015 it launched as a specialist insurer covering large commercial risks and focusing on the oil and gas sector. Since then it has grown rapidly to become the third biggest out of 20 insurers in the market.

Mozambique is now on the verge of a more than \$20 billion investment in its first major gas export project - and similar multi-billion dollar

projects will be sanctioned within the next three years. Coupled with a booming mining sector and signs that the country could finally start to fulfil its agricultural potential, ICE is scaling up its capacity to cater to multinationals from Japan, Brazil, the USA, China, South Africa, Europe, Nigeria, Angola and Korea who need solutions in Mozambique.

"It's no longer business as usual," says ICE Managing Director and Mozambique head Edward Capel. "We need the bigger balance sheet to give us the capacity to provide our clients and their brokers with solutions that compete with markets across the world.

"Technology, training, expertise and a strong service ethic are required to just keep up with the market," he adds.

ICE's long-standing presence in Mozambique gives it an edge over other global competitors. "The days of insurance salesmen parachuting in from abroad and leaving with a fistful of premium are gone," Lewis says. "Operators and investors need multinational expertise, service and most importantly accountability, in-country."



Tips for testing control valve positioners

Valves, the actuators that move them, and the electronic circuits that control them, are all subject to aging soon after they are installed.

The valve seats wear from repeated seatings and from the liquid or gas that passes through them.

A valve may be stroked up to tens of thousands of times a year, which causes screws to reposition, springs to weaken and mechanical linkage to loosen.

Electronic components change value over time. All of that can produce valves that don't fully open or close, close prematurely. This "calibration drift" can result in improper regulation of the gas or liquid under the valve's control.

To keep valves operating properly, you need to periodically check electronic valve positioners.

However, these checks need to be conducted quickly to minimize down time. If calibration drift is found, the valve positioner must also be recalibrated immediately.

A good tool for this is handheld field tester like the Fluke 789 ProcessMeter that can be used to test and recalibrate electronic valve positioners.

It offers signal sourcing to simulate a controller connected to a valve positioner's input and can continuously adjust the source current in incremental steps, so you can check the valve's linearity and response time.

Basic steps for checking closed valve using a 789 processmeter

1. Set up the ProcessMeter in sourcing mode using the appropriate range of current for the positioner.
2. Insert the source current test leads into the mA output jacks.
3. Select the 4-20 mA range by moving the function switch from Off to the first mA output position.
4. Connect the meter mA output to the input terminals of the valve positioner.
5. To determine if the positioner is fully closes the valve at 4 mA, adjust the source current to 4.0 mA using the push button. The valve should be closed.
6. While watching the valve for any movement, press the Coarse Down button once to decrease the current to 3.9

7. mA. There should be no movement of the valve.
7. In setting the point at which the valve starts to open, make sure there is no counter pressure by the actuator against the force holding the valve closed when there is 4.0 mA on the controller's input. In a spring-to-close valve, there should be no pressure on the diaphragm. With a double acting piston actuator, there should be no pressure on one side of the piston. To ensure that there is no counter pressure at the closed setting, you may want to set the start of opening between 4.1 and 4.2 mA.
8. To check the opening of the valve, press the Coarse Range Up button from 4.0 mA. Each press of the Coarse Range Up button will increase the current 0.1 mA. You should adjust the zero adjustment on the positioner to set the valve for the closing characteristic desired.
9. To check the valve at the fully open position – called a span position check – adjust the source current to 20 mA using the range buttons and allow the valve to stabilize. While watching or feeling for valve movement, press the Coarse Range Up button once to 20.1 mA. The valve movement should be as small as possible and can be adjusted using the span adjustment on the positioner.
10. Using the coarse control, adjust current up and down between 20.1 mA and 19.9 mA. There should be no movement of the valve stem from 20.1 to 20 mA and slight movement from 20 mA and 19.9 mA.
11. In most valves, there is an interaction between the zero and span settings of a valve controller, so it is best to ensure proper valve position adjustment by repeating the test of the fully closed and fully open positions until no further adjustment is necessary.
12. For valves with linear action, linearity can be checked by settings the ProcessMeter to 4 mA and using the % Step button to step the current to 12 mA (50%) and confirm the valve position indicator is at 50% travel. If your valve is a non-linear type, refer to the valve manual for proper operation.
13. To check for smooth valve operation, turn the rotary switch to output mA and select Slow Linear Ramp. Let the meter ramp the mA signal through several cycles while you watch or feel for any abnormal operation of the valve. The valve should NOT oscillate or hunt at any of the step positions of the Slow Ramp. The valve also should not be sluggish. Set the gain of the valve controller to a point that gives the best response between these two conditions.

Finding solutions to meet the world's changing resources and energy needs

Social writer Eric Hoffer wrote *"In times of change, learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists"*, a quote that resonates with Denver Dreyer, CEO of WorleyParsons RSA. As a company that helps customers meet the world's changing resources and energy needs, WorleyParsons understands the need for agility and developing new solutions to ever-changing challenges. The company delivers projects and provides expertise in engineering, procurement and construction management across the full asset lifecycle in the hydrocarbons, infrastructure, minerals, metals and chemicals sectors.

Operating in a global environment that is leaner and fitter than it has ever been, with customers seeking ways to deliver more with less, Dreyer says that WorleyParsons RSA is focusing on finding cost-effective and innovative solutions to address the current challenges facing the mining sector. A key focus is on assisting emerging miners to access funding for their mining projects by helping to develop their studies to a point where obtaining funding is easier.

Developed by Advisian, a WorleyParsons global business providing management and strategic advisory services, **StepWise** is a low-cost financial and technical process model that enables emerging miners, as well as Tier 1 companies, to evaluate a resource and identify risks upfront. "In a world of constrained capital, companies seek maximum return on investment, and the unique StepWise process very quickly and cost-effectively identifies whether or not an ore body or any other type of resource project will be viable or feasible," says Dreyer. He explains that the methodology enables a significant number of options to be tested in a short period of time to determine the optimal outcome to pursue given the constraints. The StepWise process provides solid data to enable prospective funders to make strategic investment decisions, with a focus on maximising returns, while minimising and managing exposure to risk.

While technology in the mining sector has remained relatively static over the last few decades, WorleyParsons has been cultivating a culture of innovation. Locally the company has been integrating latest developments in design and computing to create innovative tools that improve efficiencies and reduce risk in mining projects. WorleyParsons RSA began developing its **integrated design project platform** over six years ago, by integrating 3D intelligent design data mapping with over 20 different engineering design processes and programmes to create a visual 5D design scope that incorporates schedule and cost. The 5D integrated project design

platform presents miners with the ability to look pre-emptively forward and create a scenario plan for their project, and engage in the right discussions with prospective shareholders.

A recent development at WorleyParsons RSA which aims to provide highly skilled resources to the table in a cost-effective way is the **Extended Consultant Programme (ECP)**. With access to subject matter experts on a contract basis, WorleyParsons is able to broaden its skill base across the African location and tap into years of specialised expertise and experience cost-effectively when required.

Locally, transformation in the industry is a priority for service providers such as WorleyParsons. "Traditional markets are changing and service providers have to be proactive or else be at risk of becoming obsolete. As part of our unwavering commitment to transformation, we are leading this agenda in engineering across all sectors in South Africa," says Dreyer. "We have identified and partnered with sustainable, empowered businesses that are capable of growing with us. As part of our **Enterprise Supplier Development (ESD) programme** we are collaborating with SMEs to jointly deliver services in the mining, water, energy and infrastructure sectors. The partnerships that we are creating are mutually beneficial. We will evaluate the strengths that each party brings to the table and identify where we can help each other. These enterprises will benefit from skills transfer and gain an understanding of how to successfully deliver bigger projects with our support, while we do our part to transform the engineering sector in South Africa," says Dreyer.

The company also recently hosted the Supplier Grow Conference (in collaboration with South32) aimed at tackling the issues of access to the market for SMEs, and identifying opportunities and innovation in the mining and construction sector with transformation in mind. "The conference provided a forum for discussing the challenges that mining companies and SMEs are facing today. Through our activities such as this conference, we are committed to co-creating a future for all players in the sector and finding solutions to overcome the challenges jointly as an industry," concludes Dreyer.

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 On behalf of: WORLEYPARSONS
 Editorial contact: Loll Thomson (011) 467 2133
 Mail to: loll@sepe.co.za

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Well equipped to provide a diverse number of industry sectors with an extensive, top quality range of products and services, in addition to serving the SADC countries, Soliflo's current focus is to expand its footprint into Africa. Industrial Flow Systems (IFS), Mocambique was established in 2013 and Soliflo International, Kenya in mid-2017.

Strategically positioned, these satellite sales, service and support operations have given Soliflo added impetus and ease of access to key markets throughout the continent.



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