

AFRICA outlook

Mining
Indaba 2018
**SPECIAL
ISSUE**



INVESTING IN
**AFRICAN
MINING
INDABA**

*As an official media partner of the Investing in **Africa Mining Indaba** for a fourth successive year, we analyse the continent's premier deal-making forum, and the key protagonists that contributed to the success of 2018's conference*

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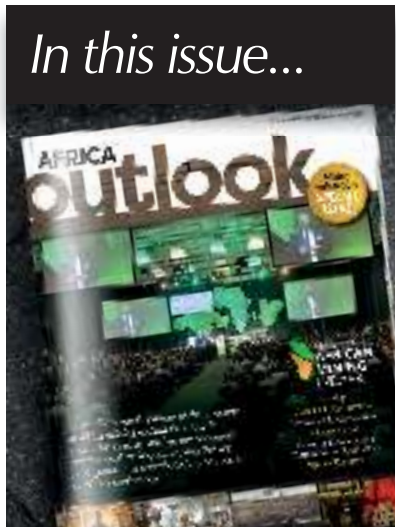
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Mining Indaba 2018: **AFRICA'S PREMIER** **DEAL-MAKING** **FORUM**

When mining companies source investment, not only do the companies themselves benefit, but Africa does too; and no event facilitates such widespread, continental industry progression than the annual Investing in African Mining Indaba

Writer: Matthew Staff

Since Euromoney acquired the Investing in Mining Indaba conference, the esteemed gathering's credence has escalated to new heights, and in 2018 the upward trajectory continued as a 15 percent increase in attendees came together to discuss the biggest trends in continental mining and resources.

Arriving from as many as 95 different countries - again an increase on 2017's 84 - the global significance of the event is affirmed beyond doubt in a climate crying out for knowledge sharing and innovation. Diversification of attendees

was a similarly positive trend as well though, with 37 percent emanating from the mining executive world, 17 percent comprising investors, and 25 percent from Governmental positions; something which Managing Director, Alex Grose believes contributed to the best instalment of Mining Indaba yet.

"Since Euromoney acquired Mining Indaba, the event has undergone significant changes and investment to take it back to a focused deal-making forum while supporting the needs of Africa's mining industry," he says. "In 2018 there was a more deliberate balance between investors, mining

companies, government and service providers, and this really came to fruition with features like the Junior Mining Showcase where 50 junior mining companies, all with projects in Africa, were for the first time hosted in the middle of the event in a focused deal-making area."

Head of Investor Relations, Kael O'Sullivan adds: "The Investor Relation programme was also expanded in 2018, providing investors with even more meetings with mining companies across the week."

For the first time ever, Mining Indaba also worked in tandem with



community and civil society groups in 2018 to define a common vision for sustainable development in the continental sector.

"This meant the 2018 event played host to even more dialogue than ever before," enthuses Head of Content, Harry Chapman.

Africa Outlook spoke with Grose, O'Sullivan and Chapman about the key take-home messages from this year's groundbreaking Indaba.

Africa Outlook (Afo): What specific industry trends dictated the key talking points at this year's

event and in what ways did the event address these?

Alex Grose (AG): The themes of any year are driven by the research done with all the key stakeholder groups in the months leading up to the event. This year the industry told us that exploration projects were beginning to shoot up across the continent once more, which is why our overriding theme for the whole event was providing a platform for sustainable junior, mid-tier and major growth. For that reason our Investment Battlefield was expanded to enable 22 junior mining companies to pitch

their projects to leading investors, and hosted the final on the Main Stage.

Harry Chapman (HC): Sustainable development was a key theme at the 2018 Mining Indaba, being discussed not only at the packed Sustainable Development day on Tuesday, 6 February, but also featuring in many conversations throughout the event. Addressing the lack of trust between communities and mining companies, looking ahead to community engagement and working together to define a sustainable vision of Africa's mining sector, these themes came up regularly throughout the week, and is



clearly going to continue to be a big theme going forwards.

Given the changing political landscape across the continent, a key theme at the event was cooperation and knowledge sharing between governments. The Intergovernmental Summit hosted panel sessions between African and non-African governments, to ensure that African governments have improved interaction with governments outside the continent.



AFO: Could you also talk me through some of the speakers at Mining Indaba 2018 and what you feel they brought to the table in terms of industry knowledge and international expertise?

“For five days the world’s most influential investors, CEOs from the world’s largest mining companies, mining ministers from a majority of African nations, government representation from key countries, and top media brands all meet to share insight and knowledge with each other.”

HC: For 2018 the Main Stage moved away from static presentations, and instead focused on interviews with industry visionaries to give the audience the opportunity to really delve into their wealth of experience. We were delighted to host a fireside chat between Anil Agarwal, Group Chairman, Vedanta Resources, and Evy Hambro, Chief Investment Officer, Natural Resources and Managing Director, BlackRock, where they discussed strategies for long-term shareholder value and where growth can be found in the mining sector.

One highlight included H.E. Olusegun Obasanjo, the former President of Nigeria and Chairman of the Brenthurst Foundation and author of the Zambezi Protocol, who delivered a keynote

address entitled “Partnership: A New Narrative for Africa’s Mining Industry”.

AG: With the introduction of the Intergovernmental Summit, Mining Indaba saw the number of ministers speaking on the programme increase from 28 in 2017, to 36 in 2018. African countries represented included Angola, Malawi, Ghana, Zambia, Botswana and Senegal, with global representation from Venezuela, Russia and Ecuador.

Kael O’Sullivan (KOS): 2018 also marked the introduction of Mining 2050, focusing on where companies should be investing in the age of disruption. Industry leaders such as Michelle Ash (Chief Innovation Officer, Barrick) and Donovan Waller (Group Head of Technology, Anglo American) discussed the latest disruptive technology and innovation strategies.

AfO: What other new and fresh impetuses were added to the Indaba schedule this year?

AG: The Junior Mining Forum provided emerging mining companies with the opportunity to present and take part in panel discussions with leading experts across the three days.

HC: 2018 also saw the Franco-Mine programme move to within the Mining Indaba programme, a platform for exchanges in French, discussing recent or planned changes to mining codes in African countries, as well as recent developments and best practices.

KOS: Additionally, the World Gold Council took part in Mining Indaba for the first time in many years, hosting a session and reception highlighting gold’s value as a strategic asset and its positive contributions to economies and society, attracting key figures from across the African mining sector.

AfO: From a more general industry perspective, what do you feel are the biggest challenges and trends influencing the mining industry in Africa at present, and how do you see these



issues unfolding over the next 12 months?

AG: This is an extremely exciting time for mining in Africa: President Mnangagwa has recently said that Zimbabwe may lift the 51 percent ownership/ “indiginisation” requirement for platinum and diamond mining companies. In Angola, newly elected President, Joao Lourenco has also made moves to win the trust and support of the global investment community. Angola sent a ministerial delegation to Mining Indaba.

Of course, in South Africa, Cyril Ramaphosa returned from the World Economic Forum saying that “Investors are applauding the dawn of a new era and are waiting for us to follow through with reforms and policy changes”. He has also said that SA cannot afford to miss out on the commodities boom that could unlock the mining industry.

Our aim at Mining Indaba is to provide a platform where the sector can debate the big issues, to enable connections to be made, and most importantly to create the ‘space’ for these engagements. We are mining event professionals, not mining analysts.

However, we bring together many commentators and experts at Mining Indaba who discussed this and made predictions about the year ahead.

AfO: Similarly, from the Mining Indaba’s perspective, what are your aspirations and expectations for Mining Indaba moving forward and how would you like to see it grow from 2018 onwards?

AG: Mining Indaba is a global platform. For five days the world’s most influential investors, CEOs from the world’s largest mining companies, mining ministers from a majority of African nations, government representation from key countries, and top media brands all meet to share insight and knowledge with each other. No other event creates the networking platform that is Mining Indaba.

Looking to the future, we want to continue to deliver the event that the African mining industry needs, and connect mining companies with investors. We believe that when mining companies source investment, not only do the companies themselves benefit, but Africa also benefits. ■





Worth its weight in GOLD

IAMGOLD Corporation's global prevalence in the gold mining arena reaches new levels as leaner, more sustainable operations pave the way for increased productivity in West Africa

Writer: Matthew Staff

Project Manager: Donovan Smith

Since the early 1990s, Canadian enterprise, IAMGOLD Corporation has become one of West Africa's pioneering operators in the mining sector, applying unparalleled industrial expertise to some of the region's most lucrative mines, in the most sustainable and locally sensitive way.

Embracing the development of the new and modern gold era, the journey started with the establishment of the Sadiola gold mine, and since then the Company has grown from junior status to become one of the most prominent mid-tier gold specialists across Mali, Burkina Faso, Senegal and Guinea. Leveraging experience from working on three continents, more than 400 Koz of its global production emanates from West Africa specifically; a testament to the enriching and responsible strategy that was introduced upon IAMGOLD's inception in the region.

"Our strategy is essentially based on nurturing a strong health & safety track record, developing our talents, and sharing values and benefits with our stakeholders, while continuously seeking to improve mining practices in a cost-effective manner," affirms the Company's Regional Vice President

for West Africa, Oumar Toguyeni. "We know how to operate in West Africa, we have built an excellent reputation in this region and we continue to look for growth opportunities in order to cement our leadership position in this part of the world.

"Moreover, IAMGOLD is really committed to the region; we always look for qualitative growth through adding short-term capacity within our existing operations: Essakane's heap leach project for instance, as well as long-term capacities such as our Boto project which is currently at feasibility study stage. We also have a solid pipeline of exploration and development projects in Burkina Faso, Mali, Senegal and Guinea."

From its origins as a junior exploration visionary in the early 1990s, IAMGOLD never professed to have any operating experience when discovering the Sadiola Mine in Mali, and subsequently brought in AngloGold Ashanti's vast development expertise to construct and operate the project. Such a significant partnership is somewhat indicative of the positive relationships the Company has continued to form ever since, to compound its own inevitable – and extensive – rise in experience in the years following.

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SFTP MINING was established in 1990 by its founder the DIALLO's Family, during gold explorations boom in Mali as a small Malian-based earthmoving and borehole drilling company, adding to his group (DSG GROUP) of privately owned industrial companies.

Through a focus on fostering strong client relationships and delivering quality projects, the business has since grown into one of West Africa's premier mining and civil contractors and is a leading player in the provision of these services across the resources, government infrastructure, building and manufacturing industry sectors.

Number of employees : 1200

SFTP MINING is a West African mining contractor with operations in Mali, Cote d'Ivoire, Burkina Faso and Senegal. We are building a reputation for being a safe and high performing open pit mining services contractor. We are driven by trying to exceed our client's expectations, both in terms of safety and performance.

The collective talent and expertise of our workforce is the key to our success, and we are always looking for talented people to join our business. We seek to build teams who are loyal, committed to our company values and dedicated to helping our clients.

Services

We operates two business units that deliver a wide range of mining and civil construction services across the resources, oil and gas, government infrastructure, building and manufacturing sectors. Our Civil division spans the key civil areas of bulk earthworks, site preparation, road construction, road network maintenance, bridge construction, maintenance, major concrete works, rail construction, dams, pipelines and the supply of quarry materials.

Our Mining team provides open pit mining, drilling and blasting services, off-road and on-road haulage, and crushing and screening services to its clients. We operate open pit mines, build haul roads and bridges, and construct and maintain mine and associated infrastructure. As part of our flexible and innovative approach to contracting, the company provides highly specialised and trained West African work forces and personnel. Our team of experienced local staff includes resident mine managers, project managers, engineers and supervisors, ensuring we can offer a high quality frontline manager with fully integrated service to our clients. The company has extensive operational experience in major projects in the Economic Community of West African States (ECOWAS) is made up of fifteen member countries that are located in the Western African region. Our project teams are backed by an experienced corporate management team, an integrated and innovative contract management system, and a strong commitment to safety and the environment.



Key contracts

SFTP MINING has helped design, build and operate some of Africa's largest mining and civil construction projects. These include world-class developments such as the (Burkina Faso: HGO, ESSAKANE) Projects, (Ivory Coast: BONIKRO and HIRE, ITY CIL, SMI, Sissengue), Senegal MAKO, PROJECT. Our clients include some of the world's leading engineering and resources companies, such as Randgold Resources, Endeavour Mining, Newcrest Mining, Perseus Mining, IAMGOLD, Anglo Gold, SENET and Lycopodium.



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“Some time after Sadiola, we brought in Yatela as a nearby second mining operation, again in partnership with AngloGold Ashanti,” Executive Vice President & Chief Operating Officer, Gordon Stothart picks up the story. “IAMGOLD went public in 1996 and later merged with Repadre Capital Corp., which added an interest in Tarkwa and Damang mines in Ghana. Later, in 2006, IAMGOLD first acquired a mine in Botswana and later acquired Cambior, which brought in significant talent and mines such as Rosebel in Suriname, as well as Doyon, Mouska, Sleeping Giant, and Niobec in Quebec, Canada.

“In 2009, we acquired Orezone, which gave us the Essakane operation in Burkina Faso and construction commenced bringing it to production in 2010. As IAMGOLD began to fully leverage its skill and experience in developing and operating mines, it also began to divest its interest in non-operating mines; such as its 18.9

“ The acquisition of Trelawney in 2012, which brought on the Côté Gold project in Ontario, Canada, is the latest acquisition and brings us to the current look of IAMGOLD today ”

percent interest in the Tarkwa and Damang mines in 2011, as well as the divesting of non-gold assets such as Niobec in 2014.

“The acquisition of Trelawney in 2012, which brought on the Côté Gold project in Ontario, Canada, is the latest acquisition and brings us to the current look of IAMGOLD today.”

Operational and exploration success

In summary, IAMGOLD’s portfolio currently comprises four operating mines in the form of Rosebel, Westwood, Sadiola and Essakane, in addition to development projects, Côté Gold and Saramacca. The likes of Boto Gold in Senegal, Pitangui in Brazil, Monster Lake, and Nelligan then represent the Company’s burgeoning array of advanced exploration projects.

Outside of Africa, Rosebel in Suriname, South America has been able to demonstrate its acumen since 2004 across a huge 170 square

SFTP MINING

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kilometre open pit operation; commencing commercial production with 2.4Moz of reserves and a 10-year mine life.

“As at the end of 2017, Rosebel had produced more than 4.7Moz of gold to date and has 3.5Moz of reserves contributing to an updated mine life, excluding Saramacca, of 2028,” Stothart notes as a prime example of what IAMGOLD has always done best – extract the most possible out of a mine.

He continues: “The mine continues to experience operational and exploration success as a multi-deposit regional operation that currently produces from more than seven pits, while we look to declare reserves and commence production at Saramacca in the near future.

“At our Rosebel Mine in Suriname, our strategy is focused on consolidating land packages within a 45-kilometre radius of the mill. We acquired the Saramacca property and declared a resource that exceeded our initial target. We expect to bring this into production in 2019.”

2018 has also seen IAMGOLD acquire the rights to the Brokolonko property located on the same mineralisation trend, where there is the potential for a similarly significant resource. As a result of the mine plan’s optimisation and cost reductions at Rosebel, reserves have increased by 69 percent, net of depletion.

And a similar trajectory and success story can be found at Westwood, as Stothart adds: “The Westwood underground mine is a high-grade narrow-vein site located on our Doyon property in the Abitibi Gold Belt in Bousquet Township. The mine is 100 percent owned by IAMGOLD, and entered commercial production in July, 2014. The mine continues to ramp-up, achieving total production of 125,000 ounces in 2017.

“Full production is expected in 2020 with a lifecycle which will take us to 2033 and hopefully beyond.”







Extracting the most out of each mine

In addition to Westwood and Rosebel, Côté Gold further represents one of Canada's largest underdeveloped gold projects, with six million ounces of reserves; but it also signals a flexibility among IAMGOLD's project strategy as it adapts to industry trends and challenges – most pressing being the general industry downturn and slump in gold prices.

Stothart explains: "During the downturn, we turned our focus to completing activities that required less capital but were necessary to moving the project forward. This included forming a joint venture with Sumitomo Metal Mining, obtaining environmental assessment approvals, and completing a prefeasibility study. The feasibility study should be completed by the end of this year, with a potential construction start next year. We are targeting a production start for Côté in 2021.

"We also continue to advance Greenfield exploration projects

During the downturn, we turned our focus to completing activities that required less capital but were necessary to moving the project forward



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and since the downturn began we confirmed initial resources at five Greenfield projects. Boto in Senegal now has reserves and we are completing a feasibility study so this is potentially a new development project.”

An incredible asset

Such global experiences and heightened awareness of industry curves have been pivotal in driving IAMGOLD's success in Africa, where trends can often be exacerbated; especially as an international entity looking to prove itself as a trustworthy and responsible entrant to a prospective country.

This is where the business's early ingratiation into the continent via the Sadiola open pit operation in Mali has been critical; paving the way for the later Essakane triumph. As Sadiola winds down with a view to being put into suspension in 2019, the latter Burkina Faso operation is fast becoming

Essakane has been a very successful acquisition for IAMGOLD, which incepted with the acquisition in 2009 and was ramped-up from a production perspective in 2013 when we found a higher percentage of hard rock under the surface, and therefore an extension in terms of the life of the mine

IAMGOLD's flagship African asset.

Ninety percent owned by the Company (the Government of Burkina Faso owning the final 10 percent), Essakane represents a more than 1,200 square kilometre land mass with exponential potential for further regional prospects. Acquired in 2009 and entering production in 2010, further mill expansions since then have made it the largest gold mine in the country, and this is just the start.

“Essakane has been a very successful acquisition for IAMGOLD, which incepted with the acquisition in 2009 and was ramped-up from a production perspective in 2013 when we found a higher percentage of hard rock under the surface, and therefore an extension in terms of the life of the mine,” states Essakane's General Manager, Bruno Lemelin. “With this realisation, we also needed to increase the capacity of the mill in order to produce the forecast production levels of around 400,000 gold ounces per annum.



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“Taking into account the initial construction conversion, and the subsequent expansion, we have invested nearly \$1 billion at Essakane; a major investment not just for IAMGOLD, but for Burkina Faso as a whole.”

Essakane is now thriving as the country’s largest mine, with record production of 432,000 gold ounces in 2017; no mean feat given the complexities of the site itself.

Lemelin continues: “It’s a low grade open pit mine which means we need good volumes to accomplish good yields. Without overemphasising Essakane’s accomplishments to date,

“Taking into account the initial construction conversion, and the subsequent expansion, we have invested nearly \$1 billion at Essakane; a major investment not just for IAMGOLD but for Burkina Faso as a whole”

I can genuinely say it is an incredible asset and a world-class operation; but by no means is it easy.

“Essakane’s mineral resources are complex, so you need very smart

exploration and research in order to understand the mineralisation and how it is distributed in the ground.”

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The golden touch

shrewdness has culminated not only in mitigating the challenges that Essakane presents but has also resulted in a continuous and ongoing expansion of the pit as new opportunities are unearthed.

“Originally there was a mine lifecycle of up to 2020 and over the years we have been able to continuously expand and continue to discover more and more,” Lemelin adds. “Of course, as we’ve found less accessible hard rock deeper down, we have had to be more innovative, and have gone on to implement lots of good engineering attributes and methods in order to extract the minerals.”

“...as we’ve found less accessible hard rock deeper down, we have had to be more innovative, and have gone on to implement lots of good engineering attributes and methods in order to extract the minerals”

A real success story

In terms of this aforementioned, seemingly never-ending expansion that is occurring at Essakane, IAMGOLD

has once again demonstrated its willingness and ability to remain agile even amid the most complex and vast of operations.



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As initial soft deposits paved the way for more complicated harder rock, the mill was expanded; which, while profitable in terms of boosting capacities, was also more energy consuming than initial projections had accounted for.

“Now we are primarily in this hard rock material, we are working both to stabilise production at over 400,000 gold ounces, and to continuously invest in order to increase capacities, and simultaneously improve efficiencies,” Lemelin states. “It’s a major competitive advantage in the region, and with that we’re looking at ways to find other satellite deposits near the mine. If we can find some smaller ones near Essakane, even though they’re harder, we can extend the life of the mine by a year or two each time and it makes a big difference.”

This is precisely what happened in 2015 when further commercial production was initiated from a

“...we’re looking at ways to find other satellite deposits near the mine. If we can find some smaller ones near Essakane, even though they’re harder, we can extend the life of the mine by a year or two each time and it makes a big difference”

JA DELMAS

JA Delmas, with its network of representatives, has been a CAT dealer for more than 85 years in West Africa. Present in sectors such as construction, forestry, power generation and mining, IAMGOLD stays ahead of its competition by striving for customer service excellence with an ever-growing presence and the best people in the industry.

JA Delmas strives to become IAMGOLD’s chosen partner. IAMGOLD has a range of exciting projects in West Africa, where we hope to accompany them from the Greenfield to fully productive mining operations, as we have done for many other international mining customers.

JA Delmas and its representatives seek to further reduce the cost per tonne for its customers by applying creative technologies, processes and skills to each site. Investment into the JA Delmas infrastructures has doubled in the past year, ensuring we can respond to the needs expressed by customers.

Proximity and ease of doing business makes JA Delmas a natural choice in West Africa. With the strong and reliable Cat equipment and a network of experts, this is the perfect recipe for success.

More specifically, with IAMGOLD extending its operations into Senegal, the network has improved its presence considerably through, for example, brand new local facilities with a new warehouse and large workshops. These service features are enriched with training facilities and a customer reception area.

We wish IAMGOLD the best success in their future ventures into West Africa!

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JA Delmas





satellite deposit near the main pit, and has since evolved to become a “magnificent deposit yielding better grade minerals than the main pit at Essakane”. With a lifecycle of five years, the Falagountou satellite deposit isn’t necessarily ground-breaking in its own right but contributes to the overall prosperity of Essakane and the surrounding region – especially when considering how many of these smaller opportunities exist in the area.

“If we succeed in finding other opportunities like Falagountou then it will help us out more and more with the overall life of the mine,” Lemelin

“ We have numerous prospects of land around the mine with a good indication of mineralisation, with projects we’re already working on already. This compounds a core pillar of our strategy to make sure we extend the life of the mine as much as we can ”

affirms. “We have numerous prospects of land around the mine with a good indication of mineralisation, with projects we’re already working on. This compounds a core pillar of our

strategy to make sure we extend the life of the mine as much as we can.

“The second pillar and strategy we have is to understand fully what we have under our feet. There’s an old



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Best practice requires motivated and skilled employees

saying that the best place to find a mine is either next to a mine or under a mine. We have yet to explore all of the main zone and what we did last year is to look at going even deeper to see if there was another expansion project possible for the main pit."

It wasn't long before a layer of low grade material was found, sitting above a plethora of high grade minerals, and following the latest injection of smart engineering and

mining skills, the Company soon found that a further 1.4 million gold ounces could be added to the reserve projections, increasing the life of the mine by a further three years.

Lemelin enthuses: "The main pit is still very lucrative, we are yet to complete and find everything there, and there is a lot of action ongoing both in the centre and next to the main site. Whereas before we had a life of mine to 2020, this has already

ATLAS COPCO

Coming from the split of ATLAS COPCO into two separate entities, Epiroc is a leading company in the mineral, natural resources and infrastructure industries, and strives to develop advanced innovative and modern solutions for the future.

What makes Epiroc an obvious choice for our customers and industry standard is our customer centricity and our extraordinary people investing passion and enthusiasm in our everyday working life. At Epiroc, we listen to our customers. We listen to their needs and based on that, develop, produce and deliver products which provide our clients with long-term, reliable and profitable experience. We are always striving to provide our customers with the best added values and sustainable profitability in terms of offering various products and services shaped around Total Cost of Ownership (TCO).

Epiroc in West & Central African Francophone Countries consist of two legal entities, Epiroc Burkina Faso Sarl and Epiroc Mali Sarl with a shared management and operational team, covering 15 countries (Burkina Faso, Mali, Senegal, Côte d'Ivoire, Guinea, Niger, Togo, Benin, Chad, Cameroon, Central Africa Republic, Guinea Equatorial, Congo, Gabon, and Mauritania).

With a fully organized team including senior managers and around 20 technicians located in the region, Epiroc Burkina Faso and Epiroc Mali are dedicated to support Epiroc Mining and drilling equipment from logistics to technical support to our customers.

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Regional General Manager
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gone up to 2023 and now 2026. We are even now looking towards 2030, all the while reducing our costs and ingratiating ourselves locally to make Essakane a real success story.”

Investments and improvements

Essakane now serves as a perfect example of IAMGOLD’s credentials and ambitions; the expansions and ability to overcome concerted challenges epitomising the Company’s strengths from a mining perspective.

What the project has also done though is serve as a showcase of what the Company is able to achieve from an infrastructural perspective and in terms of embedding itself in a previously unfamiliar location.

As Lemelin noted, extensive investments have been made to realise this notion, beginning with aspects that many outside of the industry would be forgiven for not taking into account.

“For example, when we first started the mine we would try to hire as many

“Whereas before we had a life of mine to 2020, this has already gone up to 2023 and now 2026. We are even now looking towards 2030...”

LE GROUPE ECI SARL

Providing a comprehensive array of industrial services across West Africa, Le Groupe ECI Sarl has spent the past five years expanding and diversifying its remit to become a leading one-stop shop provider.

Based out of Ouagadougou in Burkina Faso and Lomé in Togo, the Company’s inception in 2013 kick-started a journey which has since taken the business across fields of activity that include construction, transportation, industrial maintenance and installation, general trade services, equipment supply, and training.

Thriving as a young, dynamic and fearless enterprise, ECI welcomes a challenge and has turned this proactive nature into an advantage through its ability to meet customer commitments. Such requirements incorporate not just quality but also timeliness, health & safety and environmental consciousness; and in addressing each of these parameters, the Company can currently boast numerous long-term industry partners, including IAMGOLD Corporation.

Similarly successful from an internal structure point of view, the business comprises 345 contract workers to complement its core permanent team, facilitating a vital flexibility that perfectly suits the business’s multi-industry coverage.

“GROUPE ECI sarl wants, on the horizon, to be a successful business, meeting great challenges, while respecting the quality, punctuality, environment and well-being of these workers and contractors in our various fields of activity,” the Company emphasises. “We are forcing ourselves to become the best in our areas of intervention to serve as an example for future generations.

“We have an ambition to implant ourselves in different countries of West Africa like Mali, Côte d’Ivoire and Benin.”

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people as possible from the local neighbourhood but all the required skills were not readily available here. So Essakane decided to construct a camp outside of the main zone, where people who worked on rotation after travelling back and forth from Ouagadougou could stay,” Lemelin details. “We would have 25-30 people living in the neighbourhood at any one time, and we had a contract with a local transportation company to arrange transport to and from the

capital.”

Infrastructural expansion has been every bit as important as each of IAMGOLD’s mine expansions; one not able to stabilise itself without the other. And such capital expenditures have gone on to infiltrate every aspect of an operation, both at Essakane and across each of the Company’s other successful projects.

“At Essakane, we have partnered with Total EREN to construct a 15MWp solar farm made from approximately

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IAMGOLD Involvement

Since 2007, we have been very pleased to collaborate with IAMGOLD, contributing and adding value to many of their projects. Our most important achievement being our involvement in their Essakane Gold Mine from the very beginning with a Feasibility Study, various technical reports and most importantly, construction of the mine facilities leading to commercial production. We also provide IAMGOLD with on and off-site mining engineering services and our geology group performs mineral resource estimates for many of their mining projects.

We wish IAMGOLD every success in future endeavours.



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ABOUT US

Established in 2006 by Louis Gignac, Canadian Mining Hall of Fame inductee, our firm is based in Canada and active in mining projects globally.

G Mining Services Inc. is a multidisciplinary mining company which offers a wide range of services to both underground and open pit projects. We assist our clients through all project development phases; from exploration, feasibility studies, construction and into operations. We integrate with the client's team to self-perform project development, hence to build fit-for-purpose and cost effectively.

CURRENT CONSTRUCTION PROJECT:

FRUTA DEL NORTE PROJECT – Ecuador – Lundin Gold Inc.

- Estimated CAPEX: USD 684 M
- First Gold: Q4 2019

RECENT CONSTRUCTION PROJECTS:

MERYAN MINE – Suriname – Newmont Mining Corp.

- Construction Costs: USD 738 M
- Completed USD 178 M Under Budget
- Delivered One Month Ahead of Time
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ESSAKANE MINE – Burkina Faso – IAMGOLD Corp.

- Construction Costs: USD 447 M

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PHOTO: WÄRTSILÄ



Cost reductions and sustainable efficiencies are of paramount importance

130,000 solar panels which was unveiled in March, 2018,” Stothart offers as an example. “This will save the Essakane mine approximately six million litres of fuel a year and eliminate 18,500 tonnes of carbon dioxide each year.

“Additionally, we have constructed a carbon fines treatment plant and intensive leach reactor to improve gold recoveries and reduce gold-in-process inventory. An oxygen plant is planned to be commissioned in Q4 of 2018 to further improve recoveries.”

At Westwood the trend of continuous improvement and modernisation reappears via the introduction of underground electrical equipment; at Côté Gold, the usage of automated haulage and drilling is being explored; as the Saramacca project comes online, an additional fleet will be unveiled at Rosebel; and as part of the LOM planning, an additional fleet will also be required at Essakane in the near future – coming full circle on a

...we have constructed a carbon fines treatment plant and intensive leach reactor to improve gold recoveries and reduce gold-in-process inventory. An oxygen plant is planned to be commissioned in Q4 of 2018 to further improve recoveries

IMALAYA

Imalaya has been working with IAMGOLD for more than a decade, and together a reliable and long-lasting partnership has been established.

The Company supplies to the Essakane operations parts for Sandvik and Atlas Copco machines, Man, Renault, Mega Corp, Ingersoll Rand, along with specific tools and other parts.

We trust that the quality of our parts meets with the project's requirements.

We wish the best to IAMGOLD for future mining explorations and we will always remain at their side for current and future projects.

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Oryx Energies has been present in Burkina Faso since 2003, and today operates a network of service stations across the country and supplies high-quality lubricants to the market. Clients range from domestic end users to large mining and industrial customers.

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whistle-stop tour of just a select few investments and improvements that keep IAMGOLD ahead of the game on a year-by-year basis.

Weathering the storm

Not only do such investments address the very latest demands and trends from the wider mining world, but they also put IAMGOLD in as strong a position as possible to overcome potential challenges of the future; a lesson that was learned all too dramatically in 2015 as the industry suffered its most troubling period in decades.

Lemelin recalls: “Right after the expansion in 2013 when we decided to build the second production line, the gold price was at \$1,600 an ounce, but the minute we finished completing the expansion, the gold price declined to \$1,200 an ounce – a 30 percent loss of top line revenues which we did not anticipate.

“ We knew that gold prices are cyclical and go up and down. But to be robust when the industry is at its worst, we wanted to never be exposed to a low cycle again ”

EFS

Fatou Soumnana, known as EFS, has had an excellent partnership with the mining company IAMGOLD Essakane SA since 2012.

Thanks to the quality of its food delivery services, the Company has secured assurances from IAMGOLD Essakane SA to entrust the Company with several projects, particularly in the construction of housing, rental of mining equipment and the supply of aggregates.

With the principle of always strengthening our collaboration, we work to always deserve this trust placed in us which allows us to always benefit from their support for the Company's development.

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130,000 panels make up the 15MWp solar farm

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“For that first year it was a very frightening climate where the gold price was trending towards \$1,050 and some predicting it could even go sub-\$1,000. At that point you’re very vulnerable!”

IAMGOLD’s reaction was immediate and pertinent, consequently initiating a programme which not only helped stem the tide at that moment, but would also make the Company much

more prepared to weather such storms in the future.

“As part of the programme, we went back to the drawing board and announced our “400,000 ounces at \$850/oz” initiative to be robust through the price cycle,” Lemelin continues. “We knew that gold prices are cyclical and go up and down. But to be robust when the industry is at its worst, we wanted to never be exposed

“The more we can extract, for as long a time as possible, the more the country receives in taxes and royalties and every type of contribution”

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to a low cycle again. Even though it was bold, it was one of those things where you don't know it's possible until you do it. We had a target to aim at and introduced a programme designed to accomplish this target."

The programme wasn't unveiled purely to safeguard profits, rather it signified a solidifying of the business's overall ambitions. With long-term mine lifecycles at its immediate disposal, sustainability is of paramount importance and by stabilising the situation and preparing for the worst, IAMGOLD can now rest easier in the knowledge that it can withstand similar predicaments should the cycle come around again in the future.

Lemelin adds: "Such an approach is also warmly received by the governments of countries we're operating within. The more we can extract, for as long a time as possible, the more the country receives in taxes and royalties and every type of contribution. It was in our, Burkina

It was in our, Burkina Faso's, the Government's, and the community's best interests for us to make sure that Essakane remained on-course and successful, and our programme has ensured this is the case

FASO PLANTES

FASO PLANTES SARL est une société burkinabè créée en 2006. Elle dispose de deux départements:

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Faso's, the Government's, and the community's best interests for us to make sure that Essakane remained on-course and successful, and our programme has ensured this is the case."

Reducing costs and improving productivity

Naturally, for any company to implement an amendment in strategy or in approach, the full backing of each employee is required. For IAMGOLD though, this realisation was taken up a notch, with the Company using the industry downturn as an opportunity to instil a strong sense of efficiency and wider company sustainability within each member of staff.

"We had to train people on the methodology because it's okay to say to a person that we have to cut costs, but if you don't give them a toolbox of ways to discuss it then the preaching is aimless," Lemelin says. "We therefore implemented lean

"We therefore implemented lean Six Sigma methodologies within a training programme that was given to all 2,200 employees on site. It was a bold plan, took three-four years, and was presented in different ways to different individuals..."

TROUVAY & CAUVIN

Everyone at Trouvay & Cauvin Group is dedicated to delivering project piping packages that leverage its stocks, logistical capabilities and services.

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Each employee has been introduced to lean Six Sigma methodologies



OUR HISTORY

Trouvay & Cauvin was founded in 1881 in Le Havre, France, by Georges Trouvay and Cesar Cauvin. The company began as an industrial supply store providing Pipes, Valves and Gauges to the ocean liners travelling between the French port and New York. In the recent years, the biggest change came in 2002 with the restructuration of the company and the creation of the Trouvay & Cauvin Group with its central hub and headquarter in Jebel Ali, Dubai – U.A.E. T&C growth has been strong and steady from this date and we are again today a reputed global piping solution provider with a local presence.

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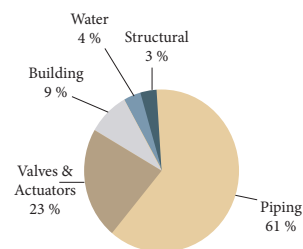
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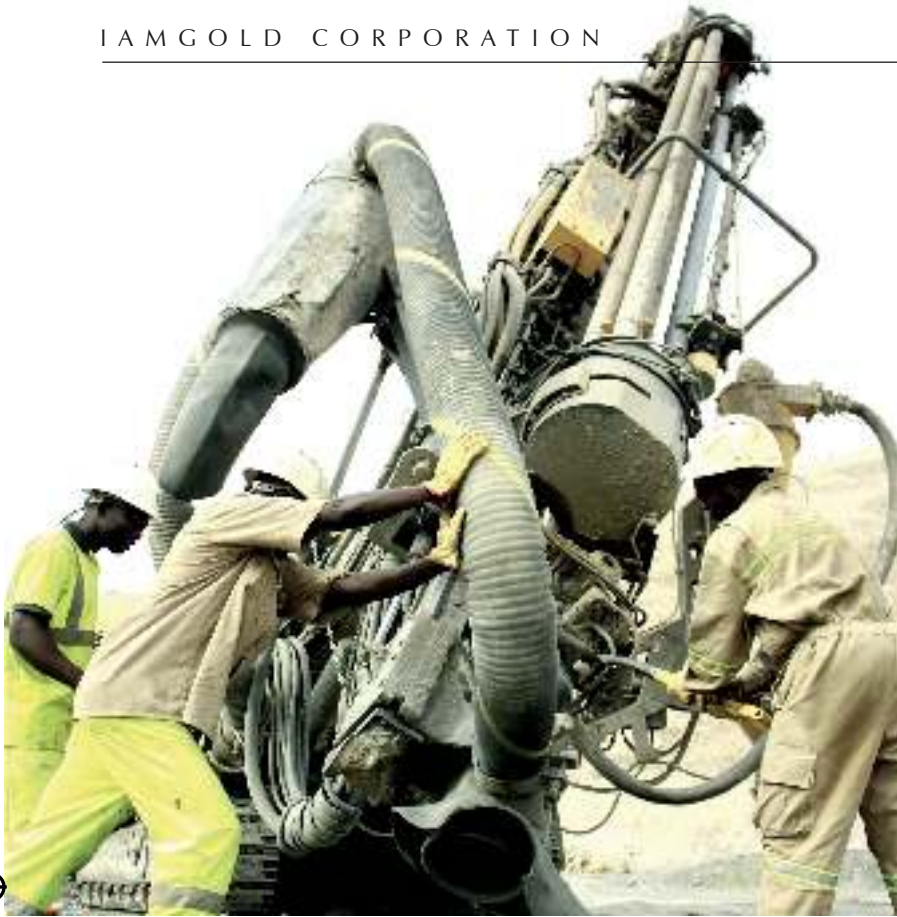
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Six Sigma methodologies within a training programme that was given to all 2,200 employees on site. It was a bold plan, took three-four years, and was presented in different ways to different individuals, but the end result was the same – to raise awareness of the implications of reducing costs and improving productivity.”

In 2017 the rewards of this initiative were already being reaped to the tune of \$8 million in savings.

Lemelin enthuses: “It may take a while but you have to stay the course in order to see these benefits. It’s a case of effective execution from start to finish, but then also – importantly – celebrating the success of achieving the goal.

“At the mine, every single day we wake up and have to solve problems. So if we don’t celebrate successes like the effectiveness of this training programme, then we’re promoting a negative culture where nothing ever reaches a point of success. It’s

important that people understand and acknowledge when we’re getting better or when we’ve accomplished something so that they know we’re heading in the right direction, largely thanks to their contribution.”

Improving efficiencies, reducing costs and becoming more sustainable can often be brought about by necessity, as was the case with IAMGOLD’s situation in Africa, but can quite often turn into a longer-term, more positive way of conducting business. Since being forced into taking this path out of necessity, the Company can now report heightened efficiencies, and a greater respect for resources and the effects their profitability can have not only on the Company, but on the surrounding communities and even the wider country as well.

Stothart elaborates: “The Company continues to focus on productivity and on optimising costs, backed up by strong technical analysis, while

maximising throughput of the plant and minimising capital investment.

“IAMGOLD likes to construct most of its own projects, and for projects it does not construct it still provides a significant amount of input and insight into the development. This allows the Company to perform a significant amount of detailed risk analysis and focus on how to best protect itself from the downside of projects.

“Over the years, we have focused on identifying numerous opportunities to reduce both operating and capital costs during the mine design and mine planning process.”

Share the wealth

When discussing the idea of sustainability, Lemelin is keen and quick to clarify that this doesn’t just encapsulate the notion of environment and CSR-related activities that are often highlighted in these instances.

Rather he emphasises the fusion of business and community-based



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initiatives, a blend of local ingratiation and more business-typifying economic drivers.

“You need to share the wealth and that’s exactly what we’re doing,” he says. “We’re strongly invested in the local communities around Essakane to make sure we retain strong ties with stakeholders and understand their needs. Mining is a non-renewable resource, so you have to have the diligence and find a responsible way of managing the resources.

“You only get one good shot at it. And when you’re done you want to know that the communities are better off, and that the mineral rent has improved their situation. We never stop thinking about that.”

In proving its sensitivity to the local cause and in cementing its position as a locally responsible operator, IAMGOLD has fostered a harmonious, communicative, collaborative relationship with the local community; who in turn realise that the ongoing success of Essakane will directly, and positively, impact their own lives.

Consequently, with becoming an employer and business partner of choice, a goal is becoming realised to ensure that when the mine does one day shut down, IAMGOLD’s legacy will remain.

“When the mine shuts down, the local economy will survive and will live on, which is what sustainability means in essence,” Lemelin adds. “And then, to cater for more stereotypical elements of corporate social responsibility, we have a committed team who work within the communities and implement programmes. There is a myriad of things we do in this area, but two leading examples include the building of a water treatment unit which will improve access to safe running water for more than 150,000 people in the area; and in terms of education, an initiative which saw two young women receive scholarships at one of the finest polytechnics in Canada.”



Supporting the growth of the mining sector

Casting an eye forward, in refining and honing each area of the Company’s internal functions, the business is in as strong a position as ever to capitalise on the opportunities that exist in Africa, and indeed across gold mining’s global climate.

“West Africa is a highly prospective region for gold and other minerals,” Toguyeni confirms. “The region

remains under-explored and there is potential to find more resources.

In order for this to happen, it is important that host governments and policy makers ensure that the legal frameworks remain attractive for potential investors and provide some level of predictability to mining companies who often face price volatility for metals.

“In our interactions with governments and lawmakers in the



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countries where we operate, we place the emphasis on finding the right balance to support the growth of the mining sector through a better integration of the mining sector in local economies, while also ensuring we develop sustainable projects which will benefit communities and the country beyond the closure of the mine.”

The Company’s internal stability also makes it more resistant to any additional, potentially unforeseen industry challenges as well, as Stothart describes by way of examples.

“Reserve depletion is the number one challenge for the industry in our opinion,” he says. “The reason that the industry is having a challenging time replacing reserves is that it cut back too much on exploration spending

Another trend we’re monitoring and adapting to is digital mining, which has a lot of potential within the industry...

during the downturn. Plus, the easy deposits have been found. It’s critical to replace your gold reserves to stay in the game. Our gold reserves increased by 86 percent in 2017, so it’s essential that other companies continue to invest in exploration.

“Another trend we’re monitoring and adapting to is digital mining, which has a lot of potential within the industry, so we need to be embedding digital thinking into our strategies. At IAMGOLD as we move forward with our Côté Gold Project we will be looking at ways to incorporate digital mining into our operation. Simultaneously, we are looking at the opportunity to increase productivity of our existing mines through automation.”



Digital mining is the next step for African mining, with IAMGOLD already capitalising on the trend

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Exceeding expectations

Above all though, what motivates IAMGOLD most is an unwavering dedication to health & safety; applicable to its employees, the local communities and everyone involved with each process of every mine. As Stothart sums up aptly: "Zero Harm drives IAMGOLD!"

He adds: "It is our commitment to continually strive to reach the highest standards in human health & safety, to minimise our impact on the environment, and to work cooperatively with our host communities. We are committed to forming partnerships with our local communities while making a positive impact.

"For example, in Burkina Faso we continue our commitment to providing clean water access to surrounding communities. In Suriname we are committed to public education and health, having constructed classrooms and health clinics. We strive to leave

behind a positive legacy for our communities to continue to prosper long after our mines are closed."

This ethos will continue to be applied to all development projects either already in operation or nearing production. And Stothart is excited about the potential lifecycle that each opportunity has to offer as expansions continue to come thick and fast. The exploration pipelines will become development pipelines, and development pipelines will become productive mining operations; as IAMGOLD further establishes itself as one of the continent's, and indeed the world's, leading industry pioneers.

Stothart concludes: "IAMGOLD has entered one of the most important phases in its history. Many initiatives over the past few years have been focused on lowering costs and extending the life of our mines. We've placed greater emphasis on brownfield exploration so we can take advantage of existing infrastructures

to grow, while still retaining and advancing our Greenfield exploration opportunities.

"As a result of our cultural shift during the low gold price period, we've become much better at what we do. We're a much leaner company than we were before, with AISC below \$1,000 per ounce. We expect that AISC will continue towards \$850 per ounce, and our production will move towards 1.2 to 1.3 million ounces by 2022.

"From an operations perspective, we possess solid operational and project development professionals who continue to exceed expectations. Through the downturn, we retained core exploration capabilities and confirmed five Greenfield projects since the downturn, while also producing reserves at Boto. We had significant reserve additions in 2017 which is a testament to our team's hard work over the years, and we continue to push our projects forward and advance long-term projects." ■





A GOLDEN Generation

for West African Mining

Teranga Gold Corporation's successes in Senegal, Burkina Faso and Côte d'Ivoire epitomise the Company's strengths as a soon-to-be mid-tier gold mining company, led by a socially responsible philosophy

Writer: Matthew Staff | Project Manager: Donovan Smith



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An aerial photograph of a mining operation, showing a large open-pit mine with a winding road and several buildings. In the foreground, a collection of Mincon drilling equipment is displayed on a rocky surface. The equipment includes several vertical blue drill rods with yellow labels, a large grey drill bit, and several smaller blue drill bits. The background shows the rugged terrain of the mine.

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For the past eight years, Canadian mining company, Teranga Gold Corporation has aligned its own growth to that of the booming West African exploration and extraction industry, not only edging its business towards mid-tier status, but simultaneously weaving itself into the local fabric of the region.

President and Chief Executive Officer, Richard Young founded the Company back in 2010 alongside Chairman, Alan Hill following the latter's identification of untapped potential, and the former's acknowledgement that West Africa had become one of the fastest growing areas for gold production in the world.

"The Governments in the region were and are mining friendly and they have a strong mining code. West Africa is open for business," Young affirms and recalls, looking back



to the Company's inception in the area. "Initially we came across the opportunity to acquire the Sabodala Mine by virtue of a previously explored mineral sands opportunity by an Australian company who found gold along the way."

Teranga - meaning hospitality in Wolof, the most widely spoken language in Senegal where Sabodala resides - was born, and the rapidity of the Company's growth since then has been remarkable.

During the initial phases, more than 100,000 ounces of gold were produced on an annual basis, but this figure has since risen to more than 200,000 ounces each year; epitomised by last year's record 233,000 ounce achievement.

"All told, this results in around 1.4 million ounces having been produced at Sabodala," Young says. "What we've since been able to do is leverage the cash flow of Sabodala in Senegal and use it to expand into two other



Mincon West Africa is the key supplier for all the DTH and Top Hammer drill string components and rock drilling tools to Teranga Gold at the Sabodala Gold Operations mine in Senegal. Martin van Gemert, Managing Director of Mincon West Africa, applies his 30 years of experience in the industry to identify and meet the needs of his customers, with the backing and support of the Mincon Group PLC which was founded in 1977 in Shannon, Ireland.

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countries - Côte d'Ivoire and Burkina Faso - via the development of our Wahgnion project and a forthcoming expansion programme at Golden Hill.

"As a result, we're now poised to capitalise on an organic growth pipeline that will take us to mid-tier producer status over the next few years."

The combination of Sabodala, Wahgnion and Golden Hill alone is projected to take Teranga's annual production rates past the half million ounce mark, and that's before its Afema project in Côte d'Ivoire progresses over the coming years as well.

Young enthuses: "We all do a good job here in West Africa but Teranga stands out on two major fronts. Firstly, we have developed expertise mining multiple deposits. We turned a simple single deposit at the Sabodala mine into a multiple deposit site feeding into a single mill, showcasing how good we've become with grade control. In

fact, we are doing about 20 percent better than our reserve models and this gives us confidence to embark on other multiple deposit projects.

"And secondly, our approach to CSR in West Africa is a major advantage. It's a focus from the top down. It's a special philosophy, which is fundamental to the way we operate."

Adding value to the local economies

This latter point encapsulates Teranga's evolution in a region that was always ripe from an industrial perspective, but which required a sound corporate social responsibility strategy to succeed. As such, Young recalls that the business has always focused on sharing the benefits of responsible mining with all of its stakeholders, with its core mining expertise simply following suit once these pivotal initiatives were in place.

"We always see ourselves as a guest in our host countries," he notes. "We appreciate the opportunity to come in

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More specifically, with Terranga extending its operations into Burkina Faso, the network has improved its presence considerably through for example a certified Rebuild facility, a brand new warehouse and large workshops. These service features are enriched with more Oil Analysis capacity, training facilities and a customer reception.

We wish Teranga Gold the best success in their future ventures into West Africa!

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and work and our mission is to make sure that we leave these communities better off than when we found them.

“If you look at Senegal initially, for example, Sabodala had a non-Senegalese general manager in place at the time of the IPO and 10-15 percent of the workforce were expats. Our response was to immediately put in place a local general manager and to reduce the number of expats to just five percent. We now have Senegalese in very high positions and they’re a key component of our team.”

Teranga has won numerous awards for its CSR-centric ethos, addressing over the years aspects of health, education, community development, nutrition, water scarcity, SME support and skills enhancement.

“Inevitably what ends up happening from this latter personnel perspective - and it’s the nature of what we do - is we train them and then they eventually leave. People from Dakar will come here to be trained and then move back

with their newly acquired skills to turn them into very good employment opportunities,” Young explains.

“But we understand that, and it’s actually our goal. It all comes back to ensuring that these communities and individuals - and therefore the country - is better off. Whether they’re in mining or any other activity, they come away from Teranga with improved skill sets and go on to add value to the economy.

“It’s always as much about societal facilitation as it is about company or industry development.”

A very attractive proposition

Proof of this model’s success is the ongoing prevalence of its operations, which continue to thrive under the guidance and stewardship of Teranga’s almost entirely local workforce.

In identifying such prospects to begin with though, Young aims much of the plaudits towards his geology team who have turned nascent or

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Further expansion of the Company’s services took place in 2011, when it acquired Transat, who specialise in hauling material and rental equipment for the first cement plant in Senegal, Sococim.

With more than 20 years of experience in haulage, civil engineering and mining for organisations and multinationals in Senegal, including participation in many road and plant construction including access roads to the Gora and Golouma mines, the quality of its services, staff availability and its competitive prices justify partnerships with well-established companies such as TOTAL Senegal, CSL, the Senegalese Lubricant Company, Grande Côte Operations and Teranga Gold.

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underexplored opportunities into sustainable success stories.

Young details: "What we've been able to do in a few cases is assess work that had been previously carried out by juniors and see what might be possible with a successful drill bit. And this has laid the platform for the success we've enjoyed across a number of acquisitions or joint ventures, as the geologists correctly anticipate not just what's currently available in each case, but what's possible too."

And naturally, as Sabodala has blossomed in status, Teranga's standing in the wider industry has escalated; subsequently paving the way for its expansion into Burkina Faso and Côte d'Ivoire.

The contributory factors culminating in this operator-of-choice position are innumerable of course, but Young once again pinpoints the Company's expertise and considerate philosophy as being chief among them.

"We have a culture where we



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treat everyone with respect and that goes for the local communities and countries in which we operate, as well as our employees, contractors and business partners,” he states. “As a result, we are becoming a company of choice for both partners and workers.

“Importantly though, people see what we have achieved and how quickly we’ve achieved it. They’ve witnessed our organic growth and our ability to move beyond one asset within a relatively short timeframe.

“So if you’re one of these prospective partners, or employees or contractors, you can look at Teranga and think “if we do a good job here, then another project will come up soon that we could be involved in as well”, and that makes us a very attractive proposition.”



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A number of discoveries

By no means is Teranga Gold Corporation's work done, however. In recent years, several capital investments and acquisitions have been made to ensure that Sabodala remains progressive, Wahgnion develops on schedule, and that new profit lines are being pushed forward or unearthed on a yearly basis.

Beginning in Senegal, as much as \$20 million has been spent in recent years as part of the Company's mill

optimisation programme, comprising the establishment of a parallel crushing circuit, and a host of upgrades throughout the system to increase throughput by as much as 15 percent.

The addition of expert systems and controls go on to assure better recoveries from this enhanced production, and since 2016, attentions have turned towards building the Company's second mine; this time in Burkina Faso.

This project will cost approximately

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Challenge 2000 SARL is a Senegalese construction company delivering plant installation/ erection and maintenance services to the mining & energy sectors in West Africa.

In addition to the above services, the Company also works in the civil, equipment rental and labour sectors.

The Company has provided the Sabodala gold mine with services since its development phase and presently carries out mill relining works at the mine.

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Challenge 2000 provides Sabodala Gold Mine with services since its development phase and presently carries out the Mill Reline there.

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“West Africa is open for business. The governments are truly engaged, they understand the value of mining, and the value of gold mines in some of the remotest areas of the country. That employment, infrastructure, job creation and skills development can elevate the region. The industry pays a lot in taxes and that revenue will help propel the countries moving forward.

“It really is a pleasure to work in West Africa where the local communities are pro-mining and pro-development; and this in turn allows us to move forward and expedite our projects on an accelerated basis.”

- Richard Young, CEO,
Teranga Gold Corporation

\$232 million, while Teranga also anticipates reserves at Wahgnion to rise from 1.2 million ounces to two to three million ounces, giving it a 15 to 20-year mine life; a substantial statistic when combining it with the 13-year lifecycle still remaining at Sabodala.

Young adds: “Not only have we made acquisitions but we’ve also invested into exploration and moving mines into production across Burkina Faso and subsequently Côte d’Ivoire; and we’ve made a number of discoveries that will see us through to 2020 and beyond.

“Regarding Côte d’Ivoire in particular, it’s such an underexplored country, and we believe it contains more gold potential than any other country in West Africa. So once again it’s very prospective and we’re already drilling two properties there as we speak.

“Ultimately, at present, Sabodala has matured, and for us it’s now about continuing to extend the mine life

INHEMACO SA

INHEMACO SA had the pleasure of accompanying the Teranga Gold team on every step of their African journey to success.

From humble beginnings on the Sabodala project in a make-shift mud and thatch bungalow clinic to the modern facility that presently serves the mine, and on to the grass root beginnings of the Wahgnion project, Burkina Faso, we highly value our longstanding relationship with a mining champion who succeeded in commissioning a lucrative gold mine in a challenging environment.

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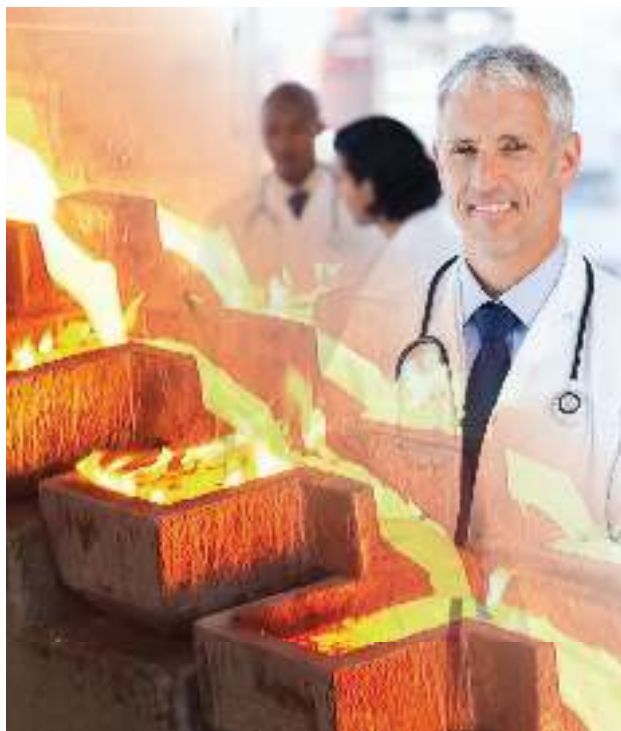
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Empowering communities via a CSR-led ethos

there with a focus on aforementioned productivity initiatives to lower unit costs and optimise the mine plan while simultaneously taking those same successful concepts in order to build new mines and successes elsewhere.”

Making a long-term difference

Across parts of Africa in recent years, mining has seen national challenges or peripheral sector slumps, but this doesn't seem to have been the case in West Africa and in the budding prospects of Senegal, Burkina Faso and Côte d'Ivoire especially.

A “booming” sector has its own challenges from a competition perspective of course, but on the whole the repercussions are solely positive; especially for a company that inherently works hard to be an employer and partner of choice under any circumstances.

“You have to work hard in these parameters because they're so important, but mining in West Africa is



IDC DRILLING COMPANY

Established in May 2011, IDC is an African drilling company with a daring and inventive entrepreneurial mind-set.

The Company is member of the Senegalese Chamber of Mines (Chambre des Mines du Sénégal, CMDS) and the Côte d'Ivoire Chamber of Mines (Chambre Des Mines de Côte d'Ivoire, CDMCI).

The Company has been working with Teranga Gold since its creation; this partnership has been the cornerstone of its development. It has been the guideline for the Company's professional stance, and for expanding its skills in all aspects of the drilling industry.

Being an international drilling company with more than 30 rigs in activity in several countries in West Africa is largely due to its partnership with Teranga Gold.

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The Teranga team continues to make a difference

booming and that can only be a good thing moving forward,” Young says. “There has just been a second mine built in Senegal, there are around four being built in Burkina Faso and there’s a lot going on in Côte d’Ivoire. So when we look at how much activity is going on in relatively small countries, mining is absolutely thriving.”

The aforementioned aptitude to adopt a localised approach to operations has therefore been critical for Teranga. And in having a primary shareholder and board-member who is the largest private employer in two of its three countries - Senegal and Côte d’Ivoire - the business enjoys yet another unique advantage.

“On the ground our cornerstone investor is considered a local and everyone wants to see local ownership,” Young concludes. “We have a great platform to build from



Business, industry and community development are on the horizon

and looking to the future, with a number of projects and prospects in our pipeline, we fully expect to move into that mid-tier producer status of at least 500,000 ounces a year.

“Additionally, we will continue to make a difference on the CSR side,

thinking outside of the box and ensuring we leave communities better off than when we found them. We challenge our team every day, we have a brilliant CSR team, and we see it as critical for us to truly make a long-term difference in West Africa.” ■



Commerce Distribution Service Delivery (CODIPRES) is a trading post offering a range of hydraulic components for local businesses. The Company also offers its services in industrial and electromechanical maintenance.

CODIPRES offers a range of products, including: hydraulic hoses, conveyor belts, connectors (couplings, flanges, clamps, couplers, etc.), hydraulic cylinders, filtration and accumulators, hydraulic welding machines and electrical and plumbing equipment.

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Tenanga Gold operates a gold mine in the Senegal. Like most mining activities, the concession is established in a remote area far from available laboratory services which are classified as non-core but essential.

By consuming laboratory services, the mine is assured of a continuous and dependable services, which in turn helps them to focus on their resources on the core activities of mining.



grown Mining

ANT

Mbuyelo Coal has experienced exponential growth within the mining industry, giving back to its local community and providing a service that is second-to-none

Writer: Phoebe Calver

Project Manager: Donovan Smith



The abundant success of Mbuyelo Coal is owed to a variety of developmental factors that have come together during the past few years, including the joint development and production of subscription to common values shared by all stakeholders.

Success within the Company has come from within, crafting the ideal working culture from the roles played by each employee and enabling firm terms of reference that everyone is willing to subscribe to for unified triumph in the coal mining industry.

“The creation of Mbuyelo Coal was the result of a universal principle of achieving growth through the alignment of a common vision,” explains Company Chief Executive Officer, Rirhandzu Siweya. “Through setting targets for our desired grand-plan and following through by uncompromisingly sticking to a disciplined approach, we have achieved and reaffirmed our strategic philosophy.

“However, we are not afraid to make the necessary amendments to

our strategy if they have been made irrelevant and unproductive by the passing of time; this is irrespective of the fact that they initially formed our reference point and hence ensure the continuous improvement on our part.”

Mbuyelo Coal was established as an offspring of Mbuyelo Group, which was formed as the result of abundant opportunities in the mining space with thanks to the Mineral and Petroleum Resources Development Act No.28 in 2002.

“The parent group was founded under highly strenuous circumstances and with no financial resources to support the dream of becoming an African-grown mining giant,” adds Siweya. “We came across initial challenges such as operating out of internet cafes and our garages that formed the core DNA of our business.”

Mbuyelo Coal is a majority black-owned entity and although it is a subsidiary, it operates as a holding company with operational assets that are housed within Mbuyelo Coal itself in order to retain its core business of coal exploration and development.

PHILO ENVIRONMENTAL MANAGEMENT

Philo is a small company headed by a young brilliant environmental scientist, starting operations back in 2007.

Founded back when black environmental consulting firms were unheard of in its region of operation, the Company started working in Mpumalanga province in South Africa and now has grown to work in all South African provinces with the aim of extending its operations beyond South African borders.

The Company is a 100 percent Black Woman Owned enterprise, run and owned by Mrs. Sindiswa Setlhodi (Gidimi), a registered Professional Natural Scientist (400087/07) with 15 years' experience in the coal mining industry.

The Company works with a range of professionals internal and external to provide high quality work to our clients on time. Philo provides services to a range of clients from coal mining (Glencore Operations SA, Anglo American, AEMFC and Mbuyelo Coal), government departments (Nkangala District Municipality, Modimolle Local Municipality and Small Enterprise Development Agency) and industry (Flaming Silver trucking Depot, Sathala Plant Hire and Amro Carriers) to mention a few.

Mbuyelo Coal has taken Philo under its wing as one of their small service providers. Currently we are providing environmental services to their various coal mining operations. Mbuyelo went even further by sponsoring Philo financially in order for us to acquire all the necessary resources we need to provide said services. This has assisted Philo greatly as we are able to even provide more services to them and other clients.

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9. Environmental Risk Assessment
10. Noise Level Assessment
11. Air Quality Assessment
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15. Soil Assessment
16. Rehabilitations Audits
17. Biomonitoring
18. Monitoring system design and Implementation
 - Compilation of ground water, surface water, air quality, aquatic monitoring system's manual
18. Ground ,Surface Water & Air Quality
 - Management and monitoring programs;
 - Data computerization; and
 - General Project Management.
 - Sampling and chemical results reports
19. Compilation of Rehabilitation plans (Designs) –
 - Discard dump, waste dump site, opencast mining, sidings – tender documentation and site supervision
20. Environmental Management system (ISO 14001:2015)



Project development

With thanks to the exciting nature of the Company and the character of its employees, the Mbuyelo Coal story has proved to be a marvel to watch as it unfolds with every project.

“Over the years there have been certain projects that have stood out as a cut above the rest, providing admirable results for both the Mbuyelo family and onlookers alike,” the CEO describes. “One such project came in the form of our flagship development called Manungu Colliery, which we estimate will provide 30 years of 350 million tonnes in mineable coal.”

While the Company was able to maintain the disciplined culture it had instilled to reinvest all of the resources it had acquired from investors, it was also able to utilise the sufficient resources available to tackle the substantial project.

“When it came to executing the Manungu Colliery project, the need arose to acquire more funding to aid

us in expediting the development of the colliery,” affirms Siweya. “It was an exciting time for us in terms of the development of the Company and through maintaining a focused approach we were able to acquire the funding in a record three-week period from the Industrial Development Corporation (IDC).

“Our team at the time played a pivotal role in ensuring that we retained our attitude towards running a tight ship, acting in a constructively critical manner that would collectively aid us in achieving our end goal and was a major contributor to this successful milestone.”

In this instance, success most definitely breeds success and the track record of excellence at Manungu Colliery proved beneficial in the Welgemoed Colliery project.

“This development provided us with 25 million tonnes to be mined through opencast, with a future in underground mining,” explains Siweya. “In this case



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Omphile Lehumo Projects is proud to be associated with Mbuyelo Group
and hope to work together for many years to come.

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Tawen Trading and Projects

funding was equally and seamlessly secured with the IDC in order to buy out the other 50 percent shareholder of Welgemeend, providing us with full-ownership of the colliery.”

Another incredibly successful Colliery development was carried out at Ntshovelo/Mlakvark Colliery, with its extra seven million tonnes of mineable coal and 12 years of life.

“In the near future we have plans to get our other brownfield in Welstand Colliery underway, and similarly to Welgemeend Colliery, it will offer us the option of another multi-product mine,” states Siweya. “Plans are also underway to acquire other greenfield projects that we can take up the value curve.”

Relevant energy sources

Coal mining remains the Company’s core business, maintaining its footing as a key driver of global energy security. However, Mbuyelo is currently monitoring trends such as the environmental impacts that are continuously rendering coal’s energy source value, a concern for global climate-control.

“We maintain that coal will remain a relevant source for a long period of time - given the global lack of sufficient alternatives - but we know that it is important to start today with our research & development to stay ahead of the industry,” the CEO affirms. “We are well ahead of time in terms of studying these trends, setting ourselves up for participation in sources of energy such as wind turbines and solar power.

“Through these actions we hope that we will guarantee a relevant place

in the long and drawn-out energy source transition moving forward.”

When it comes to retaining its current standing within the industry and considering the infrastructural constraints in other coal bearing regions of South Africa, the Company has resolved to limit its footprint at the moment to the Mpumalanga region.

“We recognise it is important to keep track of all the developing regions in both South Africa and the wider continent to see where the infrastructural challenges are being addressed,” explains Siweya. “This is increasingly important to us as transportation of coal from the more difficult to reach areas makes it uneconomical.

“Our parent company is less limited in terms of interest in mining opportunities across Africa, while Mbuyelo Coal is more cautious in its approach based on feasibility.”

Technological advancement approach

Over the years the Company has spent approximately R5 million on new technologies to ensure its status at the forefront of the industry, one particular instance being the update of its accounting system. It has also adopted a weighbridge system, and a video conferencing system that creates a link between head office, regional office and all the other operations.

The CEO states: “We have found that the introduction of the communication system has dramatically assisted us with communication, especially in the

TROLLOPE MINING SERVICES

The Manungu project is located in the Witbank coalfield in Mpumalanga province. Trollope Mining Services is the main contractor on site with a three-year extendable contract to mine +/-10MROMt by opencast mining.

There is a substantial equipment fleet consisting of 90t RDT, 40t ADT, 120t backhoe and 100t bulldozers, together with relevant support equipment. Drilling is subcontracted with a fleet of 30t drill rigs.

The Company will shortly ramp up production to move approximately 1,250,000 BCM overburden per month, and produce in the range of 250,000 ROM tonnes of thermal coal, in addition to providing full mining turnkey solutions.

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Preparing a team to aid Mbuyelo through Africa's energy source transition



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Awards ceremony. Mbuyelo's diverse family-orientated structure crosses all boundaries. COO Hentie Hoffmann and Mr RO Siweya

instances where physical interaction is neither practical or feasible, improving employee productivity."

Human capital

When it comes to its employees, the Company has a unique approach to finding the right people for each role as Siweya goes on to explain: "First and foremost we believe in training our own people for a higher chance of sustained retention, while also utilising the rich expertise of the highly-skilled personnel within the Company already.

"We have learned through experience that people who gain their skills through selective hiring, extensive training and skills transfer will prove most likely to stay on with us."

Company values

When it comes to the Company's strategy for the management of its



supply chain, overall procurement and logistics and distribution, it is always informed and guided by the applicable legislation of the country of operation.

"We believe in operating with a progressive procurement and logistics-focused strategic plan, aiding us in the positive promotion of professional efficiencies and empowerment of the highly-capable local entities," continues Siweya. "We firmly believe in a localised procurement approach but know that this needs to be balanced with the interest of operational efficiencies in mind; this way of thinking equally stimulates the formation of sustainable business partnerships."

While the Company remains



A localised approach

commercially minded, it also pays special attention to the African driving values of ubuntu - humanity - which it has embedded into its core to create a long-term sustainable African business.

Aspirations

"Looking to the future, we are excited by the prospect of launching a successful IPO within the next year or two," concludes Siweya. "We are equally determined and optimistic that the general footprint of Mbuyelo will touch the length and breadth of Africa while considering further developments into other continents, aiming to make an impact that will sustain our African legacy." ■

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Passion, Partnership, Professionalism

Industrial Development Corporation of South Africa is staying true to its roots with a measured approach to project development in new markets

Writer: Phoebe Calver | Project Manager: Donovan Smith

The Industrial Development Corporation of South Africa (IDC) was formed in 1940 by an act of parliament, and more than 75 years later, remains a highly successful state-owned company.

In the early days of the Company, the aim was to create an entity that would spearhead the development of industrial capacity in the domestic market.

“When we first set up operations, it was the middle of the Second World War and subsequently there was a need for South Africa to source its own materials across a plethora of industries,” explains Mazwi Tunyiswa, Head of Basic Metals and Mining at Industrial Development Corporation of South Africa. “There was a need for petro-chemical creation, so we went out to look for suitable substitutes for oil and began our ventures into liquefaction of coal.”

Since its establishment the Company has contributed to the implementation of South Africa’s industrial policy, and the aforementioned early stages led to the creation of petro-chemical and mineral beneficiation industries in the region.

“We were able to stimulate

large-scale industrial projects within these industries, which are now acknowledged as the cornerstones of the country’s manufacturing sector,” adds Tunyiswa. “It is now apparent these actions also influenced the establishment of fabricated metals, agriculture and textile industries.”

“At IDC we pride ourselves on being in the top 100 employers of choice in South Africa, and continue to make sure that our people secure every possible career opportunity...”



During the late 90s, IDC began to venture into the rest of Africa to expand its ever-increasing mandate. The Mozal Aluminium Smelter in Mozambique was the Company’s first venture further afield, and it secured investors from around the globe.

“Our work on the smelter perfectly demonstrated the viability of large projects on a continent that was all too often shunned by investors,” continues Tunyiswa. “In the present day our investments within Africa include mining, agriculture, tourism, telecommunications and manufacturing.”

In the current climate, the Company’s strategy is to invest in things that will have a direct and positive impact on South Africa, especially on the export and finance side and the way it is able to fund itself.

Continuous improvement

When it comes to funding its projects, the Company is incredibly adaptable in order to respond quickly to the demand for funding.

“Project development” is one of the aspects in which we are strongest as a company,” states Tunyiswa. “For the majority of projects undertaken at IDC, each will take between six and seven years when starting completely from scratch. Teams of engineers, geologists, metallurgists, accountants and industry specialists develop ideas from scratch and partner with private sector companies to implement large industrial projects. IDC generally remains a shareholder in these



developments and that has assisted in IDC remaining self-funded with a strong balance sheet. In order to speed up processes we have introduced new systems for our IT department, with modern systems to support the innovation that is embedded within the Company. That is how we improve ourselves, and in turn how we handle internal innovations to meet our client demands.”

Investment is a big part of IDC and it is constantly looking at new markets and projects to branch into to support its customers, for example its current foray into renewable energy options.

“Our recent work on the CSP Plant in the Northern Cape is providing a very exciting development for us in the renewable energy sector,” explains Tunyiswa. “We fully embrace new opportunities within our business in the pursuit of doing our part to change the world for the better.”





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Columbus Stainless is the only stainless steel plant in Africa, producing sheet, plate, coil and strips for the African and international stainless steel fabricators.

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Innovative environment

When it comes to finding the right people to join the team and succeed in such an innovative environment, the Company aims to hire the best and brightest in the market.

“We are well aware that we are operating within a highly competitive market, and therefore need to match that with a competitive employment environment,” affirms Tunyiswa. “At IDC we pride ourselves on being in the top 100 employers of choice in South Africa, and continue to make sure that our people secure every possible career opportunity, training opportunity and the right work-life balance.

“Hard work is rewarded within our Company, and in return we are able to offer them meaningful work so that each employee is able to take pride in what they are doing.”

The Company is often on the lookout for developments that are specifically earmarked to create jobs, taking pride in the achievement of funding and



MODI MINING

Modi Mining is a 100 percent black South African-owned company, established with the sole objective of rendering differentiated contract mining services and to be a supplier of choice to the mining industry.

The Company has established its footprint in the opencast mining sector as a result of the financial support it received from IDC (Industrial Development Corporation of South Africa) and other financial institutions on its first project, the Company has further received 100 percent financial support for the second opencast mining package.

This type of support from IDC enables Modi Mining to take on further medium to large capital projects in the mining industry.

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WEST COAST RESOURCES

Since 2014, the IDC South Africa has empowered West Coast Resources to positively impact the communities surrounding its diamond mining operations and to grow into one of the biggest employers in the Northern Cape's Namaqualand region.

By creating more than 325 jobs to date, the Company has helped alleviate unemployment in these communities; the Company has also developed and supports various small, medium and macro-sized enterprises in the region.

Backed by the IDC South Africa, West Coast Resources looks forward to expanding its operations and community support for years to come.

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operating a project that more than 1,000 people are able to benefit from.

"This is where we differ from a bank in terms of investments. Some of the projects we get involved in are often at very early stages and we have to have the trust and vision to take them through to feasibility," continues Tunyiswa. "We are able to take a little more risk than normal banks. If you come to us with payment terms we are able to sit down and discuss what we can afford and create a plan to suit that."

"We take on board a plethora of aspects, including financial, marketing and engineering to see if the project could work and if we believe it can, we will make it happen. Our approach is patient but with a focus that will make the project succeed."

Future stability

The Company has a long and stable history and looking forwards this is an aspect that IDC would like to maintain,



keeping a sustainable and healthy balance sheet moving forward.

"It is important to our continued growth in new sectors that we increase the number of projects being carried out in Africa," adds Tunyiswa. "At present we are financing a lot of platinum companies in attempts to reduce emissions in petrol, however, with the increasing trend of electric vehicles we are looking into potential projects there."

Alongside its work on renewable energy usage and electricity storage, the Company is in the process of embarking on projects in lithium, graphite and copper.

"Within these developments we have been given a new lease of life, with new opportunities to invest in and mining is at the core of most of these," concludes Tunyiswa. "We are incredibly excited to play a significant role in this process and look forward to seeing the way the industry is going to evolve in the coming years." ■

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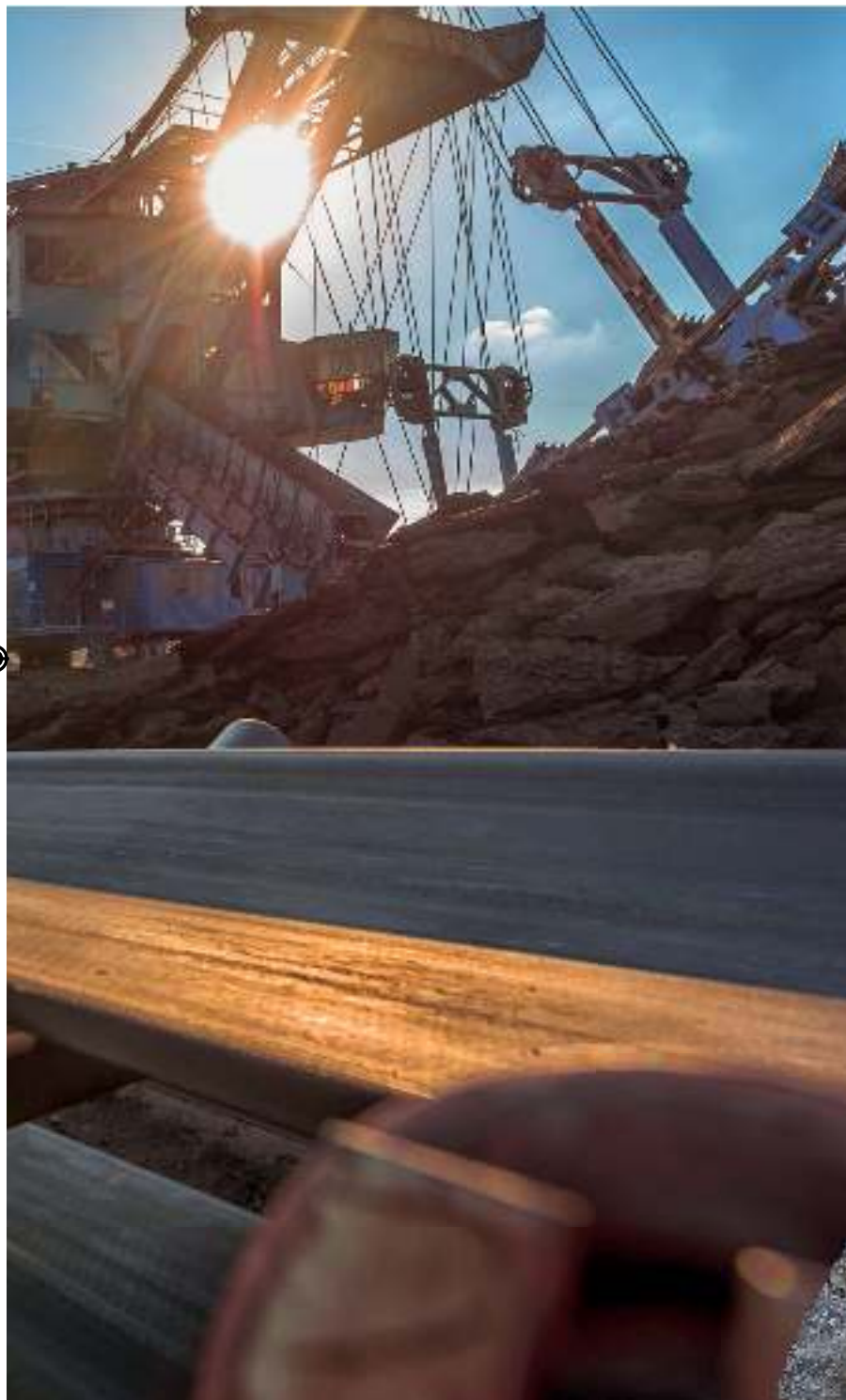


SAFETY, HEALTH AND THE ENVIRONMENT

Siyanda Resources is seeking to establish a globally competitive resources company, achieved through acquiring high quality strategic assets with a view to unlocking value and growing its business

Writer: Phoebe Calver | Project Manager: Donovan Smith





Siyanda Resources (Pty) Ltd was formed in 2004 by a group of black mining engineers and industry professionals who commenced operations in the coal industry, with a core focus on utilising its expertise in delivering value.

Since that point in time it has matured and the Company has shifted its attention onto the acquisition and management of acquired assets for optimal performance within the industry.

One of the initial successes achieved by Siyanda was through the acquisition of a struggling asset, which it then went on to turn into a highly profitable entity while also extending the useful life of the asset.

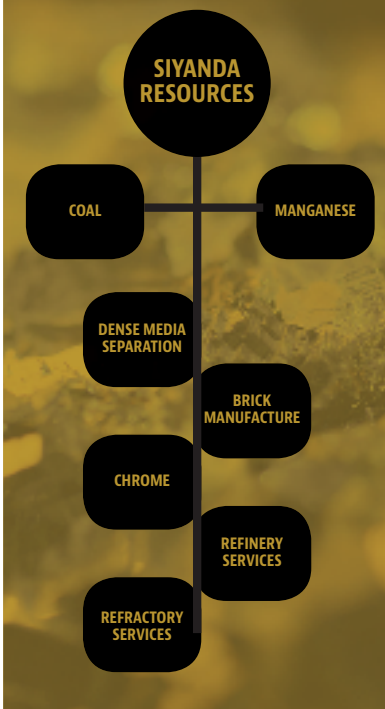
Over time the focus of the Company then moved onto UG2 Chrome extraction, where it considers itself industry experts and currently holds strong equity positions in which it manages and operates the business for significant value.

“We consider ourselves as pioneers and leaders in UG2 Chrome extraction and have continuously produced the best operational expertise in this environment,” explains Imraan Osman, Director of Business Development & Corporate Finance. “At Siyanda, we are also the largest producer of Ferrosilicon globally, and have recently entered into the PGM environment through the acquisition of Union Mine from Anglo Platinum.”





BUSINESS DIVISIONS



When it comes to making these investments, Siyanda has come to adopt a multi-pronged approach. This has primarily manifested itself from the Company's core experience in mining and metal processing, and subsequently it has centred its efforts on collective participation in this sector with its association with the local communities and labour.

Osman continues: "Through the development of meaningful strategic partnerships with some major industry players, coupled with local communities and employees, we have been able to unlock significant value.

"We have also ensured that we have active operational participation in every business we work with, alongside a heightened awareness of control within the safety environment, leadership development and empowerment, deployment of technological enhancements and supply chain cost optimisation."

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"IT IS A PLEASURE TO BE ABLE TO WELCOME OUR NEW COLLEAGUES IN SOUTH AFRICA ON BOARD BWF ENVIROTEC GROUP. OUR AIM, TOGETHER WITH YOLANDI SERFONTEIN'S TEAM, IS TO CONSISTENTLY FURTHER EXPAND OUR SITE AND OUR MARKET SHARE. THIS APPLIES TO THE SOUTH AFRICAN MARKET AND THE POTENTIALS IN THE NEIGHBOURING REGIONS", SAYS DR. PHILIPP VON WALDENFELS, MANAGING PARTNER BWF GROUP.



YOLANDI SERFONTEIN
CHIEF EXECUTIVE OFFICER
BWF ENVIROTEC, SOUTH AFRICA
BWF ENVIRONMENTAL DYNAMICS SA (PTY) LTD.
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Sustainable value creation

The main areas of interest for the Company at present lay within platinum metal groups (PGMs), base metals (manganese), energy (coal, uranium, oil & gas) and industrial minerals.

“We have centralised our efforts on both greenfield and brownfield operations,” adds Osman. “Each of the projects we have acquired is set on a long-term basis, with the optimisation of assets being the main goal.”

A great example of Siyanda’s sustainable value creation is through its Koorfontein coal project; with thanks to its internal expertise, the Company was able to turn a loss-making business into a raving success, extending the useful life of the asset from three years to 10.

Osman adds: “Upon the divestment of this asset at a later stage, significant value was unlocked and returned to the employees of the business and local community.”



“We have centralised our efforts on both greenfield and brownfield operations.”

DMS POWDERS

Formed in April 2006, Dense Medium Separation Powders (Pty) Ltd was established under new ownership as a fully Black Economic Empowered company.

The Company continues to be the world’s leading producer and marketer of ferrosilicon powders for DMS applications. The Company’s production expertise is coupled with experienced product technical support, long-term customer relationships and an intimate knowledge of global logistics.

Maintaining its leadership by continuously investing in its production facilities, the Company’s employees and ongoing research and development work maintains and builds key relationships with its customers and industry relevant businesses by hosting regular technical symposiums.

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WERKSMANS ATTORNEYS


Established in the early 1900s, Werksmans Attorneys is a leading South African corporate and commercial law firm, serving multinationals, listed companies, financial institutions, entrepreneurs and government. Operating in Gauteng and the Western Cape, the firm is connected to an extensive African legal alliance through LEX Africa.

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Another key project that is currently being undertaken is the establishment of a ferrochrome smelter, in which the Company is targeting the utilisation of advanced technologies in order to target energy reduction and improve furnace utilisation.

“In addition to the aforementioned project, we are working with international partners in order to install new technologies that will substantially improve recoveries in the PGM process environment and unlocking significant value for each business,” continues Osman. “When it comes to operations in the chrome business, the Company is currently in the middle of advanced engagements with a third party specialist, hoping to see improved yields from the chrome extraction process.

“We are also working with a local mineral processing research institute in order to explore the numerous opportunities available when it comes to unlocking value from ferro-platinum. We know that achieving results are the base-line of every business and that is how we differentiate ourselves from our competitors.”

Significant industry trends

In order to stay ahead in such a competitive market Siyanda recognises that it needs to be a disruptive force within the industry, thinking outside the box and driving forward innovation and progress.

In terms of the use of its commodities such as chrome and ferrosilicon, Siyanda is continuing to keep ahead of the upstream and

downstream process value chain. In order to exploit this value chain, it has embarked on a process with a view to identify growth opportunities and new markets which can make use of its commodities.

“In terms of Ferrosilicon, we are working on exploring the opportunities to deliver our products in new international markets,” explains Osman. “Further to this, we have completed pilot testing on new products through the use of enhanced technologies in order to secure new regions to branch into at international levels.”

At present Siyanda has operational assets within South Africa and continues to explore opportunities there, however, its commodities are marketed and utilised globally by the continuous search for value accretive markets.



“In terms of Ferrosilicon, we are working on exploring the opportunities to deliver our products in new international markets.”

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Thought leadership

When it comes to finding the right people to handle the tough and ever-changing markets Siyanda operates in, its hiring approach is centred on finding high potential individuals with strong core values.

"We support these individuals through offering them leadership development in the form of empowerment and accountability," adds Osman. "We ensure the Company maintains flat operational structures which enable our teams to meet the high standards required for accelerated individual growth and development."

At the core of Siyanda's responsibilities is the safety and wellbeing of its people, and in addition its identity is defined by both its passion and drive towards the successful transformation of the mining industry.

"We are fully focussed on our

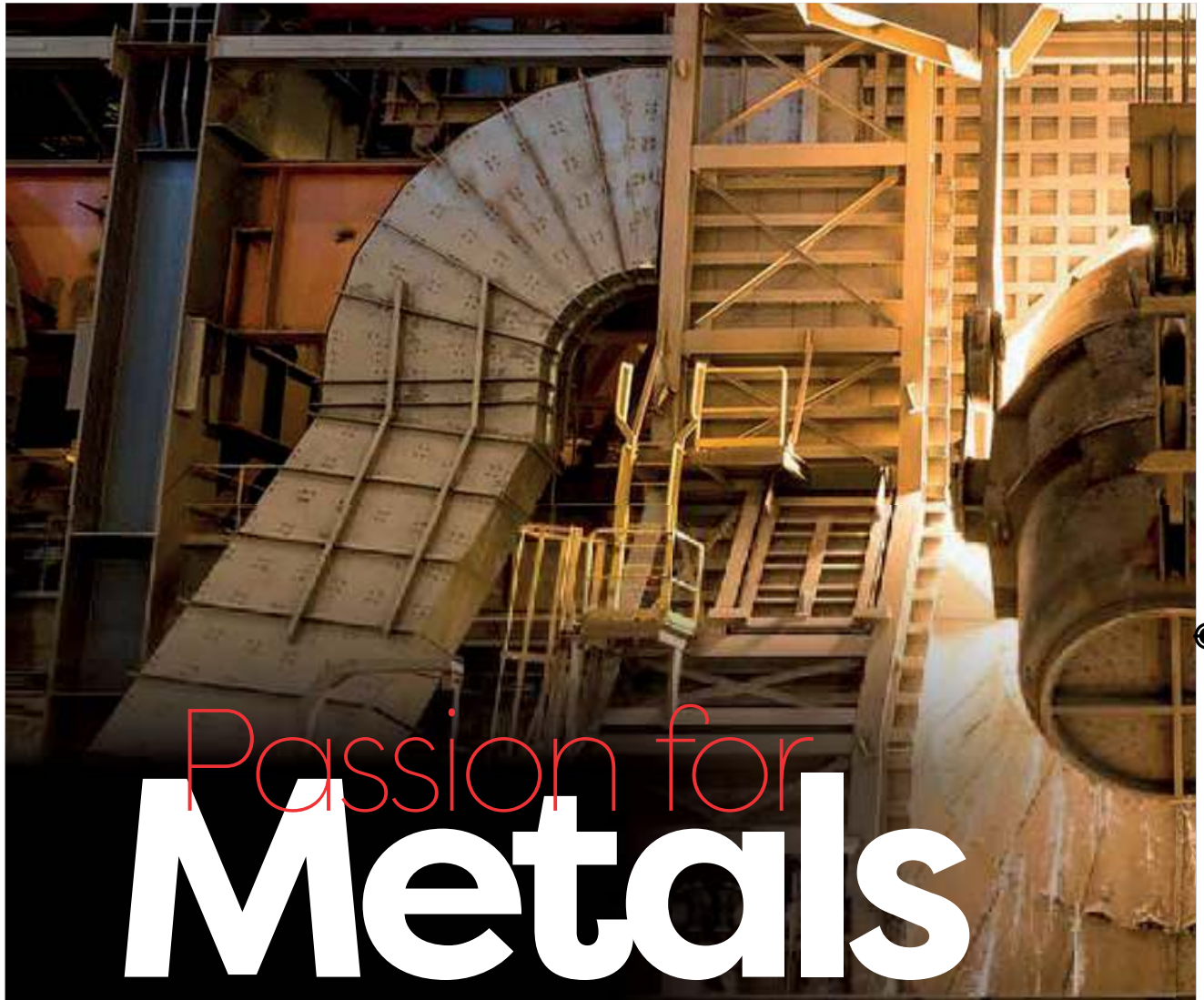


At the core of Siyanda's responsibilities is both the safety and wellbeing of its people

thought leadership, continuously seeking to empower people and present opportunities to develop leadership within businesses," concludes Osman. "At Siyanda, our passion is further driven by a fervent commitment to social economic development, despite being a

smaller organisation we contribute meaningfully to this."

"It is my hope that moving forward, Siyanda will be recognised as an ambassador for the meaningful transformation occurring within the mining industry for many years to come." ■



Passion for Metals

Metix (Pty) Ltd enjoys optimum backing in the mining industry courtesy of leading global plant and engineering service provider, SMS Group, and has leveraged such support to the full in South Africa across its turnkey ferrous and non-ferrous operations.

Serving the pyrometallurgical industry, its team of passionate and skilled engineers have developed specialised patented equipment for

Metix is making the most of its parent Group's support and expertise in order to become a key industrial cog, both in South Africa and further afield

Writer: Matthew Staff

Project Manager: Donovan Smith

all types of furnaces as a standalone business unit; subsequently entrenching its flat hierarchy into the fabric of national industry, and into the plants and facilities of numerous loyal customers.

"We are flexible, fast and straightforward in our offering," Managing Director, Andrew van Niekerk opens. "We focus on innovative strength, efficient metallurgical plants, cost competitiveness, sustainability and the development of high calibre employees.

"As a result, the German-based



parent Group, having an annual order intake in excess of €3 billion and a global resource team of more than 13,500 employees, gives Metix the freedom to thrive in the South African market and globally with the most recent projects in Malaysia.”

All told, Metix’s one-stop shop remit caters for areas of ferrochrome, ferromanganese, silicon manganese, ferrosilicon, ferrovanadium, ferronickel, ferroniobium and pig iron; while non-ferrous activities

entail copper matte, platinum matte, calcium carbide, ilmenite, silicon metal, precious metals, high purity alumina and fused magnesia.

And across each every strand, a host of bespoke, state-of-the-art technologies, ancillary systems and solutions are applied to complement a core equipment base that comprises everything from furnace electrode columns to power distribution, furnace roofs, charging bins, hydraulic power, furnace shells, refractory linings,

DC furnace anodes, tap hole blocks, combustion ducts, safety devices, and much more besides.

Consequently, “Metix project formats include Engineering, Procurement and Construction (EPC), Engineering Procurement and Supply (EPS), EPCM, construction supervision, commissioning and plant optimisation, feasibility studies, export financing, consulting assignments, and a host of other value-add services”, van Niekerk continues.



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The Tswelopele sinterplant project for Xstrata SA in Rustenberg showcases Metix's capabilities

"And all of this, along with the integration of the SMS Group's technologies and financial backing has resulted in Metix being awarded an EPS contract for a copper smelter in Zambia, a \$330 million EPC order in Malaysia for a complete new smelting plant, and an EPC order for a blast furnace stove."

Reliable technical services

Now clearly a thriving industry operator, Metix's origins go back 15 years to 2003 when an ex-team of Samancor Cr, Titaco and Bateman inceptioned the idea. Since then, the exposure to numerous ferrous projects has helped and allowed the Company to evolve its wide range of services and equipment, consequently making it a preferred supplier of such plants and equipment in South Africa.

"The Company has developed sound relationships with local clients, in-depth process knowhow of local industries, patented technological equipment, and the ability to execute big projects in various contracting formats," van Niekerk says. "This track record is based on reliable technical services, local and abroad, for new and existing clients; and the ISO 9001:2008 Company now combines more than 140 years of

experience with the knowhow of more than 700 smelter projects worldwide."

Detailing the aptitude and achievements of each completed project would take longer than the 15 years that Metix has been in operation, such is the scope of its present day portfolio. One that stands out though has been the F4PS2 project completed for Hernic Ferrochrome back in 2005; a sign of what was to come from a quality and efficiency perspective.

Van Niekerk details: "The brownfield project consisted of a 350,000 tpa pelletising and sintering plant as well as a 78MVA submerged arc AC furnace with preheating, capable of producing 164,000 tpa HC FeCr. Metix performed the EPCM services for the project and supplied key equipment to the furnace core. The project was completed in a record time of 19 months due to a no-frills approach by the owner's team, the use of refurbished second-hand equipment, and accelerated order placements."

Subsequently, Metix has gone on to manage six of the seven pelletising and sintering projects in South Africa, building up to its flagship EPC achievement in 2016 - the Sakura Project - which was completed in conjunction with numerous market-leading partners and saw the business overcome numerous challenges across the expansive Greenfield plant.

"All the above projects have managed to achieve their performance parameters, with the Sakura furnaces exceeding theirs by more than 20 percent," van Niekerk emphasises.



The F4PS2 project completed for Hernic Ferrochrome back in 2005

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A focus on innovative strength, and efficient metallurgical plants



“And although Metix has been fortunate to have continuity between large projects, the Company has also remained close to its customers and has completed various furnace upgrades and rebuilt projects in the process.”

Affirming Metix’s prevalence in today’s industrial domain, its latest projects include a 4,500 tpa high purity alumina plant in Johor; a new EPC execution for a stove on one of ArcelorMittal’s blast furnaces in consortium with Paul Wurth; involvement in a variety of feasibility studies; a role in numerous cooling liquid applications of ILTEC on behalf

In a competitive environment with low commodity markets and very little projects, the Company’s main strategy was to do things more economically, safer, faster and with less resources while not sacrificing on quality

of its non-ferrous SMS subsidiary, PolyMet Solutions; and also work in Urban Gold in conjunction with the SMS Group and Mettop.



Extreme ownership

The latter encapsulates a recycling technique that uses metallurgy to recover rare elements and precious metals from electronic waste such as mobile phones; highlighting a pivotal value ingrained into Metix in the form of continuous improvement and a willingness to adapt to contemporary trends.

“Being a project house and an original equipment manufacturer (OEM), Metix has continuously had to

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improve its services and technological prowess," van Niekerk affirms. "Metix started in 2003 with some consulting work followed by some EPCM project services and recently the EPC execution of various projects to the value of billions of rand.

"In a competitive environment with low commodity markets and very little projects, the Company's main strategy was to do things more economically, safer, faster and with less resources while not sacrificing on quality. We have embedded philosophies of carrying lessons learned from project to project, focusing on design for construction and utilising the latest advancements in Building Information Management (BIM)."

And this has all been achieved in the face of fluctuating industry requirements and copious challenges relating to labour costs and equipment specifications. Metix has therefore responded by improving its plant designs through optimising

...Metix is profiting from the SMS Group, which has already introduced various processes like additive manufacturing or printing of various parts, mainly spare parts, which resulted in optimised design for specific applications

modularisation and the use of appropriate fabrication materials and techniques.

"To design and construct plants faster with fewer resources Metix had to take a step back and revisit all project execution tools. Through extensive training the Company now applies a whole suite of software packages that promote BIM and allows for a multi-disciplinary workflow, 3D design interfacing, clash detection, transparency and 4D planning," the MD continues. "The Company has sound Project Management Professional (PMP) principles and controls in place backed by proven contract formats that can be customised according to clients' needs."

Being a competitive OEM requires continuous improvement of designs but more importantly an ability to listen to its ever-growing list of clients. Resultantly, Metix equipment has now operated successfully for more than a decade in very harsh furnace

conditions, performing well above its guarantees; and the Company now plans to capitalise on its combined experiences and references to improve the equipment even further for the next campaign.

“Our biggest improvement strategy was the sustainable incorporation of the SMS Group’s ‘tool box’ since 2011,” van Niekerk says. “This is an ongoing process enacted to ensure that Metix would not just become a post box for other global technologies within the Group.

“We had to apply “extreme ownership” in order to execute the projects with authority and to assist clients with quick decision making. Various SMS Group technologies

have now been tropicalised for local conditions and other continents.”

A sustainable, growing company

An advantage for Metix in compounding its commitment to diversification and expansion has been the fact that it has grown simultaneously to many of the requirements of the industry, especially in the realm of sustainability. The Company has a strong focus on resource-efficient technologies, energy saving, recycling and recovery to epitomise these ambitions.

“Besides ongoing optimisation requirements of plants and processes, Industry 4.0 activities

with digitalisation and additive manufacturing are the key words of the current trends in the industry,” van Niekerk aptly adds, “and Metix is profiting from the SMS Group, which has already introduced various processes like additive manufacturing or printing of various parts, mainly spare parts, which resulted in optimised design for specific applications.

“The Group is also in the position to provide entire lines for additive manufacturing starting from production of the powder, required for 3D-printing, and the printing lines with all transport and handling facilities as well.”

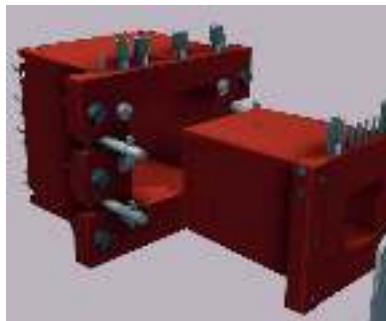




Continuously evolving facilities and solutions



Resource-efficient, energy saving technologies



Metix is continuously improving its design and services based on intensive dialogue with customers and we are proud to announce new equipment developments in copper coolers, taphole blocks, launders, pressure rings (5yr guarantee, acid resistant), furnace roofs, DC furnaces, six in-line rectangular furnaces, gas cleaning, co-generation, granulation and safety equipment

Metix has full access to SMS Group's never-ending generation and usage of modern technologies, subsequently tailoring each one in alignment with the needs of its own local customers. And facilitating each example is a workforce that is equally innovative, equally dynamic, and - most importantly - equally local.

Van Niekerk continues: "The Company strives to provide the leadership, resources and training to its staff necessary to create an environment in which every member of the Company can contribute

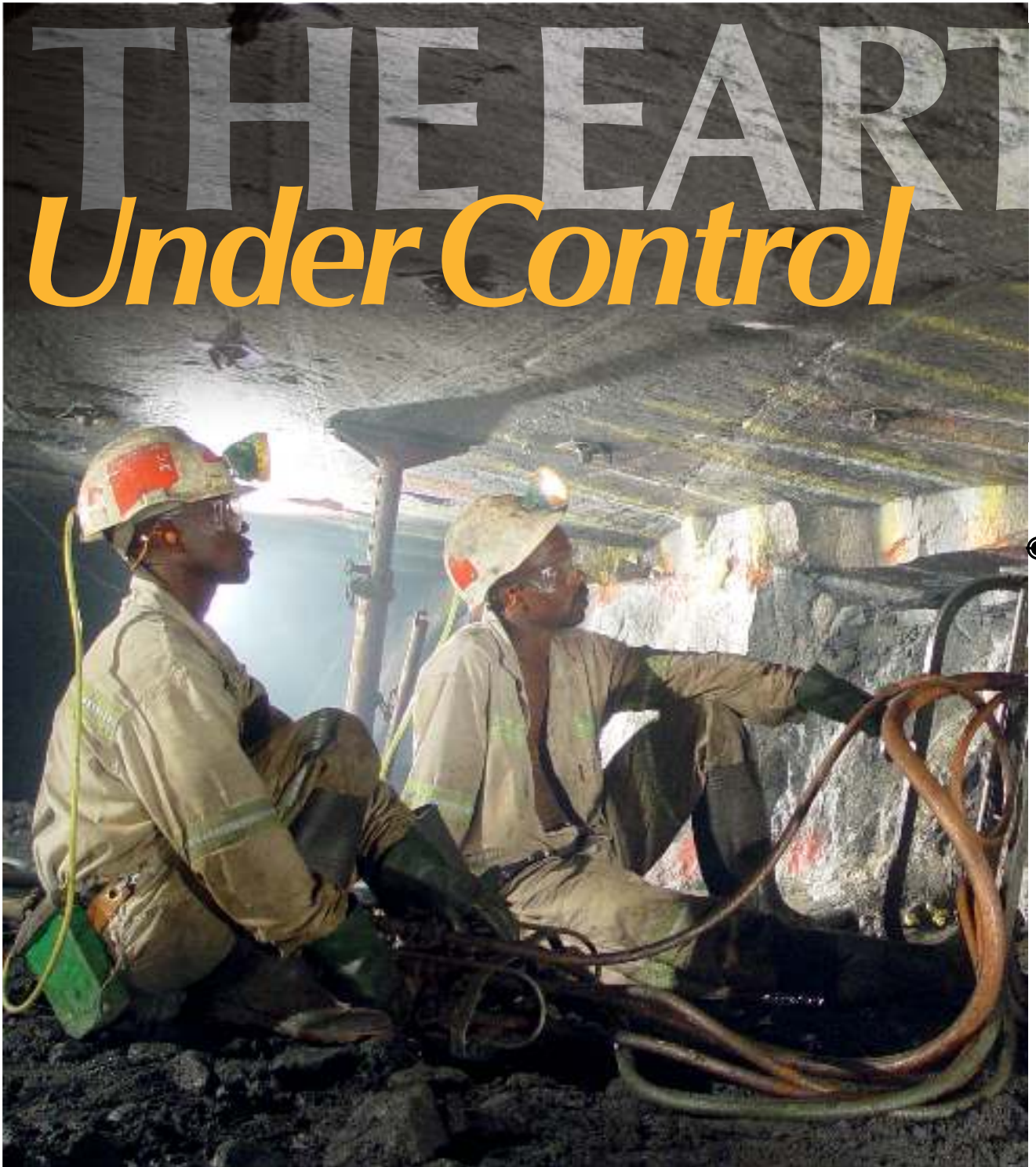
towards the efficient delivery of customer projects with the highest possible quality.

"We believe in sharing the success of the Company and we are very proud of our last decade in terms of personnel retention and consistency."

The MD concludes, looking to how such stability will aid Metix in its goals for the future: "We have forged Metix through intensive project execution and involvement with our clients. We do not back down or give up."

"Metix is a sustainable, growing company with enthusiastic people managing and owning the company. We now have access to the full technical knowhow as well as the financial and sourcing support of the SMS Group; and in the next three-five years Metix will provide its services worldwide and will be executing two to three more multibillion rand projects." ■

THE EARTH *Under Control*



Minova is the trusted partner of choice in sub-Saharan Africa and is continuing to create, develop and deliver exceptional mining services to its customers

Writer: Phoebe Calver

Project Manager: Donovan Smith

Minova Africa's long-standing roots go back to 1975, when Fosroc - a UK based company - established Fosroc

Mining International Group in South Africa and began to manufacture grouts for both mining and construction industries in the country.

Since that point in time the business has experienced exceptional growth organically, as well as through strategic acquisitions. However, the main focus of the Company has never deterred from serving the mining industry, predominantly through the use of rock support systems.

"We changed the Group name to Minova Africa in 2003," begins Nathan Williams, General Manager at Minova Africa. "Since 2007 we have also been a part of Orica, a company that is listed on the Australian Stock Exchange and is the world's largest supplier of mining explosives; ensuring throughout that we have retained our own branding and predominantly independent operations."

Although Minova Africa has retained its focus on serving the mining industry, it has made moves during the past two years to extend its presence within geotechnical and construction through the utilisation of applications and product expertise.

"Our product portfolio has experienced a steady growth since the launch of our flagship product named Lokset Resin Capsules, made specifically for rock-bolting," explains Williams. "We have expanded to manufacture a range of encapsulated and bulk cement grouts for rock bolting, rock surface protection and underground cavity filling."

"Our associated sub-contractors also manufacture mining backfill binders, stemming capsules for blast-holes and several variations of rock bolts and wire mesh that are set to Minova formulations or designs."





Pump for
cement
grouts

In the present day with its combination of rock bolts, resin and cement grouts and drill rigs, Minova has reached a point of unrivalled understanding when it comes to rock bolting issues, ensuring the Company is able to support its customers with the optimal rock bolting strategies for their needs.

Understanding customer needs

In order to understand the needs, problems and objectives of its customers and their industries, Minova maintains close contact which will enable it to develop and adapt systems in order to perfectly suit the required needs.

“These adaptations are included within our products themselves, as well as the general manufacturing and service quality that we are able to offer,” continues Williams. “Some examples of this can be seen in the development of both Conbex and Fillcem backfill binder systems, where we had to make adjustments in order



Stope supported with Conbex backfill

NCS RESINS

Established in 1907 as the Natal Chemical Syndicate (NCS), NCS Resins has since emerged as the largest manufacturer of unsaturated polyester resins in Africa and the Indian Ocean islands. The Company is now a part of the continentally significant, Synthesis Chemical Holdings (SynChem).

NCS Resins manufactures and supplies a complete range of high quality resins, gelcoats, accessories, and processing equipment suitable for all fabricating methods to support the composites industry. All resins are manufactured according to ISO 9001: 2008 Quality Management Systems.

Since its inception, market-leader, NCS Resins has built its reputation on technological innovation, the highest level of customer service, and outstanding technical support. Our clientele over the past 58 years include more than 1,000 customers from the construction, marine, sanitary ware, decorative, fashion, electrical, automotive, mining, and corrosion industries.

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MA-72 rock bolt
successful installed
with resin capsules

to meet the requirements of deep, wide-reef gold mines and our spin-to-stall resin capsule bolting processes.”

Many of the Company’s products have grown through innovations and site-specific changes that have led them to international use and success. Innovations and new techniques are also introduced through communications with Minova Africa’s sister company, which are then rolled out and enable customers to stay up-to-date with the leading global practices.

“The most recent example of this is the use of Tekcrete Fast M, a product that was developed in the US for the stabilisation of shock-damaged structures,” adds Williams. “The products are now rapidly growing in popularity and usage in Africa, providing our clients with ultra-fast, ultra-strong spray-on reinforcement to use on exposed rock surfaces.”

Product development is always at the forefront of Minova’s work and following in that vein, the Company

is also looking to the future of the mining industry through greater use of technology. This looks set to include remote control and automated equipment and processes, alongside digitalisation allowing decisions to be made in real time and based on reliable data.

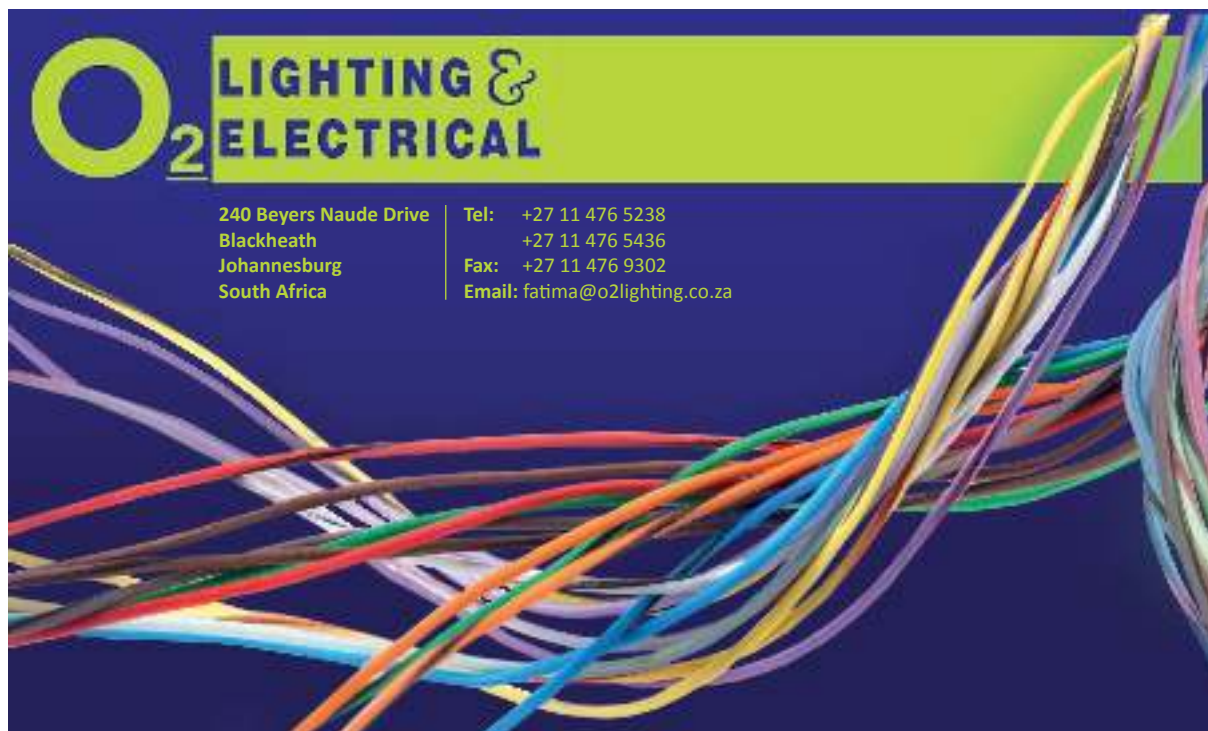
“We know that this will enable mines in the future to achieve higher safety levels, faster mining and lower costs,” affirms Williams. “We’re extremely excited to see these developments falling into place and are already witnessing the benefits of the significant investments made by our parent company, Orica, in its digital technologies.”

Integrative projects

Within its realm of expertise, Minova Africa is currently involved in a selection of exciting projects including work on slim-hold drilling, cement developments and resin capsule insertion systems.



Rock bolts are colour coded for length identification



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~ 30 Years in Association with Minova ~

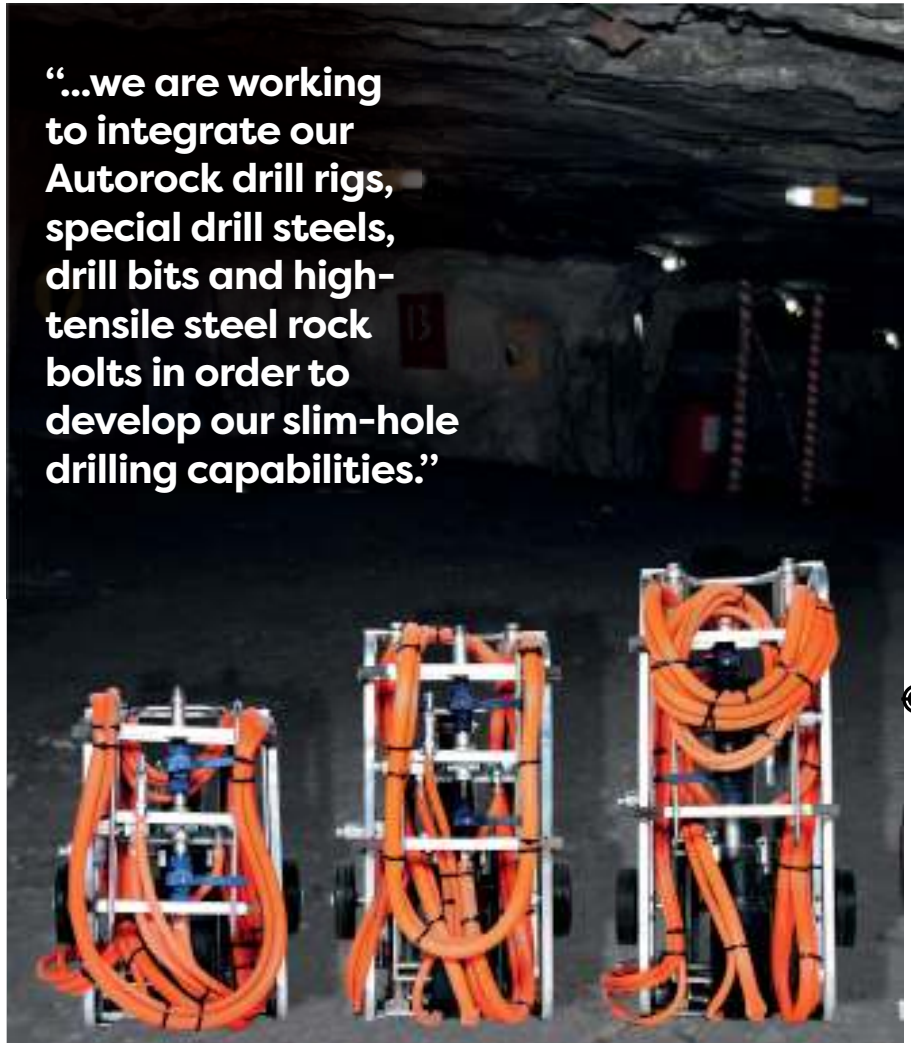
“At present we are working to integrate our Autorock drill rigs, special drill steels, drill bits and high-tensile steel rock bolts in order to develop our slim-hole drilling capabilities,” continues Williams. “Alongside that we have also worked on a large-scale project that involves the filling of a huge cavity that was threatening to destabilise the shaft on a deep-level gold mine.

“We’ve been able to successfully modify our Tekseal cement foam in order to pump it into the cavity which lies at more than 3,000 metres underground.”



Timber pack prestressed with PSI

“...we are working to integrate our Autorock drill rigs, special drill steels, drill bits and high-tensile steel rock bolts in order to develop our slim-hole drilling capabilities.”



The Company is dedicating large amounts of time to the development of its products, including Capcem K40P cement and its Minova Quick-Chem resin capsule insertion system for mechanised operations.

Williams adds: “We are working hard to build upon the improvements made in recent years to secure the cap to the resin capsule, which we are achieving through mechanising the entire process.”

Alongside its expansive projects on current products, the Company is also looking into the new industrialisation

of yielding rock bolts. Specifically, these rock bolts can accept both large and rapid rock movement and are increasingly required within South Africa’s deep mines, as well as mines and tunnels within soft rock.

Williams states: “As well as the work we are carrying out here on Yielding rock bolts, Minova Global is pursuing these developments in the USA, Europe and Australia.”

Through working with one of the Company’s manufacturing partners, it’s developing sophisticated coupling technology that will enable faster



representation via a combination of agents and distributors,” explains Williams. “It has become a rule to closely study the potential on a project-by-project basis, weighing up the possible outcomes alongside country risk.”

In order to handle this new uptake and wider spread of business, the Company is implementing an array of new training programmes, using both internal and external expertise.

“Taking into account our training programmes, we also wanted to implement a business coaching programme for our leading lights,” adds Williams. “This predominantly involves web-based, weekly one-to-one coaching sessions that we feel are truly benefitting our employees and their skills.”

The combination of its long history as a solutions provider within Africa



Secura rock bolts



installation times at a reduced cost and is providing encouraging results to move forward with.

Expanding industry presence

Within the Minova Global organisation, Minova Africa’s primary responsibilities are situated within South Africa; however, it is also expanding its services with customers in Zimbabwe, Botswana, Zambia, Tanzania, the DRC and Ghana.

“We are actively expanding our presence in Africa, and have been able to achieve this through direct

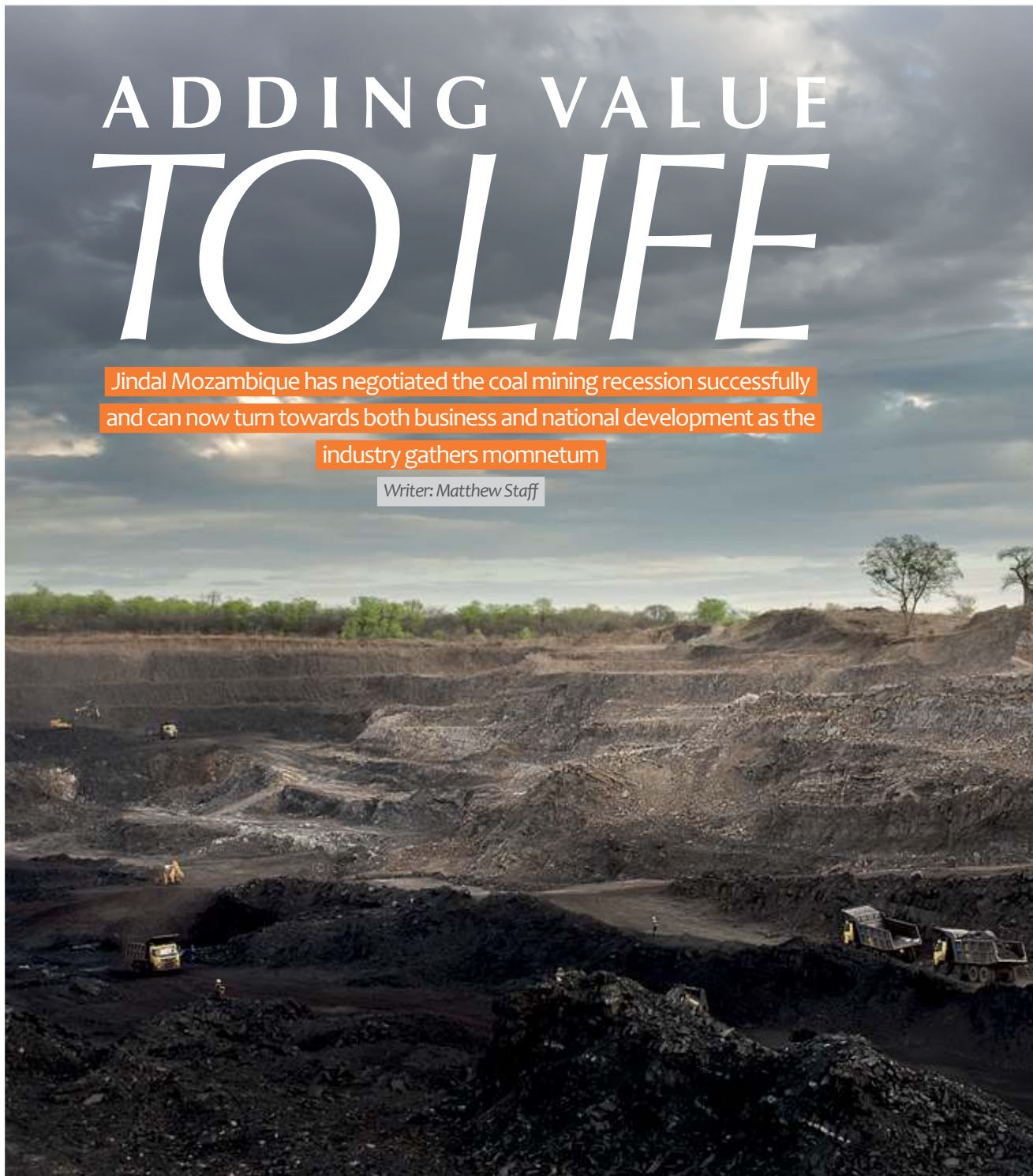
and the Company’s ability to remain up-to-date with current trends, has provided it with a unique leading position in the industry.

“We will continue to provide long-term, new and future clientele with the ability to work together with our team at Minova to create value-engineered, cost-effective, innovative and safe project solutions,” concludes Williams. “We feel optimistic for the future of African mining and will continue to work tirelessly to sustain this future, working on safer, more efficient and automated solutions.” ■

ADDING VALUE TO LIFE

Jindal Mozambique has negotiated the coal mining recession successfully and can now turn towards both business and national development as the industry gathers momentum

Writer: Matthew Staff



When the recession in the coal market affected the entire value chain across the commodity's supply and demand between

2013 and 2016, making the need for a localised, strategic, flexible approach to recovery all the more significant. Fortunately for Jindal Mozambique, such philosophies have been an integral part of the wider Jindal structure in Africa for decades.

Back in those more challenging times, international coal rates fell from \$250-300/MT to as low as \$90/MT, but a change of tack and an agile approach to diversification meant that Jindal Mozambique negotiated the challenge better than most.

"Being a dynamic organisation helped us to survive even during these difficult times," affirms Country

Jindal Mozambique's vision is to be a globally-admired organisation that enhances the quality of life of all stakeholders through sustainable industrial and business development.

Manager, Chandra Singh. "We had to revise our short-term as well as long-term goals in order to accommodate the constantly fluctuating international

coal market, but we have taken certain measures towards reorganising strategies required to produce coal more efficiently even at lower selling prices.

"We have renegotiated many of our large contracts with suppliers and service providers to allow us to create win-win situations for all stakeholders involved with our business. Meanwhile, we strived hard to reduce our overall cost of production by introducing radical changes throughout our organisational structure."

The rising prices of coal in the international market now have given hope to all coal exporters for 2018, Jindal having placed itself in a prime





Dumper haulage from mine to wash plant

position to strike now that the iron is hot. Accordingly, the Company has decided to increase the existing mining capacity as well as its coal processing capacity to 3.6 million tonnes per annum; in line with its overall expansion plan of reaching 10 million tonnes per annum.

Improved performance

Much of this expansion will be targeted towards Jindal's ongoing work at Chirodzi Mine, a project that began back in 2012 and that has an estimated resource of 2.7 billion tonnes of coal as certified by an independent technical assessor.

The opencast mine has an expected lifecycle of 25 years, and has long been the Company's headline act.

"We have now planned an extension to this pit that would allow us to increase our mining capacity over the next five years," Singh explains. "We are also in the process of upgrading the environment

monitoring system across locations of business activity in order to better analyse and control our emissions. Furthermore, we are planning to install GPS tracking systems in our equipment and machinery allowing us to monitor, analyse and improve their performance."

Capital expenditures to facilitate capacity enhancements and operational excellence are no new thing for Jindal; its dedication to continuous improvement indicative of the success it has enjoyed over the years.

To this end, a whole host of additional investments are in the pipeline over the course of 2018 and beyond to compound its reputation and to capitalise on a strengthening market.

"We have also implemented SAP modules across all our locations in order to streamline our processes and effectively analyse our business," Singh offers as a further example. "We also have a plan in place to replace our existing fleet of HEMMs that have

STEVLC JOBBING SERVICES

Stevluc Jobbing Services is staying true to its mission of remaining a reliable and efficient operator at the forefront of Africa's construction industry through a mixture of transparency, quality and hard work.

Since inception in 2003, the Company has established a trusted and reliable reputation in the market across its ever-expanding array of clients, employees, suppliers and contractors.

Based in Mozambique and growing in alignment with the country's own infrastructural development, the end result has been a mutual respect between Stevluc and beneficiaries of its services; ultimately becoming a pioneer in bringing best value building services, enacted by expert professionals.

"Stevluc has always ranked among the leading firms in the industry, and has successfully completed some of the most challenging and iconic projects in the Country," the Company affirms.

Placing special emphasis on ethics, staff retention and empowerment, long-lasting relationships, health & safety, and continuous improvement; the resultant turnkey offering ensures customer satisfaction from beginning to end.

The Company continues: "Stevluc Construction builds a diverse range of projects for both Government and private clients under a variety of project delivery methods including: consultation services; construction management; design-build development; pre-construction services; and purchasing and supplying.

"Stevluc has been able to establish itself as one of the considered construction companies in the region because of the principles followed throughout its development. [And] apart from the projects that we manage, meticulous planning and expert knowhow goes into the management of the Company itself."

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Coal products
from the wash
plant

worked for more than four years now and are thus nearing the end of their lifecycle.

“Finally, we have a plan to construct a single 2x75MW coal-fired power plant at the pit head for our internal operational consumption as well as to provide power to the Mozambican Government. This will then be distributed to the local areas through the central grid.”

Equipping the local community

The construction phase of the power plant is expected to start at the end



of the year and alludes to a significant driver of Jindal Mozambique’s growth. It’s not simply the case that Jindal is reacting to the country’s mining potential and trends, but in large part the Company is actually driving such initiatives and socio-economic development.

Singh details: “We know that Mozambique is one of the richest countries in Africa in terms of mineral resources. With the discovery of large natural gas deposits in Mozambique, heavy investment is expected in this sector. Vale has increased the overall



production capacity and developed a dedicated freight corridor from Moatize to the port of Nacala to increase annual exports [to this end].

“Also, the Mozambique Government has given green signals to many infrastructure projects throughout the country. Large projects like Macuse Rail line from Macuse port to Chitima in Cahora Bassa district would provide more avenues to coal exporters and create a lot of employment for Mozambican citizens.”

The recent announcement of an \$8 billion investment into a coral floating LNG development project is set to create similar socially-enriching benefits in the country, as both an economic and business development facilitator.

And with Jindal’s expansion plan in place, the Company too will be contributing to Mozambique’s all-encompassing skills development goals.

“We are planning to partner with local manpower outsourcing agencies to provide us with the required skill-sets at the mine site, all the while giving preference to local content,” Singh says. “With

increasing Government regulations with regards to the import of skill-sets into Mozambique, it has become imperative for almost all players in the mining industry to develop local talent.”

Consequently, the Company has planned to initiate a training centre for employees and the surrounding communities; complemented by numerous training programmes to aid areas of language training, and industrial and vocational up-skilling.

“Our aim is to equip the local community with basic skills of artisans so that they can earn a livelihood apart from simply getting employed at the mine site,” Singh concludes. “We are also planning training programmes to develop the skill-sets necessary for our business that would help us reduce the gap between the skills required and skills available in the future.”

Such selfless and more broadly poignant initiatives will not only help the business capitalise on upcoming opportunities through its capacity expansion project, but will continue to assist Mozambique as a country in its overall economic development strategies. ■



The Jindal dispensary

Mincon West Africa was incorporated in August, 2010 in Senegal, forming one of the branches of the Mincon Group PLC family tree.

With the combination of the parent company's four decades of engineering expertise and that of Managing Director, Martin van Gemert, with his hands-on experience of the mining industry, has ensured the success of Mincon West Africa.

"We opened the West African office with the aim of using our first-hand knowledge as an excellent sales tool for the Mincon Group's world-class down-the-hole (DTH) hammers and bits," explains the Managing Director. "What started out as a small home-office quickly blossomed and we achieved an increase in turnover of 523 percent in just two years; by our third year, our dedication to customer service and high-quality products ensured we became a well-known name in the region's drilling and mining supply industry."

"Our staff complement grew and with that our sales and profits, with an increased turn over of 18 percent by the end of the third financial year. This was all achieved despite the difficult trading conditions at the time, calling for us to branch into a dedicated office space in Dakar."

Since fruition, Mincon West Africa's key value proposition and success driver is customer service focused, with both the Managing Director and his team making themselves available to customers on a 24/seven basis.

Fast-forward three years to 2016 and Mincon West Africa had made a strategic move to the Canary Islands, which kept it close to its customers' West African operations.

"This move ensured we wouldn't negatively affect our customer-centric approach or delivery times," continues van Gemert. "The move to the European port has created an

The Driller's Choice

Mincon West Africa has built a reputation upon years of first-hand industry knowledge, creating an excellent opportunity to expand its operations in the future

Writer: Phoebe Calver

Project Manager: Donovan Smith



ease with which we are able to receive shipments from Mincon factories across the world, while also stocking the products in a customs-bonded warehouse to ship them to West African customers as required.”

In its present-day form, Mincon West Africa has a well-established multi-lingual team of experts and engineers that are ready to meet the needs of the growing customer base in the region.

van Gemert adds: “Alongside our focus on customer satisfaction, Mincon West Africa’s reputation has grown dramatically with thanks to the established reputation of our parent company. Both the quality and reliability of these Irish-engineered products has significantly improved the productivity at customers’ operations.”

Technical competence

As well as its customer-centric approach to the market, the Company invests significantly in both personnel and machinery for its research & development (R&D) department, ensuring that it has the resources for constant innovation and evolution in its product lines.

“These changes are informed by the feedback we receive from customers, demonstrating a testament to the facilitation of excellent relationships,” van Gemert affirms. “Of course, our ability to interpret the feedback and define what is and isn’t possible is incredibly important and this comes back to the technical competence of our engineering team, made up of a good mixture of both practical and theoretical disciplines.”

With thanks to the integration of Mincon Group PLC’s recent acquisitions, it is merging both systems and processes in all factories to ensure that we have one standard for the successful manufacture of its technologically advanced products.

“One iconic example of our strengths in the market has to be our involvement in the rescue of the

33 Chilean miners in 2010,” explains van Gemert. “Following the cave-in, engineers at our headquarters in Ireland worked closely with the mine and rescue team to develop a solution that used our reverse circulation technology, which was used to drill the holes that led to the rescue of the trapped miners.

“We have also developed horizontal directional drilling solutions for successful hard-rock trenchless installations and enjoy a strong presence in the Swedish geothermal market; more recently we have helped develop cutting-edge drilling solutions for magnetite iron ore drilling at the Citic Pacific mine in Cape Preston, Western Australia.”

Expansion plans

In the current climate, many global markets are on the up, occurring off the back of a variety of macroeconomic factors. As a result of this, the appetite

MIRAIR CARGO

Over the past few years, Mirair Cargo Canary Islands have established perfect coordination and a great relationship with Mincon West Africa.

From booking requests to back up documents, and everything in between, the Company receives courteous and timely assistance from Mincon’s great team.

Representatives from Mirair Cargo from the Canary Islands congratulate Mincon West Africa on their knowhow and the success they have achieved, and we look forward to a bright future in cargo.

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Mincon West Africa has a multi-lingual team of experts at its disposal

for exploration, mining and construction on the continent are on the rise.

The Managing Director continues: “With our current expansion plans we will be prepared to meet a significant share of this demand, especially in West and sub-Saharan markets.

“Rock drilling has many complex challenges within it and is an energy-intensive process to undertake; at Mincon we are working on technologies to make the process far more efficient moving forward. We continuously work with our customers to overcome their challenges, as well as lowering the operating costs and improving efficiency.”

In order to achieve and overcome challenges for its customers, Mincon greatly values all of its team members and places emphasis on the importance of professional and

personal development in all areas relevant to its business.

“Since we started this branch of the organisation, we have recruited some of the industry’s best supply chain and logistic specialists, as well as technical support and sales engineers to provide us with expert consulting and advice to customers both remotely and on-site,” van Gemert describes. “Where it is necessary, our new members are introduced to the global team and production facilities, ensuring a close familiarity with products from design to manufacturing.

“As we are a global organisation at Mincon, we have internal training programmes that enable us to both develop and nurture talent. We pride ourselves on having some of the most qualified and knowledgeable staff in their respective industries, serving



Mincon has expansion plans in place to meet market demand







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our clients in English, French, Spanish, German and Portuguese.”

The widely experienced team includes the Operations Manager, Angel Bouzas who brings many years of experience in logistics and customer support in the West African region. Technical Sales Manager, Pedro Cavadas, a qualified mining engineer with in-depth knowledge of the industry and Support Engineer Victor Gomez, a qualified mechanical engineer, have all proved to be invaluable assets to the Company.

Backing up this already excellent technical team are the dedicated administrative staff comprising Leticia Diaz, Imane Drissi, Nestor Santana and Mary Castillo, all of which are experts in finance, sales and logistics.

Solution-based skill

Over the years Mincon has specialised in providing products within the drill-segment, rather than the capital

“...At Mincon our engineers are dedicated to developing the best rock-drilling solutions in the world, ensuring we remain the leading choice in the market”



equipment such as drill rigs.

The Managing Director continues: “Our focus on drilling technologies is backed up by our on-site customer support and sound technical advice. At Mincon our engineers are dedicated to developing the best rock-drilling solutions in the world, ensuring we remain the leading choice in the market.”

The Company is proudly known for its exceptional approachability and innovative solution-based skill, outperforming its competitors by offering them round-the-clock support in the pursuit of developing tailored solutions.

“Moving forward we hope to be the region’s preferred supplier for down-the-hole drilling solutions, with more than 50 percent of the market share,” concludes van Gemert. “We know that this will be made possible with support and product development from Mincon Group PLC, as well as our own team’s customer-centric attitude.” ■



Low-Cost, High-Grade, Multi-Asset

With a further 5,000 kilometres of exploration ground in Mali and Liberia, and revenues building, Hummingbird Resources looks forward to a busy and progressive 2018

Writer: Matthew Staff

Project Manager: Donovan Smith

Since inception in 2005, Hummingbird Resources has successfully transitioned from a pure exploration operator to a multi-project entity thriving in the fastest-growing gold region in the world; the Birimian Greenstone Belt.

In little more than a decade, the development and production Company has evolved exponentially to now boast a 6.4 million ounce (oz) gold inventory; complemented by a mineral footprint that includes one producing mine in Mali and significant expansion potential.

"This is in addition to the largest gold resource in Liberia which is currently at feasibility stage," picks up the brains behind

Hummingbird's origins and subsequent growth, Dan Betts. "In terms of our project portfolio now, Hummingbird owns 80 percent of the producing Yanfolila Gold Project in Mali, with the Government of Mali owning the remaining 20 percent." Production commenced in December, 2017 on budget and on schedule and we are currently ramping up to commercial production, which is expected by the end of Q1 2018.

"Yanfolila is expected to produce 132,000oz of gold in the first full year of production with very low cash costs of US\$700 per ounce and there is significant upside to the current life of the mine."



A proactive, flexible and knowledge-driven approach

Inevitably, much of Hummingbird's recent efforts have been directed towards Yanfolila as the fastest route to cash-flow, but the Company is by no means a one-trick pony, as epitomised by its aforementioned, adjacent 80 percent ownership of the Dugbe Gold Project in Liberia.

Betts continues: "Dugbe is a 4.2 million ounce gold project which is at the Definitive Feasibility Study stage following robust economics indicated in a PEA in 2013. It provides scale and significant longer-term growth potential.

"Additionally, Hummingbird has a 34 percent shareholding in AIM-listed, Cora Gold which is a West African gold exploration company and provides potential nearby satellite deposits for Yanfolila."

Such a portfolio after just 12 years of development is testament to the proactive, flexible and knowledge-driven approach of a business that

spent a number of years exploring the Liberian jungle as a private company, as it assessed the best route forward. Later listing on the London Stock Exchange in 2010, Hummingbird went on to act upon the 800,000oz of gold discovered at the Dugbe site, before further exploring and developing the deposits which now exist as a large open-pit gold project with a 4.2Moz resource.

Meanwhile, "in Mali, we acquired an excellent asset from Gold Fields", Betts recalls. "Following a well-timed acquisition we successfully right-sized the project to a one million tonne per annum mine, and following optimisation initiatives which indicated that we could deliver a highly profitable, high-margin, high-grade open pit mine.

"This enabled us to successfully raise US\$75 million to fund construction and we subsequently brought Yanfolila to production on budget and on schedule."

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Optimisation and growth

Hummingbird's capitalisation of both sites epitomises the Company's ethos of hitting opportunities and problems head on and with open minds in order to find optimum solutions; leveraging a team that comprises very experienced engineers and geologists as well as more business-focused personnel to ultimately create a blend of ideas and inputs from a project perspective.

"Optimisation and growth have always been integral parts of our strategies for our projects, both from organic exploration and by acquiring a development stage project; further unlocking the value and progressing them up the development curve to production as we have demonstrated in Mali," Betts explains. "When we acquired Yanfolila from Gold Fields in 2014 it was targeted to be an 80,000oz per annum project, but we completed drilling and optimisation initiatives and as a result we are now on track



Gold prices are on the rise

to produce 130,000oz in our first full year of production and 107,000oz per annum over the life of mine.

The optimisation doesn't stop there either, as Hummingbird now focuses on bringing the higher-grade resources near its CIL plant into the mine plan, with a view to increasing the life and production rates of each mine.

Betts adds: "In the same vein, in Liberia we were the first company to carry out systematic exploration which resulted in us growing an initial discovery of 0.8 million ounces into a 4.2 million ounce deposit after only three drill campaigns. We are currently evaluating options at Dugbe which have increased immeasurably by a combination of higher gold prices and us now being a producing company."

Now that Yanfolila is a fully-fledged producing mine, Hummingbird can turn its attentions to building up to

commercial production and to aspects of lifecycle optimisation. The Gonka deposit located just five kilometres from the Yanfolila processing plant is a prime example, with the potential to add 30,000oz each year for six years to add an extra US\$24 million to the NPV, by adding high grade ounces into the mine plan from year three onwards.

“We also have more than one million ounces currently outside of the mine plan and there is underground potential at Yanfolila once the open-pit is complete,” Betts continues. “In addition, Cora Gold (in which we have a 34 percent interest) is currently drilling assets within truckable distance of Yanfolila which could provide satellite deposits for the site. With a further 5,000 kilometres of exploration ground in Mali and Liberia and revenues building, we certainly have enough to keep us busy during 2018!”



HUM team and ROM pad, December, 2017

Young and hungry

As Hummingbird engages in the ramp-up at Yanfolila and the upside of its large resource in Liberia, there is always still one eye kept on lookout duty for any future, potential opportunities on the horizon.

Betts emphasises that not a month goes by without considering an additional project: “It’s by turning over 100 stones that you find what you’re looking for.”

An apt metaphor in the mining domain, such a philosophy is applied to both exploration and business development in this case, and by being so completely aware of its surroundings, there is also a more concerted understanding of how the market is moving or may move in the future.

Betts adds: “We can’t control how the market moves or the industry shifts but what we can control is our operating costs and we do so by maintaining a strict discipline to operate at the lowest possible cost. Therefore, reinvesting wisely to add value and offer shareholders optimum returns is our focus. We are a business first and foremost but one that



Aggreko generators

4.2 million ounces

Hummingbird's Dugbe project in Liberia, which contributes significant exploration upside... signifying an even more exciting decade of growth to come

operates in the gold industry."

The Company's board and management team consequently contribute acumen across business and mining in equal measure; the latter expertise deriving from a track record of mining discoveries across 61 different projects in Africa. On the ground in Mali alone, around 750 skilled and knowledgeable individuals strive to make a positive impact during steady state production, and not only that, but they are almost entirely locally sourced too.

"We aim to hire quality local personnel and help advance their careers through training and internal promotion," Betts affirms, "as a business grows on the quality of its staff, we are always looking to hire the best quality personnel into all roles".

He continues: "Hummingbird is a Company run with a young and hungry team who want to grow the business and are all

committed for the long-term. From a corporate perspective we have been very successful at attracting capital in bad markets and we are now well set in a stronger gold price environment with a newly operating asset."

Yanfolila is thriving as a low-cost and high-grade open pit operation comprising one of the highest margin gold outputs in West Africa; while Hummingbird's 4.2 million ounce Dugbe project in Liberia, which contributes significant exploration upside, isn't even factored into the Company's share price as of yet - all signifying an even more exciting decade of growth to come.

Betts concludes: "In the future I would like to report that we are a multi-mine company focusing on low-cost production, offering excellent shareholder returns: A Company that is proud of its culture, invests in its people, and the communities that it works within. 🟩"



Taking Responsibility

Panafrican Equipment Group has a unified vision to become the supplier and service provider of choice across Africa's mining, construction and agriculture industries

Writer: Phoebe Calver | Project Manager: Donovan Smith



Since the Panafrican Group was founded in 1997 it has gone on to establish itself as a leader in the delivery of

Komatsu, Wirtgen and AFCO equipment and aftersales support solutions across East and West Africa.

The Company has grown at a rapid rate over the years, truly taking off in 1999 when its first Tanzanian operations commenced at the Geita gold mine. With ever-growing confidence in Panafrican's abilities

it went onto work on the Uganda Oil Palm project in 2003, and shortly after in 2005 its Dar es Salaam offices opened.

"The projects we were working on began to grow in size and prominence and in 2008 we were awarded the Buzwagi gold mine maintenance and repair contract in Tanzania," explains Jakes Luus, Operations Director at Panafrican Equipment Group. "In 2009 we were able to expand our West African operations, commencing in Ghana first and moving into Nigeria

and Sierra Leone in 2011.

"Three years later with the implementation of the Wirtgen, Agriculture, Valtra and Challenger product lines, we were able to supply and support our customers with a vast variety of product ranges that covered agriculture, forestry, civil and infrastructure, construction, mining and many more sectors."

In the present day the Company's shared services are based in Dubai and its operating countries include Kenya, Tanzania, Uganda, Ghana,





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Nigeria and Sierra Leone. Within those areas Panafrican has created a structure with offices that comprise a full complement of service staff with the ability to support the equipment needs in the country.

“Within these various outlets we strive to understand our customers’ needs, enabling us to deliver fit-for-purpose, tailored solutions that will ensure higher productivity and performance,” Luus adds. “With the expertise we have gathered over the years in the industry, we are skilled in reducing the life of asset costs and costs of material movement which proves to be invaluable to customers.”

Responsible employer

A large part of the Company’s expansion plans over the years has been to ensure it takes responsibility for the impact of its activities on customers, employees, shareholders, communities and the environment alike in all aspects of its operations.



Luus continues: “We have taken this obligation beyond statutory commitments, making moves to improve the quality of life for our employees and their families, as well as the local communities and society at large.

“Our vision is to be the supplier and service provider of choice for mining, construction and agriculture solutions, knowing that our values and actions to improve quality of life will aid this tremendously.



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“At Panafrican our values ensure we are committed to providing our stakeholders with exceptional rates by acting with safety, integrity, respect, attention to detail and true accountability in all our actions. We have created a team that have fully embraced these strategies and philosophies that provide the foundations of our ability to continuously improve and change.”

When it comes to recruiting the right people for the job, the Company has based its recruitment in the relevant area in order to meet the country's demands and project requirements.

Training then plays a critical factor in the development of employees, with the Panafrican training centre located in Nairobi, the Company is rapidly expanding as Luus goes onto explain: “We have tailor-made training programmes based specifically on our customers in specific areas to develop skill levels.

“The training centres we have set up also supply support for our in-house staff when it comes to keeping track of new developments, equipment models and technical skills development. Our training records are regularly updated

in order to ensure our staff receive the required training to supply a professional service to our customers.”

Iconic projects

During its time within the industry the Company has had many iconic moments, but perhaps the most pivotal came when it was awarded the maintenance and repair contract for Buzwagi mine in 2008.

“As with any large mining project, we encountered challenges,” explains Luus. “However, it was the manner in which we overcame them that made the



difference, working hand-in-hand with the customer to enable the best possible results and find solutions to any issue.”

Another turning point for Panafrican came in 2011 with the beginning of its Nigerian operations, whereby the Company was able to deliver more than 300 pieces of Komatsu equipment to the Dangote Group and continue to support them now.

Luss states: “We are in the middle of some significant contract discussions at present and hope that they will lead to expansion across the continent in the future.



“Operating in East and West Africa is particularly challenging as there are various trends for each country, and each of those specific trends will have a drastic impact on the country of operation. We also have to take into account the political environment of each nation, especially with the unpredictability of elections and the interchanging governments which impact businesses such as ours.”

At present Panafrican is closely monitoring each country of operation on an individual basis, making any required business alignments to current market trends based on the customer demands and market information available at the time.

Customer care

When it comes to procurement the Company has created a centralised service that is responsible, making use of key performance indicators (KPI) to keep track of the efficiencies of the activities and processes.

“We also use KPI to aid us in highlighting the areas where

improvements are required within the Company, particularly when it comes to shortening our delivery times, easing shipping options or any opportunities for cost-saving exercises in the supply chain system,” continues Luus. “Linking in with this, we have our outstanding customer support systems which enable us to address any problems and quickly establish solutions.”

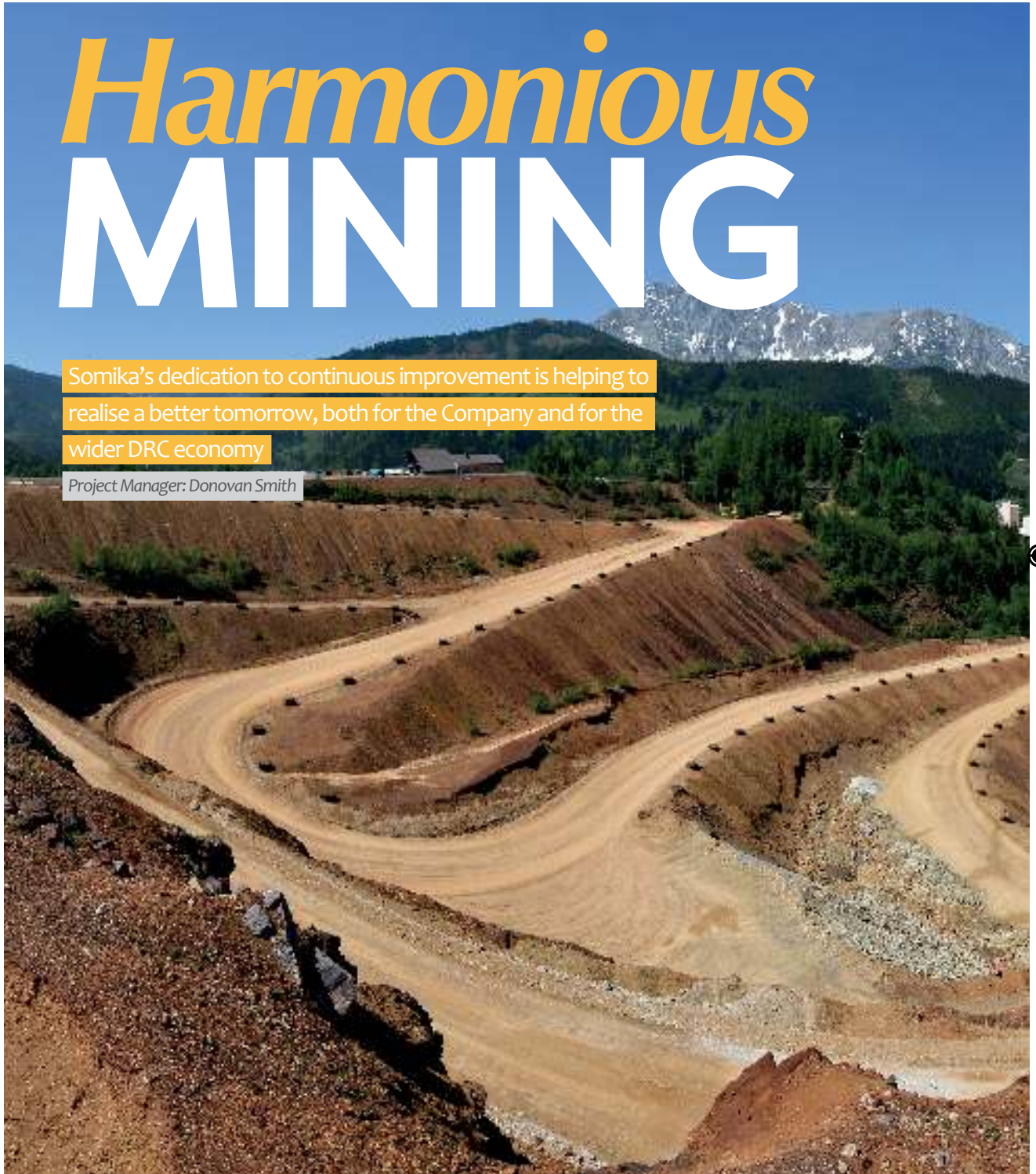
The Company works hand-in-hand with its customers in order to ensure that its business is conducted in the most efficient way possible, setting it at a cut above the rest in terms of the competition.

“In order to continue on with our success we will increase our market share in all business sectors, specifically equipment and agriculture divisions,” concludes Luus. “We also hope to obtain a selection of maintenance and repair contracts in different countries to our current coverage area, which is proving to be a very exiting time for us at Panafrican.” ■

Harmonious MINING

Somika's dedication to continuous improvement is helping to realise a better tomorrow, both for the Company and for the wider DRC economy

Project Manager: Donovan Smith







Vinmart Group

“While trudging towards fulfilling the initial objective of supplying essential commodities to key nations across the African continent like D. R. Congo, Zambia, South Africa, Malawi, Uganda, Kenya, Rwanda and Burundi, Vinmart has kept a watchful eye on emerging trends in the world economy. Pursuing with a pragmatic vision and persistent journey, it has added a handful of local and international professionals to its core team in the process of building up a strong distribution network and to diversify its activities.

“Gradually, it has opened up operations in various countries across the globe; namely a Toronto office in the year 1999, and a China-Guangzhou office in the year 2000. With a strategic intention of consolidating its position in African countries and reaching out to the promising markets of Middle East, Vinmart has further setup its sourcing centre in Dubai, UAE in the year 2001.

“Now, both China and Dubai operations serve as the most decisive sourcing centres for a vast range of products such as mining /plant machineries and spares, heavy and light earth moving equipment, chemicals, agricultural equipment, hardware, building material, furniture including prefabricated house, and much more.”

argely virtue of a strong business partnership with Vinmart Group, Somika S.P.R.L (Societe Minere Du Katanga) continues to evolve as one of the Democratic Republic of Congo (DRC)’s foremost mining and mineral processing entities; setting benchmarks across industrial operations and wider local upliftment.

Established in 2001, the Company is now renowned for its production

Presently, Somika is distinguished among the leading exporters of cobalt and copper products in the DRC

of high quality copper and cobalt products, compounded by an internal structure that boasts the very best in modern-day machinery and equipment.

“Equipped with a state-of-the-art laboratory for the procurement and processing of minerals, grading, crushing, drying and packaging, Somika sets global standards for the mining of cobalt and copper,” the Company affirms on its website. “Presently, Somika is distinguished among the leading exporters of cobalt and copper products in the DRC.”

Much more than this though, Somika’s strongest attribute comes from its role as a social enabler, the business’s continuous growth lending to numerous employment opportunities and peripheral sector enrichment.

As many as 1,500 local citizens are employed by the Company, while Somika also offers business opportunities to service sectors around its local region of Lubumbashi, including banking, insurance, transport, sampling, and inspection agencies.



“Apart from its strong business relationship with Vinmart, Somika is also committed to various business associates in different regions across the globe, such as South Africa, Zambia and Tanzania; to Hong Kong, China, Dubai and India,” the Company continues. “With such strong business relationships, a global logistics network, and years of experience in the mining and mineral industry, Somika endeavours to ensure continuous improvement.”

And such levels of continuous improvement naturally translate into almost unrivalled business success. Spread across the Katanga Province of the DRC, Somika continues to capitalise on one of the largest copper and cobalt belts in the world; and the 20 million tonnes (10 percent of the world’s resource) of copper metal unit comprised within.

A better tomorrow

“Our interest in copper and cobalt started from the year 2002, when we first setup a cobalt processing plant in Lubumbashi, the Capital of Katanga province and the hub of the mining





PROTEA MINING CHEMICALS

Protea Mining Chemicals is a member of the Omnia Group, which is a JSE (Johannesburg Stock Exchange) listed diversified provider of specialised chemicals and services.

Protea Mining Chemicals has extensive experience and an intimate knowledge of production processes employed in the mining industry, which allows for an invaluable service and assistance to be offered to customers facilitating process troubleshooting and problem solving. Integral to Protea Mining Chemicals' growth strategy, is a commitment to establishing preferred partnerships with key customers, thereby allowing opportunities to identify and optimise certain aspects of production processes and improve overall profitability.

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industry," the Company adds. "Our facility is now spread over 120 acres in Lubumbashi with an inhouse power plant of 22MW for plant operations which are controlled through PLC-bases systems."

Striving for efficiencies as well as quality across this facility, Somika has – since day one – stayed true to a set of core philosophies, procedures and policies to achieve optimum utilisation of both natural and human resources. This, in turn, has helped leverage the rise of a country whose economy comes with its challenges but has abundant opportunities.

"D.R. Congo is a developing economy, and there are certain challenges. However, the founding shareholders of Somika's strong commitment to success and development have satisfactorily overcome these obstacles.

"The Company is well-connected with its committed business associates, and with an established



logistics network across the globe, coupled with years of operating experience in D. R. Congo, Somika is poised to enhance its mining and mineral processing operations for a better tomorrow."

But the better tomorrow doesn't necessarily mean just a better tomorrow for Somika, rather for the DRC as a whole, and perhaps the Company's greatest, and most commendable asset derives from its numerous local community programmes across areas of health, education and civic amenities.

Commitment to excellence

Mining inevitably "impacts the local ecological balance and environmental conditions", and Somika has therefore taken it upon itself to try and mitigate this direct impact by adopting a greener, more sustainable and innovative approach to mineral processing; while indirectly influencing the local region via all aforementioned



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social avenues.

“Somika believes sustained and progressive improvement is the way of life,” the business explains. “[We want] to keep our most important asset and qualitative base of human resources live and competitive in the dynamic world, and we have a global corporate plan for continuous upgradation and development.”

Ultimately, this harks back to an overriding mission and vision which was established upon Somika’s inception back in 2001 and that remains as pertinent as ever today.

The Company concludes: “Somika has always focused on quality and believed that without quality there is no survival. Our mission has always been geared on the road to our commitment to excellence.

“Our vision is to be among the privileged global market leaders of the mining and mineral processing industry by means of consistent and channelled efforts towards excellence.” ■

**Somika believes
sustained and
progressive
improvement is the
way of life ■**





A Golden TRANSITION

Bassari Resources is on the cusp of realising a goal that was put in place upon the Australian company's entry into West Africa more than a decade ago.

Listed on the Australian Securities Exchange since 2000 and comprising more than 2,300 shareholders, the business's foray into Senegal was initiated off the back of extensive research into the region's mining

Bassari Resources' Makabingui Gold Project in Senegal kick-starts its transformation from a \$30 million exploration company into a \$500 million-plus gold producer

Writer: Matthew Staff

Project Manager: Donovan Smith

potential, and with a Chairman that already had more than 25 years of experience in the country. And following years of exploration success and mining acumen, the goal of bringing its Makabingui Gold Project into production is now within reach.

"Bassari was specifically formed to explore and develop three gold exploration permits in the Birimian gold belt in southeast Senegal," opens said Chairman, Alex Mackenzie. "Three permits were identified in the highly



prospective Sabodala gold area, and this resulted in the development of the Sabodala gold mine that is now producing 200,000 ounces of gold per annum.”

Consequently unearthing more than 30 gold targets in total as a result of the Company’s extensive exploration, the real success stories have since focused on the aforementioned Makabingui site and Bassari’s simultaneous gold project at Konkoutou.

This ultimate transformation from explorer to producer represents a key milestone in Bassari Resources’ journey so far, but is far from the final destination for a Company that has always placed special emphasis on continuous improvement.

Mackenzie says: “We have developed a good relationship with the Senegalese Government’s mining and finance departments, the local villagers, the local governors and prefects. We employ and train as many

Senegalese as possible, and recognise our social responsibility in assisting the local villagers whereby we have invested more than US\$1.5 million on water bores, equipment, medical clinics, ambulance service, etc.”

Combining this local ingratiation with a similar ethos of employing the best technical talents available ensures harmonious and skilled progression with the backing of all relevant onlookers and overseers as Bassari enters the next phase of its evolution.

Significant gold targets

Having initially identified the whereabouts of all the gold-bearing Birimian rocks in West Africa (as had been done at Australia's Kalgoorlie), Mackenzie's drive into the continent was decided upon virtue of a thorough review of all successful large-scale deposits in the region.

Subsequently discovering that huge deposits of more than 10 million ounces were in the metasediments close to shear zone structures with large granite intrusives, the Chairman knew this would drive the gold structures from the depths towards the near surface.

He recalls: "We not only carried out geochem soil sampling, aero magnetics and assaying of termite mounds, but embarked on an extensive RAB drilling programme and a structural review to

identify where to conduct our RC and diamond drilling programmes. This work identified some 32 significant gold targets within the permits, with the two main ones being at Makabingui and Konkoutou."

At genesis, the former reported maiden ore reserves of 860,000 tonnes at 5.7g/t for 158,000 ounces of gold; within the one million ounce resource of 2.6g/t. A further underground scoping study completed in 2014 then returned high-grade gold results of 7g/t for ~120,000 ounces in high-grade underground scope targets.

The same year also saw the completion of Bassari's feasibility study for Makabingui which returned hugely promising results including an average gold grade of >5.6 g/t, C1 cash costs of US\$683/oz, capital costs of \$12.1 million and an IRR of 404 percent. In 2017 an

We are very people-focused for a mining company and compared to other major companies in West Africa, and this is a big differentiator in allowing us to succeed

Makabingui Gold Project

- JORC Resource of 11.9 mt at 2.6g/t Au for 1,005,000 ounces contained gold (AMC2012)
- Focus on high-grade gold reserves of 860 kt at 5.6 g/t Au for 174,375 ounces (open pits)
- Annual gold production: 50,000 ounces
- High-grade gold (5.6 g/t)
- Very high gold recovery (95 percent)
- Project capital cost: US\$13 million (financed by Coris Bank)
- Return on investment in less than 12 months
- Gold price used for the estimation was US\$1,200 (current gold price: US\$1,320)
- Employment: 250-300 workers (direct) including 200 Senegalese and more than 500 indirect workers

Governmental agreements

- Five-year renewal of exploitation permit
- Royalties: five percent of total sales realised, payable during each quarter of the calendar year
- Institutional support: US\$150,000 per annum
- Local development support: US\$100,000 for the period of pre-production and then 0.5 percent of the gold sold in the first year of production and during the other years of production





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updated feasibility study confirmed this potential with similar results in the build-up to 2018's strive towards production.

"Having recently obtained a project finance offer from the Coris International Bank of Senegal, the Company's immediate focus will be near-surface, open-pit mining at Makabingui, as well as further fieldwork along the major gold corridor immediately south of Makabingui," the Company explains on its website.

Mackenzie adds: "In 2018, we aim to bring the Makabingui gold project into production and to expand its potential while simultaneously aiming to build up the gold resources at our Konkoutou project."

A US\$500 million-plus gold producer

With due diligence completed, loan agreements finalised, and expansion plans in place - both at Makabingui and across its latter Konkoutou Gold Project - Bassari Resources is also keen to ensure that each intricate element of these operations is developing in line with industry trends and ahead of its own growth curve.

To this end, a host of infrastructural enhancements have been laid out to make sure that every strand of the value chain and mining process is being conducted to best-in-class standards.

Bassari has already constructed a 300,000 TPA gravity plant, a mining camp with a capacity of 120 people,



Infrastructural
enhancements are
vital to achieve high
standards



Moussa Diba,

Exploration Manager,
Bassari Resources Ltd

After a short passage in oil and gas exploration in 1995 working for Tullow Oil, Geofyzika in Senegal. Mr. Diba worked especially in gold exploration and mining.

From 1996 to now, Mr. Diba successively worked for multinational mining companies such as AngloGold Ashanti, Iamgold / Agem, Randgold Resources, Mineral Deposits Limited (MDL) and Bassari Resources Ltd.

Mr. Diba has been the Exploration Manager of Bassari Resources Limited since 2009. He has more than 20 years' experience in gold exploration and mining.

Mr. Diba holds a geological engineering degree from the Earth Science Institute of Dakar University Cheikh Anta Diop (Senegal). Mr Diba is also a member of the Australasian Institute of Mining and Metallurgy (AusIMM).

♦ GERA ♦

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a water dam with a capacity of 500 mega litres and fuel storage tanks with a capacity of 85,000 litres. Upcoming upgrades will cover areas of the haul road that is used to transport the ore from the pits to the plant, heavy mobile equipment used for earthworks during the pre-development; and additional fuel tanks to cater for approximately 22,500 litres of fuel that is needed each working day across the mining operation.

"We are always reviewing our operations and, for example, have reviewed our power generation recently to perhaps adopt solar power," Mackenzie notes. "We believe that we have identified the best technology from the UK to mine the vein gold structures, new equipment includes crushers and ball mills which will be acquired from China - as well as electronics from Australia - and we will also expand our mining camp to house more than 200 workers as we move from exploration to production."

Having been present in Senegal for more than 10 years now - Mackenzie himself enjoying a further 15 years on top of that - the Company is well positioned to capitalise on the local reputation formed in order to meet such expansive targets; responsibly.

The use of local artisans and Senegalese supply chain partners has formulated a sustainable network and platform from which to grow as Bassari Resources looks to continue meeting gold standards in the years to come.

"We are very people-focused for a mining company and compared to other major companies in West Africa, and this is a big differentiator in allowing us to succeed," Mackenzie concludes. "Looking forward, we have identified many significant gold targets in addition to Makabingui and Konkoutou, and with this potential we expect Bassari to emerge from a \$30 million exploration company into a \$500 million-plus gold producer." ■

AVISION

Gecko Namibia is balancing its privately owned wholly Namibian status with a focus on internationally-lucrative joint ventures in order to become a fully-fledged mining house on the continent

for a New Namibia

Writer: Matthew Staff

Project Manager: Donovan Smith



Developed as a diverse, private, proudly and locally-owned company operating across the mineral resources industry, Gecko Namibia (Pty) Ltd's fully-integrated exploration and mining proposition is on course to realise the Group's vision for a new Namibia.

Built up of subsidiaries focused on greenfield exploration, mining and mineral beneficiation, and general mining services including drilling, exploration, lab work, plant construction, processing and contract mining; the Windhoek-based entity's consequent portfolio continues to make waves not just domestically, but on a continental level.

"Together with Gecko's sister companies in South Africa, the Group comprises a workforce of more than 1,000 employees that are led by a broadly skilled team of 30-plus professionals," introduces Managing Director, Pine van Wyk. "The Group enjoys a solid reputation for identifying and implementing projects across the industry in Namibia and Southern Africa; embracing a long-term view of establishing itself as a diversified and integrated Namibian mining company."

Gecko currently operates a large portfolio of mineral rights within the country, virtue of a series of exploration activities enacted by its skilled team of geologists.

The resultant identification of previously unknown large-scale mineralisation opportunities in the Kunene region of Namibia – revolving namely around cobalt-copper, barite and zinc-lead discoveries – has turned the Company into a locally significant economic and social protagonist.

"Gecko is trying to utilise local opportunities effectively to develop projects in the African mining sector," van Wyk continues. "The Group's diversified portfolio, which includes a broad spectrum of service companies, enables us to fast-track projects cost-effectively."

"One example of Gecko's regard for trying to grasp local business opportunities has been through the country's ideal climatic conditions for solar salt production. Our coastline and the adjoining Namib Desert facilitates the evaporation of seawater and the production of salt by crystallisation. It was therefore only logical for Gecko to try and establish itself as a producer of high-quality Namibian salt. In doing so the Group endeavours to add value to Namibia's mineral resources, thereby developing the country's resource potential to full fruition."





Internationally recognised

Numerous exploration and mining projects have been entered into as a consequence of the Group's ability and track record of identifying and unlocking locally-relevant value.

Additionally, Gecko also owns and operated various services companies, epitomising its ongoing search for diversification, which include contract works internally but also to third parties in the wider region.

Such widespread influence can only derive from a highly skilled and knowledgeable team though, as van Wyk emphasises: "Gecko is endowed with a strong, internationally recognised management team: entrepreneurs; exploration and mine geologists; processing and mining engineers; and a strong in-house legal team.

"Initially, Gecko Namibia concentrated purely on projects in the industrial minerals sector, but because of these in-house capabilities, the



Group's portfolio has broadened to now include greenfield exploration; operating mines with downstream value addition; mining and mineral beneficiation; and the provision of services to the mining industry (drilling services, laboratories, plant construction, processing, contract mining)."

Naturally serving as a differentiator over less well-rounded competitors, Gecko has reaped the rewards of its strategy not just through its core portfolio but also by heightened interest across the market from prospective joint venture partners.

Van Wyk explains: "The Group owns two profitable mining operations and has engaged in a number of joint venture agreements in production and exploration projects, to advance its widespread critical minerals portfolio.

"One such example is Gecko's JV with Namibia Rare Earth, now called Namibia Critical Metals; which governs the companies' endeavours for



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seeking future projects in Southern Africa. The core focus of this JV is to explore battery minerals. With the rapid growth of EVs and other energy storage technologies, battery minerals have seen huge increases in demand and associated prices. We believe it is now the time to focus on what we call the 'future metals' that will be needed in a technologically advanced world."

A strong position

This balance between privately-owned status and JV optimisation has and will continue to open numerous doors for Gecko Namibia on its quest for business growth; such opportunities facilitating a level of funding and portfolio enhancement that might have otherwise been difficult to achieve.

"Through its various JVs the Group is driving its cobalt-copper exploration programme in the Kunene region of Namibia. We are in JVs with Namibia Critical Metals (ex-Namibia Rare Earth



Inc) and Celsius Resources on these projects, and Gecko Exploration and Gecko Drilling are providing all of the exploration services to these JVs," van Wyk details. "Every project is important, and we'd like to see ongoing developments across the entire property suite."

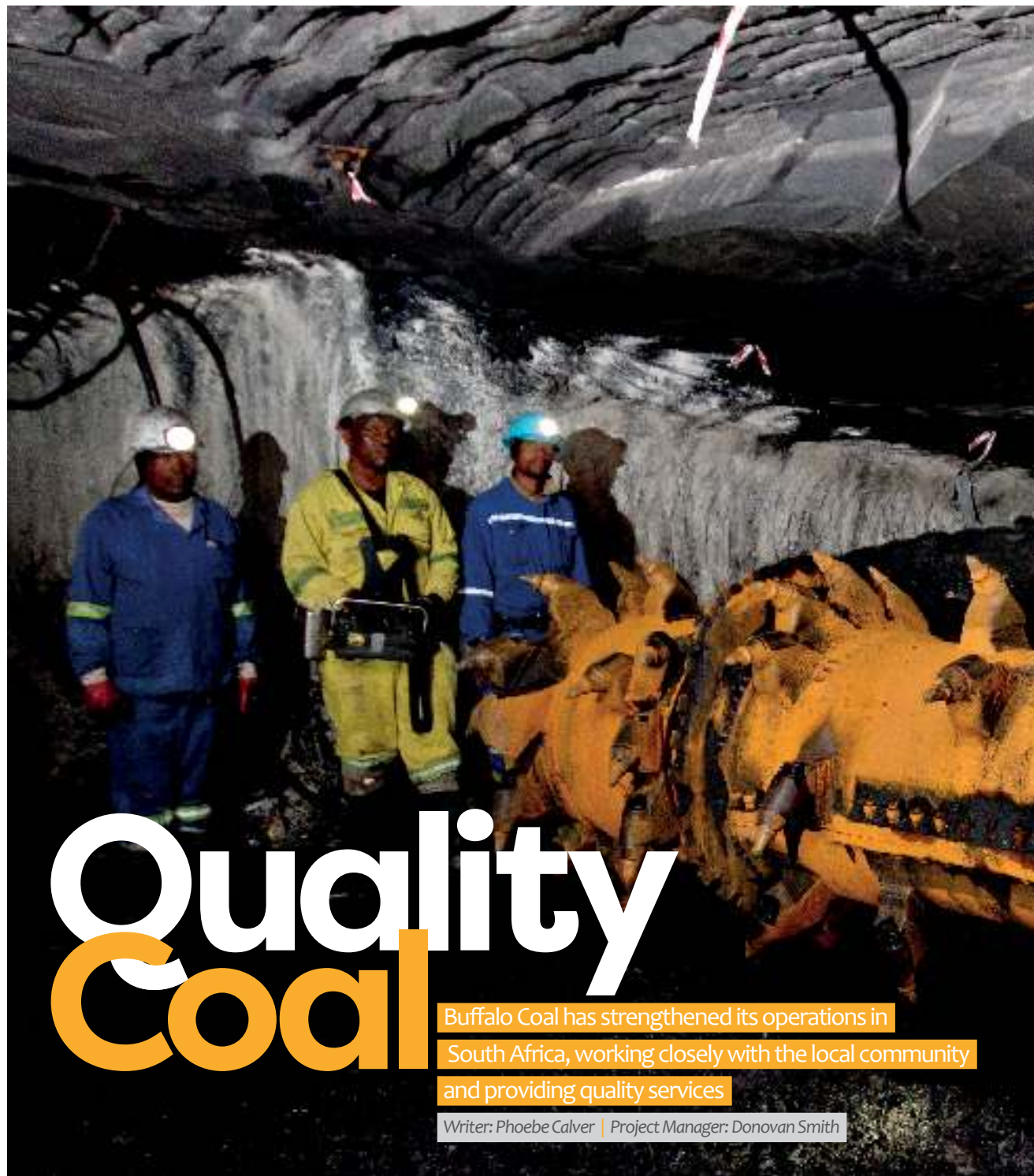
Boosting capital, human resource skills, technologies, and competitive stature, project success is all but

assured for Gecko as a result of its agile, entrepreneurial and driven outlook.

The Group is fully established in the Namibian mining environment, thus offering strategic benefits to any foreign enterprise looking to join Gecko in its Namibian adventure.

"Gecko Namibia (Pty) Ltd, with a broadly mixed portfolio, is pursuing many projects in the fields of chemical production, mineral exploration, mining and production of industrial minerals; as well as upstream value-adding to some of the country's mineral commodities," van Wyk affirms and concludes. "The diversified portfolio, together with an internal capacity to move projects forward, rapidly puts us in a strong position to take advantage and react to changing market conditions.

"And resultantly, within the next five-10 years, Gecko aims to establish itself as a new mining house on the African continent." ■



Quality Coal

Buffalo Coal has strengthened its operations in South Africa, working closely with the local community and providing quality services

Writer: Phoebe Calver | Project Manager: Donovan Smith



Over the years Buffalo Coal has consistently produced high-quality thermal and metallurgical coal, successfully running its operations in Kwa-Zulu Natal, South Africa.

Its portfolio includes two operating mines named Magdalena and Avimore - both of which contain substantial coal resources - the Company is then able to use its resources to supply thermal coal, anthracite and calcine into both domestic and export markets.

"In the present-day Buffalo Coal is a recognised TSX and JSE-listed coal producer," explains Rowan Karstel, Chief Executive Officer at Buffalo Coal. "Eight years ago, Forbes & Manhattan Coal took on the acquisition of both the Magdalena and Avimore mines after taking over ownership from Slater Coal, a South African company. This led to the alteration of our name, firstly to Forbes Coal and then to Buffalo Coal Dundee."

A few years later between 2013 and 2015, Resource Capital Fund - a US based and resource focused private equity fund - saw enough potential within the Company to provide it with a US\$29 million convertible loan facility, at which time it was rebranded to become Buffalo Coal in 2014.

Sustainable business culture

In order to achieve success in a market that is already heavily saturated, Buffalo Coal needed to initially work to create a sustainable business culture that would set it apart from its competition.

"In the past we needed to work on aspects such as our health and safety record, ensuring that they ran like a well-oiled machine," the CEO continues. "We went onto introduce behaviour-based safety strategies, such as VFL and appointed an ex-BHPBilliton HSEC senior manager to aid our team.

"We also needed to increase our environmental compliance, which we managed to combat through project managing the key issues we were faced with. Initially we needed to update our mine closure and rehabilitation fund, which had not been updated for more than two years," affirms Karstel. "We found that community relations were also proving to be a challenge and because of that I have personally spent a lot of time within our local area to truly understand and work to the structures in place there. Buffalo Coal has established the Dannhauser and Dundee Mine Community forum which feeds into the Ubuntu Development Trust."

Buffalo is working on a BEE Restructuring project to give the Ubuntu Development Trust and Employee Share scheme nine percent each equity stake in Buffalo Coal Dundee Pty Ltd.

Technical Competence

Lifting the technical competence within Buffalo Coal has been a great turning point for Karstel, enhancing its knowledge in the complexities of mine-planning within the industry. Buffalo Coal embarked on an intensive exploration programme to understand



Rowan Karstel, Chief Executive Officer



Coalfields
Anthracite
wash plant

the complex geology better and it will also assist with the Reserve Statement work currently being done.

Karstel adds: "A great example of this is the Avie North project, which we are currently taking through the proper project value chain. The feasibility study showed that the capital cost to build the adit will be in the order of R240 million. The adit project will increase the Aviemore mine's life from two to 15 years. To repay the capital and improve the NPV value add we are also planning to double the production numbers at Avie within the next three years."

Alongside its technical expansion through the value chain, the Company has also introduced intelligent process-costing to better understand the key business drivers that allow for a more diversified strategy.

Marketing

Buffalo Coal supply thermal and anthracite coal to the export and



inland market and the Company makes use of rail and road transport and ports of RBCT and Navitrade are utilised. Karstel describes: "We wanted to be seen as a truly diverse producer in terms of our products, marketing and logistics strategy."

Export marketing is done through a coal trader and coal is sold on a FOR (free on rail) basis in Rand terms. This strategy reduces the risk on the balance sheet since the rail, port and exchange rate risk is taken by the coal trader.



Calcine Plant
Coalfields

Buffalo Coal also has a Calcine Plant that supplies product into the lucrative manganese smelter market. Now the Company is focusing on its work with buy-in coal to maximise the wash plant capacity and reducing the fixed cost.

Balance Sheet

Buffalo Coal still owes Investec R170 million and the challenge is to repay the loan during the medium-term. Fortunately production during Q1 2018 was excellent and it helps making the



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repayment process easier.

In order to reduce its capital burden on the balance sheet Buffalo makes use of contractors carrying out mining at the Magdalena site.

People

"We carry out a lot of training for all parties involved within the Company, spending an increasing amount on HRD projects," continues the CEO. "Another factor that we find increasingly important is the key focus on introducing more women into mining, and having recently appointed a female mine manager we feel very optimistic moving forwards."

"When it comes to the people working at Buffalo Coal, the Company-wide philosophy to treat people the way they would want to be treated and dignity and respect are always key factors that we work to retain."

"Retention of key skills within a business is extremely difficult, especially in a market where there



A team philosophy built around individual promotion and dignity

is a shortage of experienced people - particularly at a high level - and subsequently we appreciate the importance of taking care of them.

"We have worked hard to develop a unified management style that fosters a culture of innovation, encourages smart risk taking and driving change for the betterment of both our Company and the industry."

For a junior mining company, the challenge is always cash flow

management and in Buffalo's case the repayment of its debt to Investec.

One of Buffalo Coal's core strategies is to consolidate the junior mining sector around Dundee by focusing on buy-in opportunities.

"We hope that moving forward we will continue to grow in an upward trajectory, having successfully executed our current remit of projects such as Aviemore North Project," concludes Karstel. ■

Reliable and RESPONSIBLE

Palabora Mining Company (PMC) continues to match an almost unparalleled track record in the mining sector with an equally prevalent dedication to social and environmental enrichment to ensure a sustainable legacy in Africa.

Palabora Mining Company - or Palabora Copper - is a copper mine situated in the Limpopo Province

Palabora Mining Company has
a history and reputation up
there with the very best on the
continent, but that doesn't
stop the business looking
towards long-term
sustainability for the future

Writer: Matthew Staff

Project Manager: Donovan Smith

and is South Africa's sole producer of refined copper. The mine has been operational since its incorporation in 1956 and consists of an underground mining, concentrating, smelting and refining operation.

"PMC continues to focus its efforts to mining beyond compliance by involving our employees as shareholders in the Company, together with our black economic empowerment consortium, Chinese consortium and IDC. PMC successfully



extracts and beneficiates copper and other by-products in the Ba-Phalaborwa area of Limpopo Province and provides the local market with 85 percent of its copper requirements,” the Company’s External Affairs and Communications Manager, Lydia Radebe introduces.

The Company owes its origin to the unique formation known as the Palabora Igneous Complex. Nowhere else is copper known to occur in carbonatites as is the case at Palabora Copper and a host of other minerals such as phosphates, vermiculite, phlogopite, magnetite, nickel, gold, silver, platinum and palladium also occur. As such, Palabora operates a large block cave copper mine and smelter complex employing a balanced and diversified workforce of approximately 4,990 employees for both lift 1 and 2.

Radebe continues: “The refinery produces continuous cast rods for

the domestic market and cathodes for export. Useful by-product metals and minerals include zirconium chemicals, magnetite and nickel sulphate as well as small quantities of gold, silver and platinum. Palabora Copper has developed a US\$410 million underground mine with a production capacity of 30,000 tonnes of ore each day.”

Yet, it’s not simply the scale of operations that the Company attributes as its core day-to-day differentiator; rather it is PMC’s internal processes that facilitate such scope. Open and engaging communication is critical to this end across such a vast operation, and numerous technological adoptions and HR training is carried out accordingly.

Most significant though is its commitment to the Palabora workforce; firstly hiring people of all backgrounds, abilities, disabilities and walks of life, and then laying a path of promotion in

front of each individual to create a continuous learning culture.

“Palabora has attained and retained the Top Employer Certification for three consecutive years, from 2016 to 2018. For us, this contributes to our ability to attract the best talent there is in South Africa and beyond. Clichéd as it may sound, we believe that our ability to achieve our performance goals is directly influenced by the calibre of people we have,” Radebe enthuses.

Energy efficiency leaders

From a mining perspective, the future looks assured. PMC is undertaking a life-of-mine extension project known as the Lift II. The project aims to extend the life of the business up to 2033 and includes the magnetite reclamation and beneficiation study aimed at creating additional revenue from the 250 million legacy stockpile.



However, inevitably, mining activities are inherently very energy intensive, and this has subsequently led to the launch of its Energy Management Programme which was inceptioned in 2012; an initiative that epitomises the Company's ever-growing dedication to environmental preservation.

"PMC partnered with a consulting company resulting in the employment of 12 energy specialists and project managers that would, in conjunction with mining personnel, identify, implement and sustain energy cost saving projects," Radebe explains. "As a result, 117 initiatives were identified, and following stringent technical and financial adjudication processes, 31 projects were implemented.

"As a result of its productivity approach, over the past five years the Company has saved R232 million through avoided energy costs: consisting of electricity savings worth R181 million; coal and liquid fuels savings worth R43 million; and water savings worth R8 million."

With the help of external funding mechanisms worth R28 million the Energy Management Programme achieved a net benefit of R173 million at the end of July, 2017.

Radebe continues: "Palabora Mining Company's Energy Management Programme has not only created a sustainable model making the Company energy efficiency leaders in the mining sector but has also emphasised its standpoint regarding environmental responsibility.

"Additionally, the Company is a certified ISO 14001 business that subscribes to world leading practices and over the past years, PMC has retained a record of being one of the safest mines in South Africa and Africa at large. This is particularly due to our stringent SHEQ regulations and procedures in place and the effective management of contractors on site."



General Manager for Asset Management and SHEQ, Mr Zakes Malepe and the General Manager for Marketing and Logistics, Keith Mathole receiving an award for Energy Management Programme at the national Productivity Awards

Reliable and responsible

Corporate social responsibility thrives under many different guises and while environmental adherences certainly address one facet, an equally prominent area of PMC's work revolves around community enrichment too.

"Over the years, we have invested more than R160 million in developing the communities through the Palabora Foundation, our community project

execution partner," the Company states to this end. PMC is the major mining project occurring in Phalaborwa and is integral to the survival of the Phalaborwa community. And taking into account the integral part played by the mine in relation to the community, PMC has started a number of initiatives aimed at improving the lives of the community."

One recent example includes the completion of the Phelang Wellness

and Disease Management Centre; one of the biggest clinics in the Namakgale township which is the largest township in the area. The project was part of the SLP and totalled a little more than R7 million to construct.

Radebe elaborates: "In order to meet the needs of the communities and to raise the standard of services, the Palabora Foundation worked with the SABS to put together a menu of services that would benefit not only a clinic but a Wellness and Disease Management Centre that will comply with the a National Standard for Comprehensive Health and Disease

Management. The structure of the facility was therefore designed to comply with SANS16001 and is ready for beneficial usage by the communities.

"The objective of the Phelang Wellness and Disease Management Centre is to promote educational awareness and prevention; to deliver the treatment, care and support of HIV, TB and STIs; and to enhance access to social services."

A further example has been enacted through collaboration with the Ba-Palaborwa Municipality and other strategic stakeholders for its road

DIKELEDI NAKENE, CFO: THE MOST POWERFUL WOMAN ON THE CONTINENT

Palabora Mining Company's Chief Financial Officer (CFO), Ms Dikeledi Nakene was nominated as the most powerful woman on the Continent during "Africa's Most Influential Women in Business and Government Awards" which were held in Johannesburg in November, 2017. In August, 2017, Ms Nakene scooped the country (South Africa) and Regional (SADC-South) awards for women working in the mining industry and automatically became a Continental contestant.

Ms Nakene says that she is humbled by the awards as they are recognition not only of her abilities but the abilities of all women of Africa, particularly South Africa: "I did not make the journey here alone; there are numerous people who have supported me. These people include my family, friends and colleagues. Above all, it is through the mercy that God continues to place on me. I am humbled by these awards because I am aware that all contestants were equally deserving. I ask other women and young girls to look at these awards as motivation that they too can achieve anything they put their minds to."



Dikeledi Nakene, CFO, Palabora Mining Company

rehabilitation project across the roads and streets of Namakgale.

The major scope of work for the project entailed the rehabilitation of approximately 21 kilometres of Namakgale's roads and also included upgrading drain structures such as side drains, underground storm water drains and subsoil drains, as well as the construction of roadside curbs.

Once again emphasising PMC's role not just as a mining heavyweight, but as a significant long-term driver of the local economy, the Company's final example harks back to what it once again maintains is the business's chief consideration: the ongoing development of the local people.

"Since its inception, PMC has been at the forefront of employment practices in the local mining industry," Radebe concludes. "The Company has written and developed its code of ethics to follow numerous strategic imperatives and we strive to be a leading corporate citizen within the mining industry long into the future; supplying a high standard of quality products and services, both reliably and responsibly at national and global level." ■

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