



Benguela Gem Ushers in a New Era for Diamond Recovery



Cape Town has taken center stage in the world of marine diamond mining with Debmarmine Namibia's flagship vessel, the Benguela Gem, recently upgraded in the city's dry dock. This October, the installation of a next-generation subsea crawler marked a major leap for South Africa's offshore industry, blending cutting-edge automation with responsible resource recovery.

Built to operate up to 135 metres deep, the new crawler uses advanced sonar and real-time controls to collect diamond-rich sediment with minimal disruption. Its hydraulic tensioning and modular design allow operators to adapt swiftly to underwater challenges, improving safety while boosting efficiency by 20%.

Every technical piece, from reinforced pipelines to kilometers of cabling, was tested in Cape Town before heading to sea, ensuring both durability and reliability.

Mining Talent, Building Futures. Stronger Together

Benguela Gem Ushers in a New Era for Diamond Recovery

The upgrade is as much about sustainability as productivity—by recovering minerals with a lighter environmental footprint, De Beers sets new standards for marine mining. This project also highlights the skills and innovation of South Africa’s engineers, **creating jobs in robotics and marine electronics**, and raising the profile of Cape Town as a global hub for marine technology.

As the Benguela Gem sails out, it reflects a mining future that values collaboration, innovation, and sustainability. For Bilnor Staffing Solutions’ clients and candidates, this milestone signals fresh opportunities in an evolving sector, where engineering talent built at home leads the way.

Marine mining is advancing; Cape Town is leading. The opportunity is yours to seize.

The Copper Crunch—Powering the Energy Transition Amid Scarcity

Copper, the essential metal that keeps our power networks and renewable technologies running, is facing a global shortage that could reshape industries and economies alike. As demand soars and production stagnates, analysts warn that the world is entering a structural supply crisis rather than a temporary market hiccup.



Global copper demand is climbing by over 3% annually, driven by the rapid expansion of renewable energy, electric vehicles, and artificial intelligence infrastructure. Copper is integral to these technologies: each electric vehicle uses nearly four times more copper than a petrol car, while every megawatt of solar power requires about 12 tonnes of the metal. Yet mine output is growing at just over 1% a year, with Goldman Sachs now projecting deficits of more than 160,000 tonnes in 2025 and 200,000 tonnes by 2026.

Mining Talent, Building Futures. Stronger Together

The Copper Crunch—Powering the Energy Transition Amid Scarcity (Cont.)



Compounding this pressure are severe production disruptions. Major incidents in Indonesia, Chile, and Zambia have erased over half a million tonnes from the market this year alone.

Stockpiles on the London Metal Exchange have fallen nearly 80%, equivalent to less than one day of global consumption—a record low. Copper prices have surged past \$11,000 per tonne, approaching all-time highs as traders brace for deeper shortages.

For Africa, this crisis carries both risk and promise. Nations such as Zambia and the DRC, home to vast untapped reserves, are attracting renewed investor attention. South Africa, with its engineering expertise and infrastructure, stands to play a supporting role in regional development. The key lies in accelerating responsible mining investment and expanding processing capacity to meet global demand.

As the world races toward net-zero emissions, copper remains the metal that powers progress—and right now, there may not be enough of it to go around.



Mining Talent, Building Futures. Stronger Together

Blasting Goes Green—A Cleaner Future for Mining Safety



Mining is entering a new era of safe and sustainable blasting, powered by nitrate-free hydrogen peroxide explosives (HPEs). These cutting-edge formulations release only water vapour and oxygen when detonated—eliminating the nitrogen oxides and ammonia that typically contaminate mine air and groundwater.

Developed over seven years by Hypex Bio Explosives and now being introduced through trials with BME in South Africa, HPEs promise to replace traditional ammonium nitrate-based systems without sacrificing performance. Field studies in Europe and Scandinavia have shown equal or better detonation velocity, superior rock fragmentation, and seamless integration with existing blasting equipment. In other words, miners can make the switch with zero hardware modifications—and major environmental benefits.

These eco-friendly explosives also enhance worker safety. Tests demonstrate a 90% reduction in harmful gas emissions and elimination of nitrate leaching into groundwater—critical for deep and enclosed mining environments. Cleaner blasts mean lower ventilation needs, quicker re-entry times, and improved overall air quality underground. For South Africa, adopting this technology supports the sector's decarbonisation and ESG goals while strengthening operational efficiency. The country's mining innovators are well-positioned to lead the regional rollout of HPE systems, proving that environmental responsibility and productivity can go hand in hand.

Hydrogen peroxide explosives redefine how mines dig deeper—safely, sustainably, and with a lighter footprint for the planet.

Mining Talent, Building Futures. Stronger Together

AI-Driven Slope Tech Reduces Mining Waste and Risk



Open-pit mining is getting smarter, thanks to AI-powered **slope optimisation platforms** that replace old-fashioned, manual design with automated precision. These systems use machine learning to analyse geological data—rock type, groundwater, seismic activity—and generate exact slope angles for safer and more efficient mine pits.

Instead of broad estimates, AI can tailor slope design to real-time site data, achieving accuracy within 1–2 degrees versus the usual ± 5 –10 degrees from traditional methods. Each degree steeper in wall angle means 2–5% less waste removed—so big operations see major savings and reduced environmental impact.

Digital twin technology adds a virtual layer, allowing mines to monitor slope stability in real time and adjust designs as conditions change. By continually feeding IoT sensor data into algorithms, mines stay ahead of risks and can act before problems occur. This tech is growing fast—from \$1.3 billion market value in 2020 to an expected \$6.9 billion by 2025. In October, UK firm Optimal Slope secured £400,000 to take its breakthrough to mining regions worldwide—setting a new standard for safety, profitability, and sustainability.

With fewer rocks moved and smarter, data-driven designs, AI is reshaping how mines dig deep—and keep workers and communities safer.

Mining Talent, Building Futures. Stronger Together

Africa's Battery Metals Boom—Powering the Clean Energy Transition



A global surge in demand for battery minerals—copper, lithium, cobalt, and manganese—is putting Southern Africa front and centre in the clean energy revolution. Driven by expanding electric vehicle (EV) fleets and renewable energy grids, Africa's resource-rich nations now attract major investment and exploration for the minerals vital to tomorrow's technologies.

Africa controls half of the world's cobalt and manganese reserves, substantial supplies of lithium (Zimbabwe, Mozambique), copper (Zambia, DRC), and graphite, and dominance in platinum group metals (PGMs). As EV adoption accelerates, demand for lithium could grow fivefold, with cobalt use doubling by 2040. Battery minerals now rival—or surpass—coal in market value, reflecting a fundamental shift in global priorities toward green growth.

National efforts are underway to add in-country beneficiation, infrastructure, and manufacturing, aiming for self-sustaining value chains. South Africa's miners are refining strategies to focus on these essential minerals, capitalizing on innovation and government backing to create jobs and future-proof local industries.

For Africa, the battery metals boom brings the chance to lead the clean energy transition. If managed well, the region can supply the world—and power its own development.

Mining Talent, Building Futures. Stronger Together

Join Us at the Richards Bay Mining Expo – 20 November 2025



Bilnor Staffing Solutions is excited to announce that our team will be attending the Richards Bay Mining Expo on 20 November 2025 at the Z.C.B.F. Showgrounds. Hosted by Mining & Industrial Exhibitions, this key event brings together professionals from across the mining, industrial, and engineering sectors – offering a valuable opportunity to meet new contacts, exchange insights, and explore opportunities for collaboration.

Building New Connections

Our team will be on the ground to connect with industry leaders, contractors, and suppliers across the Richards Bay region – including operations such as Richards Bay Minerals, Richards Bay Coal Terminal, and Hillside Aluminium.

We're eager to meet new partners, discuss workforce challenges, and share how Bilnor's specialised recruitment and staffing solutions can help operations run safely, efficiently, and compliantly.

If you're attending the Expo, come meet the Bilnor team and find out how we can support your workforce needs – from contract staffing to long-term recruitment strategies.

 **Date: 20 November 2025**

 **Venue: Z.C.B.F. Showgrounds, Richards Bay**

 **Richards Bay Office: 082 536 6997**

We look forward to connecting with industry partners and clients in Richards Bay – driving progress together.

Mining Talent, Building Futures. Stronger Together

Time is Money: All You Should Know About Starting Your Investment Journey (Even With R100):

Are you ready to take control of your financial future, but unsure where to start? The latest insight from Bilnor Staffing Solutions proves you don't need thousands to begin your investment journey—even R100 can spark lasting wealth! In this article, discover how small, consistent steps, smart platform choices, and South Africa's Tax-Free Investment Account (TFSA) benefits empower anyone to turn time into money. It's never too early or too modest to invest—read on and unlock the practical steps that can transform your financial habits today.

[READ MORE](#)

[VIEW ALL ARTICLES](#)



Looking Ahead



Thank you for joining us for the October edition! This month's highlights—from Cape Town's advancements in marine diamond mining to the growing opportunities in robotics, engineering, and workforce innovation—underscore the power of connection and progress. As Bilnor Staffing Solutions prepares to attend the upcoming Richards Bay Mining Expo, we're focused on building new relationships, supporting local talent, and driving sustainable industry growth. Together, we're shaping pathways for opportunity, collaboration, and excellence. Until next time, stay inspired and keep moving toward new possibilities!

Mining Talent, Building Futures. Stronger Together