

PRESIDENTS XI JINPING AND FELIX TSHISEKEDI SIGN 4 MOUS DURING CHINA STATE VISIT



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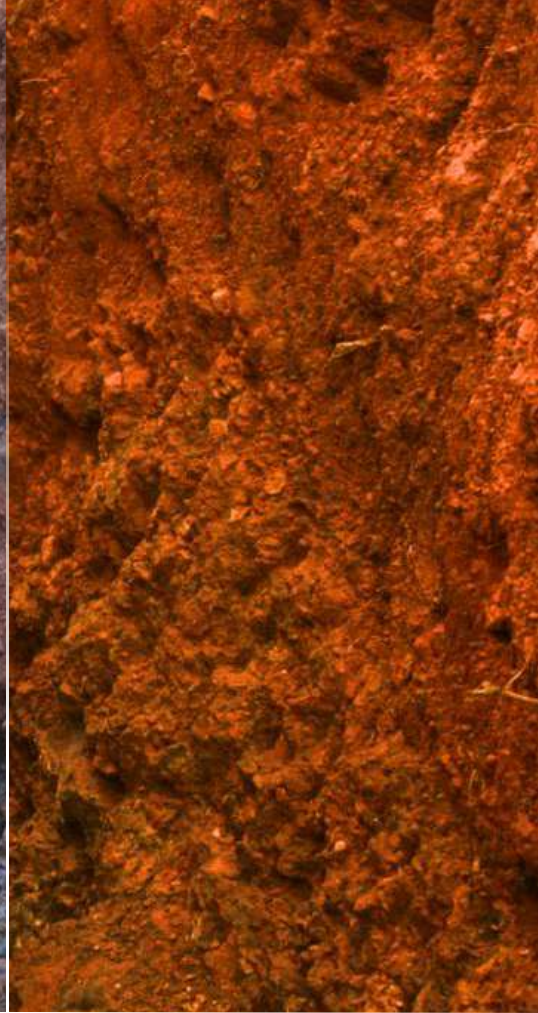
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ZAMBIA'S FQM TRIDENT LIMITED STRENGTHENS SECURITY IN KALUMBILA DISTRICT WITH HANDOVER OF POLICE FACILITIES

In its commitment to bolstering government efforts to ensure security in Kalumbila District and its surrounding communities in North-Western Province, First Quantum Minerals' FQM Trident Limited mine has officially handed over the Kalumbila Police Station and Kisasa Police Post to the Ministry of Home Affairs and Internal Security.

The Minister of Home Affairs and Internal Security, Hon Jack Mwiimbu, presided over the formal commissioning of the facility.

Minister Mwiimbu was joined by North-Western Province Minister Robert Lihefu, Inspector General Graphel Musamba of the Zambia Police Service, Dr. Godwin Beene (FQM Country Manager), Junior Keyser (FQM Trident Limited General Manager), local traditional leaders, and other esteemed government officials.

As part of their support for the operations of the Zambia Police Service in the district, the mining company has also constructed nine housing units. FQM recognizes that security is crucial in fostering investor confidence.



SIX KILLED IN ILLEGAL DIAMOND MINE COLLAPSE IN DRC

Six people died in a diamond mine collapse in the Democratic Republic of Congo over the weekend, according to officials on Sunday 7th May. The incident occurred on Friday 5th May in the Diboko area of central Kasai province.

The victims were "unauthorized diggers who entered an area where mining is forbidden", said Gaston Nkole, the province's vice-governor. Despite the ban on mining for safety reasons, informal miners have continued to come to the site at night in search of diamonds.

The vice-governor confirmed on Saturday 6th May night that the death toll had reached six and an investigation into the incident was underway. Mining accidents are common in the DRC, where thousands of poorly equipped informal miners search for diamonds, gold, and other precious minerals.



ANGOLA AND THE DRC TO INK BLOCK 14 AGREEMENT ON JULY 13

The Democratic Republic of the Congo's Hydrocarbons Minister Didier Budimbu and his Angolan counterpart Diamantino Pedro Azevedo have agreed to sign the Memorandum of Understanding (MoU) for the development of Block 14 on July 13 in Kinshasa.

The signing of the MoU will formalize the Block's ownership, with the DRC and Angola set to take a 30% share while global energy major – and operator of the block – Chevron will own a 40% stake, and follows a series of meetings held between the two countries.

The signing date was agreed upon during a bilateral meeting held last week which included representatives from Angola's National Oil Company (NOC) Sonangol and DRC NOC Sonahydroc, whereby the parties discussed contractual terms for the production sharing Contract for Block 14.

Located in the offshore waters straddling the border of the DRC and Angola, in the maritime zone of common interest, the signing of the Block follows several decades of negotiations and is set to kickstart a highly-anticipated exploration campaign.



DRC UNVEILS HIGH-END BUSES BUILT TO CONQUER CHALLENGING ROAD CONDITIONS

The DRC will now have its own high-end, robust, and equipped buses to tackle road traffic conditions.

This factory has a production capacity of 25 buses per month and meets the standards of the prestigious German brand, Mercedes Benz.

The establishment of Suprême Motors is just a step that paves the way for other similar projects. It confirms that improving the business climate in the DRC is a reality acknowledged by foreign investors.

PERENCO INAUGURATES NEW PRODUCTION AND TRAINING PLATFORM OFFSHORE DRC

Independent Anglo-French oil and gas company Perenco has inaugurated a new offshore platform, named Magisus in Muanda in the Democratic Republic of Congo.

The offshore facility, which was launched by H.E Didier Budimbu, Minister of Hydrocarbons, DRC and Wivine Moleka, Deputy Minister of Hydrocarbons, DRC will be leveraged by Perenco to increase oil production by enabling the independent to connect new wells drilled in 2023 and 2024.

The facility's gas compression capabilities will help Perenco to avoid gas flaring in oil and gas production and reduce carbon footprint by avoiding 120,000 tons of greenhouse gas emissions per year.

The facility also serves as Perenco's skills and workforce training barge. Having trained over 417 employees and subcontractors in the DRC, the training centre will drive the company's local content agenda in the central African country through the provision of tailor-made practical skills in the logistics and hydrocarbons sector.

Perenco is currently the only company producing hydrocarbons in the DRC with a production capacity of 25,000 barrels of oil per day.



DIAMOND AUCTIONS DOWN 32% YEAR-ON-YEAR

Diamond auctions record a provisional figure of US\$450 million for round 5 of its diamond auctions in 2023. This was announced on June 22 by diamond producer De Beers.

A drop of about 32% year-on-year and 6% compared to the previous cycle, the second underperformance of the year after the decrease in revenue recorded during cycle 4.

If the situation persists, it could significantly reduce the mining revenues of several African countries, including Botswana, where diamond mining occupies a central place in the economy.

The other African countries concerned are South Africa, Angola, Namibia and the DRC.

With global macroeconomic challenges continuing to impact end-customer sentiment, the De Beers CEO explained, the diamond industry remains cautious as summer approaches.

As a result, he added, demand for De Beers rough diamonds in the fifth sales cycle of the year was slightly lower than in the fourth cycle.



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TOTALENERGIES MAY RESUME GAS PROJECT IN MOZAMBIQUE

The conditions have been met to allow TotalEnergies to resume its natural gas exploration project in the country, suspended since 2021, following a major jihadist attack, Mozambican President Filipe Nyusi assured last week.

At the end of March 2021, a coordinated attack on the coastal city of Palma forced the French group to suspend a €16.5 billion natural gas development project. Facilities still under construction on the Afungi peninsula were evacuated.

"Cooperation and coordination with Total is very good. The working environment is conducive for the company to resume operations at any time," said Filipe Nyusi, who was speaking at a conference on mining and energy in the Mozambican capital, Maputo.

precautions

TotalEnergies has been cautious for several months about the possibility of restarting its operations in Mozambique.

The CEO of the French company, Patrick Pouyanné, visited the country in February and held talks with the Mozambican president.

Last month, French giant Saipem's Italian subcontractor announced preparations to resume work, saying it had been told "safety has improved."



ZAMBIA'S ENERGY REGULATION BOARD ISSUES WARNING AGAINST PETROLEUM PRODUCT HOARDING

The Energy Regulation Board (ERB) in Zambia has issued a stern warning to Oil Marketing Companies (OMCs) and Petroleum Retail Dealers regarding the deliberate withholding of petroleum product sales, particularly in the days leading up to the monthly pricing review announcement.

The caution comes in response to reports of alleged stock shortages at certain filling stations prior to the ERB's price review announcement. Namukolo Kasumpa, the ERB Public Relations Manager, emphasized that this practice constitutes hoarding, which is strictly prohibited under the conditions of the Licence to Retail Petroleum Products.

Kasumpa expressed concerns that hoarding petroleum products creates a false perception of fuel shortages nationwide, leading to unnecessary market anxiety. As a result, she has cautioned OMCs and Petroleum Retail Dealers against engaging in any behavior that can be deemed as hoarding petroleum products.

Furthermore, Kasumpa has urged the public to promptly report any suspected instances of petroleum product hoarding to the ERB. Individuals can make reports by calling the Toll-Free Line 8484, which has been designated for this purpose.



KINSHASA ACCOUNTS FOR NEARLY 9.99% OF ARTISANAL GOLD PRODUCTION IN 2022

The city of Kinshasa, capital of the Democratic Republic of Congo produced 9.99% of the total production of artisanal gold during the year 2022, informs the official statistics of the services of the Ministry of Mines.

This proportion of production represents 4.22 kilograms of artisanal gold produced in the city of Kinshasa. A production that raised revenues of around USD 244,431.0.

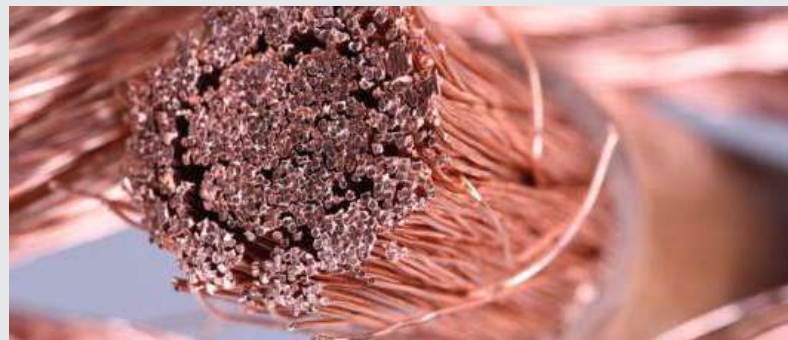
For the whole of the 2022 financial year, the artisanal sector of the Democratic Republic of Congo produced 42.25 Kg of gold for an estimated value of 1,592,809.58 million US dollars.

According to the same source, the province of South Kivu is at the head of the provinces having carried out the production of artisanal gold with 18.56 kilograms of gold or 43.93% of the total production.

The province of Tshopo is in second place with a production estimated at 12.31 kilograms of gold or 29.14%.

Tanganyika ranks fourth after Kinshasa with a production of 3.19 kilograms of gold representing 7.55% of total production.

Unlike previous years, in 2022 gold production in the Democratic Republic of Congo was dominated by the industrial sector with more than 28,264.01 kilograms of gold.



ZAMBIA'S PARTNERSHIP WITH FQM BRINGS STABILITY TO THE NATION

In a significant move, Zambia has opted for revenue-sharing in the jointly-owned Kansanshi Mine with global mining company First Quantum Minerals (FQM). This agreement is expected to bring much-needed stability to the Southern African nation's finances while also ending a long-standing dispute.

Zambia's holding company, ZCCM-IH, which holds stakes in privately-owned large-scale copper mines, has announced that it will convert its dividend rights in Kansanshi Mine to a 3.1% revenue royalty. First Quantum Minerals (FQM) is the majority owner of Kansanshi Mine, and this move is expected to end a years-long dispute with the Vancouver-based mining giant.

Under the new payment system, royalties will be paid on a quarterly basis for the next 23 years. This long-term arrangement provides a steady stream of revenue for Zambia, helping to shore up its liquidity and providing much-needed financial stability.

The Kansanshi Mine is a crucial source of copper for Zambia, contributing significantly to the country's economy. However, the mine has been plagued by financial disputes between the government and FQM in recent years, resulting in considerable uncertainty and instability for the country.

By opting for a revenue-sharing agreement, Zambia can now rely on a consistent source of income from the Kansanshi Mine.



ZCCM HOLDINGS APPOINTS NEW DIRECTOR FOLLOWING RESIGNATION

ZCCM Investments Holdings Plc has announced the resignation of Ms Dolika E S Banda as Non-Executive Director and Board Chairperson, effective May 5th, 2023. The resignation is in compliance with the Securities Act No. 41 of 2016 and the Listing Rules of the Lusaka Securities Exchange ("LuSE").

The resignation of Dolika Banda, Chairperson of ZCCM-IH, caused disappointment and concern among shareholders and stakeholders in Zambia's mining industry. Banda's departure has raised questions about the future of ZCCM-IH and the country's mining interests.

"As shareholders of ZCCM-IH, we have witnessed Banda's exceptional professionalism and competence, as well as her unwavering commitment to lead the company forward and defend the interests of the mining sector. Her resignation has come at a critical time when crucial issues such as KCM and Mopani are still underway," said Thierry Charles, spokesperson for minority shareholders of ZCCM-IH.

Rumours circulating in the press and social media suggest that excessive political interference may have played a role in Banda's decision to resign. The news has been met with disappointment, and many are concerned that her departure may signal a significant setback for Zambia's mining

sector.

"We understand her frustration and thank her for all she has done for ZCCM-IH over the past year," stressed Mr. Thierry. "As minority shareholders, we will remain vigilant in safeguarding ZCCM-IH's interests and ensuring that the company continues to operate in the best interest of all stakeholders."

Banda's resignation has once again highlighted the challenges facing Zambia's mining industry, which has been struggling to attract investment amid a challenging economic climate. It remains to be seen who will replace her and how the company will navigate the complex issues it faces in the coming months.

Ms Banda had served as Non-Executive Director and Board Chairperson of ZCCM-IH since December 13, 2021. The Board expressed gratitude to Ms Dolika Banda for her significant contribution to the Company during her tenure of office and wished her success in her future endeavors.

The Board also announced the appointment of Mr Kakenenwa Muyangwa as Non-Executive Director and Board Chairperson with effect from May 5th, 2023. Mr Muyangwa is an experienced mining and financial expert with over 35 years of experience gained from working in the international mining, metals, and concentrates

trading, finance, and accounting industries.

Mr Muyangwa is a skilled negotiator in complex business transactions, business planning and strategy, copper mining and trading, managerial finance, and accounting. He is a strong business development professional with a Bachelor's degree in Mining Engineering from Imperial College of Science and Technology, London.

He is also a qualified Chartered Certified Accountant, who has spent many years in Audit and Business Advisory services with PricewaterhouseCoopers in Zambia and London.

Mr Muyangwa is currently engaged as a long-term consultant in the corporate turnaround of distressed companies and projects across Africa for the African Development Bank.

Since November 2017, he has represented ZCCM-IH on the board of Mopani Copper Mines Plc, Kariba Minerals Limited and CNMC Luanshya Copper Mines Plc. In November 2021, he was appointed to the board of First National Bank Zambia Limited as a Non-Executive Director.

The Board expressed confidence that Mr Muyangwa's vast experience will make a valuable contribution to the success of the Company.

ZCCM Investments Holdings is a premier diversified mining investment company with a focus on mining, energy, and other natural resources sectors of the Zambian economy.



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ACCELOVANT DEPLOYS FIBER-OPTIC TEMPERATURE SENSORS AT KANSANSHI MINING PLC

Accelovant, a developer of fiber-optic sensing solutions for various markets, has announced the deployment of its fiber-optic temperature sensors at Kansanshi Mining PLC, a company owned by First Quantum and located in Zambia.

Kansanshi is one of the world's largest and most productive copper mining and smelting sites. The deployment was made to replace older technology devices that were prone to failure in the wet electrostatic precipitators (ESPs) used to scrub dangerous toxins and pollutants from gas streams generated in the copper smelting process.

According to Michael Goldstein, CEO for Accelovant, the company specializes in high-temperature fiber-optic sensors that are immune to electrical noise and interference.

Their patented Kristonium material has created a new class of fiber-optic temperature sensors that offer long service life at temperatures exceeding 450 degrees Celsius. These sensors replaced electrical devices that could not survive the harsh high voltage and electrical noise environment in systems like the ESPs at the Kansanshi mines.

To operate at peak efficiency, the Kansanshi plant must maintain precise temperature

levels between 325 and 340 degrees Celsius through the use of in-stream sensors. However, the wet ESPs' harsh operating environment, including high voltage, electrical noise, and high temperature, presents a challenge.

Pieter Oosthuizen, control instrumentation superintendent at the Kansanshi plant, noted that the ESP units operate with a typical 45 kilovolt charge. Due to the tremendous electromagnetic noise and induced currents in anything conductive or that utilizes electronics, many different sensor types were tried, but they all failed until the Accelovant sensors were installed.

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PRESIDENTS XI JINPING AND FÉLIX TSHISEKEDI SIGN 4 MOUS DURING CHINA STATE VISIT

THE PRESIDENT OF THE DEMOCRATIC REPUBLIC OF CONGO, FÉLIX-ANTOINE TSHISEKEDI, WAS WELCOMED WITH ALL THE HONORS, ON FRIDAY, MAY 27, 2023, ON THE ESPLANADE OF THE GREAT PALACE OF THE PEOPLE OF BEIJING BY HIS HOST, PRESIDENT XI JINPING OF THE REPUBLIC POPULAR IN CHINA.

National anthems, 21 cannon shots, fanfare, military parade and children's greetings, everything was put in place to make this sumptuous welcome worthy of the exceptional quality of bilateral relations between Congo and China.

The two Presidents had profound words to describe the state of good bilateral relations China-DRC.

In his introductory speech to the bilateral working session, President Xi Jinping underlined his desire to consolidate pragmatic cooperation with the DRC.

He congratulated President Tshisekedi for his national and regional leadership in consolidating peace, development and stability in Africa and in the DRC in particular.

China will release emergency aid of 1 million dollars to help the affected populations of Kalehe, victims of the torrential rains.

Finally, President Xi Jinping expressed his desire to develop bilateral cooperation.

"I believe that we should create more opportunities between our countries and develop bilateral relations into a comprehensive strategic partnership," said the Chinese President.

For his part, President Félix Tshisekedi thanked his host for the warm welcome of the people and the Chinese authorities offered to him, his wife and the Congolese delegation.

President Félix Tshisekedi hailed the great achievements made by China over the past ten years, particularly under the leadership of President Xi Jinping.

The Congolese Head of State wished that the two countries take a new step in the partnership which unites them for the benefit of their respective peoples while welcoming the values common to both countries.

"I appreciate China's history and its struggle to defend its sovereignty as well as the Congo, and China's tradition of non-interference is also a shared value," President Tshisekedi said.

Signing of 4 bilateral cooperation memoranda

After the majestic welcome and the in-depth working session, this historic meeting placed under the sign of pragmatism was followed by a signing ceremony of several memorandums of

understanding established in different fields.

Here is the list of memorandums of understanding signed this Friday, May 26, 2023 during a ceremony chaired by the two Heads of State, Xi Jinping and Félix Tshisekedi:

- 1/ Memorandum of understanding on investment and the ecological exploitation of natural resources;
- 2/ Memorandum of Understanding on Information Exchange and Cooperation;
- 3/ Memorandum of understanding on cooperation in the development of the digital economy;

4/ Memorandum of understanding on promoting the development of green growth;

5/ Cooperation agreement between the two national television channels, CGTN and RTNC.

The Congolese Head of State and his delegation also took part in the dinner offered in their honor by the Chinese President in the evening.

This Saturday, May 27, 2023, the Head of State, Félix-Antoine Tshisekedi, visited Shanghai for economic meetings in this second Chinese city.



IVANHOE MINES ANNOUNCES KAMOA-KAKULA ACHIEVED RECORD COPPER PRODUCTION OF 35,856 TONNES IN MAY

Monthly copper production equivalent to annual production of approximately 430,000 tonnes

New daily ore milling record achieved at Kamoakakula, equivalent to an annual rate of approximately 9.8 million tonnes

Phase 1 and 2 concentrators continue to operate at above-design copper recoveries

Phase 3 expansion and smelter advancing on schedule for first production in Q4 2024

Ivanhoe Mines Co-Chairs Robert Friedland and Yufeng "Miles" Sun announced today that the Kamoakakula Copper Complex in the Democratic Republic of Congo achieved a monthly production record of 35,856 tonnes of copper in concentrate during May.

Copper production during April was 34,826 tonnes of copper in concentrate, bringing quarter-to-date production to 70,682 tonnes.

A new daily milling record of 29,366 tonnes of ore was also achieved by the Phase 1 and 2 concentrators. This is equivalent to an annual milling rate of 9.8 million tonnes per annum (after accounting for availability). This record far exceeds the increased milling capacity of 9.2 million tonnes per annum following the debottlenecking program of the Phase 1 and 2 concentrators, which was completed in February 2023.

Average copper recoveries for the month were 87%, above the Phase 1 and 2 concentrator nameplate recovery rates.

Construction activities for the Phase 3 expansion, including the largest copper smelter in Africa, with a capacity of 500,000 tonnes of 99%+ pure copper anodes, are advancing on schedule for first production in the fourth quarter of 2024.

Concrete foundations for the two ball mills of the Phase 3 concentrator on the left, with foundations for the flotation cells on the right. The first batch of ball mill foundation steel is expected at site later this month. The first ball mill, supplied by CITIC Heavy Industries of Luoyang, China, also is expected to be delivered later this month.

Concrete foundations for the Phase 3 concentrator tailings thickener. Over 60% of concrete has been poured to date and approximately 6,000 tonnes of the required 7,100 tonnes of structural steel have been fabricated, 50% of which has been shipped to site.

Steel erection of Kamoakakula's direct-to-blister flash furnace and the electric slag cleaning furnace. Overall smelter construction is now approximately 50% complete. Fabrication of the anode furnaces, ball mill and SAG mill, also manufactured by CITIC Heavy Industries, is complete with shipping expected imminently.

Construction of new on-site accommodation. There are approximately 14,000 employees and contractors at site; approximately 97% of Kamoakakula's employees are Congolese.



IVANHOÉ WILL PRODUCE ITS FIRST COPPER CONCENTRATE AT THE KIPUSHI MINE IN THE THIRD QUARTER OF 2024

IN AN INTERVIEW WITH MINING REVIEW AFRICA, PRESIDENT MARNA CLOETE OF IVANHOÉ MINES SAYS THAT IVANHOÉ'S KIPUSHI MINE REDEVELOPMENT PROJECT IN THE DRC IS EXPECTED TO PRODUCE ITS FIRST COPPER CONCENTRATE IN THE THIRD QUARTER OF NEXT YEAR.

According to Ivanhoe's president Marna Cloete, "construction of the mill is now also well advanced."

Indeed, the Kipushi project is based on the high-grade zinc-copper mine which is located in the central African copper belt and which produces approximately 60 million tonnes for a zinc content of 11%, and 7 % in copper between 1924 and 1993.

In addition to copper and zinc production, the

mine produced 12,673 tons of lead and about 278 tons of germanium between 1956 and 1978.

The mine has been run on the basis of a care and maintenance contract since 1993.

It should be noted that the Kipushi mine project is located in the DRC in the province of Haut-Katanga and to the southeast of the Kamao discovery. It is located near the town of Kipushi and about 30 kilometers south-west of Lubumbashi, the provincial capital.

Ivanhoe acquired a 68% stake in the capital of the Kipushi project in November 2011, the remaining 32% is held by Gécamines, the public mining company of the Democratic Republic of Congo (DRC).

About Ivanhoe Mines

Ivanhoe Mines is a Canadian mining company focused on advancing its three principal projects in Southern Africa; the expansion of the Kamao-Kakula Copper Complex in the Democratic Republic of Congo, the construction of the tier-one Platreef palladium-nickel-platinum-rhodium-copper-gold project in South Africa; and the restart of the historic ultra-high-grade Kipushi zinc-copper-germanium-silver mine, also in the Democratic Republic of Congo.

Ivanhoe Mines is also exploring for new copper discoveries across its circa 2,400km² of 90-100% owned exploration licences in the Western Foreland, which are located adjacent to the Kamao-Kakula Mining Complex in the Democratic Republic of Congo.

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KIBALI GOLD MINES SETS THE STANDARD FOR LAW-ABIDING SUBCONTRACTING

THE ISSUE OF SUBCONTRACTING WAS AT THE HEART OF A SPECIAL SESSION DURING THE OPENING CEREMONY OF THE 18TH EDITION OF DRC MINING WEEK, ON JUNE 14, 2023, IN LUBUMBASHI.

Keynote speaker for this session, Louis Vatum, President of the Chamber of Mines of the Federation of Companies of Congo, cited Kibali Gold Mines among the best students who apply subcontracting in the Democratic Republic of Congo (DRC).

Indeed, this mining company has been able to create wealth by promoting the emergence of a real middle class in the DRC. This is the case of IOB, MD Services and so many others.

According to a report by Kibali, in the first quarter of 2022, the number of expatriate contractors was estimated at 144 against 4,053 national contractors.

Figures that sufficiently show compliance with the law on subcontracting at this mining giant.

Also, in 2021, the Kibali Gold Mines company invested USD 40.6 million in the second half of the year with 380 local contractors and subcontractors in the Haut-Uélé province, bringing its total to USD 2.1 billion. investments in 12 years of operation.

Its policy is to use local labour, in accordance with the recommendations of the Regulatory Authority for Subcontracting in the Private Sector (ARSP).

At Kibali, five strategies are applied in the outsourcing sector namely the need to identify outsourcing companies; the preparation of relays by a good transfer of skills; quality, a requirement for conquering the market; monitoring of subcontractors and access to financing for subcontracting companies.

All of these strategies can serve as models for

other mining companies operating in the DRC.

Besides Kibali as a good student, Louis Vatum also listed the example of TFM, Kamoa, KCC.

Apart from these model companies, Louis Vatum deplored the fact that several of the main companies do not comply with 90% of the law on subcontracting.

Positioning himself as the spokesperson for the subcontractors, the President of the Chamber of Mines of the DRC did not fail to mention the wishes of Congolese subcontractors.

According to him, the latter want transparency in the publication of contracts awarding contracts. They request a quotation from the market granted to the Congolese company.

This, in compliance with the law on subcontracting. Subcontractors would also like to have long-term contracts rather than spontaneous orders.



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DR SIXTUS MULENGA: DREAMING OF THE FUTURE

This mining stalwart's long journey to discover new minerals is an inspiration to every Zambian.

How many people would leave a prestigious job, their home, their family, and the lifestyle that they'd worked incredibly hard to build for a tent in rural Zambia, in pursuit of a dream? That's what Dr Sixtus Mulenga did.

His dream was to make a new mineral discovery in an unexplored part of Zambia.

Fourteen years later, having parted with most of his hard-earned savings, he's still living in a tent in rural Luapula. But, having discovered substantial manganese deposits, Dr Mulenga is now the owner of Zambia's first wholly and privately-owned large-scale, indigenous mining company: Musamu Resources Limited. This is his story.

Dr Mulenga has been a trailblazer since the outset of his mining career. He was among the very first Zambians to qualify as a geologist back in the 1970s, when he attended North London Polytechnic, now University of North London. Next came a Master's and then a PhD at Imperial College London's Royal School of Mines. He returned to Zambia and became the first Zambian mining geologist to be employed at Bancroft – today's Konkola Copper Mine (KCM) – which was then operated by Anglo American.

Dr Mulenga rose to Chief Geologist at the mine, which had been renamed as KCM, under the ownership of Zambia Consolidated Copper Mines Limited (ZCCM Ltd). "I had to work hard to move up the ladder. It took focus, dedication and consistent performance," he said. In time, he became Consulting Hydro Geologist for the ZCCM Ltd group. "So, for five years – from 1995 until 2000 – I was the 'top guy'." During this same period, he also served as a member of the ZCCM Ltd Technical Team on the privatisation of ZCCM Ltd.

After privatisation – and with Anglo American running KCM – he spent a few years as Vice President of the company's Safety, Health, Environment and Quality (SHEQ) portfolio. "That was one of the highlights of my career," says Dr Mulenga. "I learned a lot about sustainable economic development during that time, which really strengthened my zeal for what was a relatively young concept in the mining world."

It was during this chapter of his career that Dr Mulenga began providing mining consultancy and technical advisory services to the World Bank. "The experience exposed me to the global mining industry, and I started to see sustainable development in action. That's when I knew I needed to go out into the world and put these concepts into practice for myself one day."

"I STARTED TO SEE SUSTAINABLE DEVELOPMENT IN ACTION. THAT'S WHEN I KNEW I NEEDED TO GO OUT INTO THE WORLD AND PUT THESE CONCEPTS INTO PRACTICE FOR MYSELF ONE DAY."

The next frontier

It was January 2009 when Dr Mulenga began the long and very risky process of starting his own self-funded mineral exploration project. He pored over geological maps and scoured geophysical data for clues, focusing on parts of the country which showed high potential for mineralisation but had not been explored. He settled on an area in the north of the country, in Luapula Province – home to several large geological basins, where part of the Central African Mineral Belt rolls over Zambia's borders – and decided on a 1000-square-kilometre swathe of land within what's called the Lufilian Arc, in Luapula's Chipili District. "I had a sense this spot was rich in minerals, but I went with an open mind. I wasn't looking for manganese in particular – I was looking for everything."

Dr Mulenga took the coordinates of the area, applied for a mining exploration licence, left his home in Kalulushi, and drove north.

"I WENT WITH AN OPEN MIND. I WASN'T LOOKING FOR MANGANESE IN PARTICULAR – I WAS LOOKING FOR EVERYTHING."

"I come from Northern Province, but we speak broadly the same language as people in Luapula Province. I went to the Chief and introduced myself. I told her: 'I've got this licence that covers your area, and I'd like to set up a camp.' I needed three things: water, a road and, if possible, a cellular network. And I needed them to be as close to the centre of my licence as possible."

This was, in some sense, a 'make or break' moment. Buy-in from traditional leaders is key for an exploration plan to progress from vision to reality.

"'Welcome, my son,' she said to me. 'I'm so happy that you've come here because if you find minerals, my area will be developed.' She gave me her guide and asked him to take me to a nearby village, Chulu Luongu." Together with a small team, Dr Mulenga began building a camp about two kilometres from that same village – and that's where he's been living ever since.

"That first night in the camp was special. I slept under a big tree. I felt I was free with nature."

Solving the puzzle

Dr Mulenga had one exploration geologist working with him. "After that, I started building a team, and I paid them from my own pocket. I had about seven technicians and I recruited around 100 of the local villagers. There was a lot of physical work to do: cutting clearings in the bush to collect soil samples, for example."

Dr Sixtus Mulenga: Dreaming of the future 3

Clearing the land with the local community in

Chipili District, Luapula Province, Zambia

For the next three years, Dr Mulenga busily went about soil sampling, mapping, and surveying the geophysics of the area, using whatever ground level and airborne data he could find. "Mineral exploration is like a puzzle," he said. "You have an idea in your mind and when you're doing your mapping, looking at the geological structures, and doing your sampling and your chemistry, you're looking for a pattern. We call that an 'anomaly'." Soon enough, he had found one.

One day in July 2012, as he approached his sixtieth birthday, Dr Mulenga experienced one of the most memorable moments in his long and illustrious mining career. Suddenly, at the bottom of a trench – about two metres deep – he saw it: manganese. What does manganese ore look like? "Black," he smiled.

"That was a really, really exciting day!" said Dr Mulenga. "The next big moment came a couple of years later when I drilled the first hole," he explained, eyes bright. "It was just after midnight. At that time, we were drilling into the night because, once you start, you don't want to stop. I was too eager! I had to see what was there... And out of that hole came manganese."

He phoned his wife in the small hours and told her what he'd found. "Oh, thank God!" she replied, more than three years after her husband had embarked on what was ultimately an extremely costly endeavour, with no guarantee of finding any minerals at all.

"I couldn't sleep, he said. "My brain was so happy! For 24 hours I was wide awake."

Walking your talk

What came next was "drilling, drilling, and more drilling," explained Dr Mulenga, as the team explored the size and shape of the deposit. By 2017, Dr Mulenga had hired an environmental consultant to do an environmental impact assessment. Again, an abundance of patience was required, a trait without which Dr Mulenga could never have achieved what he has.

"The environmental impact assessment took three years because it was a greenfield project, so I repeated the assessment for each season. That was another very interesting period because it gave me direct communication with the community. It gave me an opportunity to explain what the project was about, what impact it will have on them, and how it will create employment."

From day one, he'd encouraged the villagers working for him to look to the future. He presented the two possible outcomes of his exploration project: "Either I am successful and I find minerals, or I fail. I told them they should plan for the latter. If I don't find anything, for me, it's just my ego and the money I've spent. But they'd have nothing to show for the time they'd spent working for me." Every one of his long-standing employees took his advice: his technicians built new houses in their



DR SIXTUS MULENGA: DREAMING OF THE FUTURE continued...

hometowns, and around ten of the villagers who'd stayed on built modern, metal-roofed houses in Chulu Luongo village.

From sustainable foundations to growth

With the environmental impact studies approved, in March 2020 Dr Mulenga applied for a mining licence. "The President of Zambia, Mr Hakainde Hichilema, officially opened the mine on 3 November 2022," he said, smiling widely. "And, all these years, I've been funding it – and I'm still funding it. But now I require investment partners to take this project to the next level."

"ALL THESE YEARS, I'VE BEEN FUNDING THE PROJECT – AND I'M STILL FUNDING IT. BUT NOW I REQUIRE INVESTMENT PARTNERS TO TAKE THIS PROJECT TO THE NEXT LEVEL."

The resource in Chipili District has approximately 40 million tonnes of manganese, which will be further quantified during the resource definition phase. "In the location where I've started the mine, there is a certified reserve of one million tonnes," said Dr Mulenga. "The whole idea of building this project is to have a fully-integrated mining business, where we will do mining and value addition. We plan to build our own processing plant and beneficiate the manganese to the stage where we can feed it into the electric car battery-manufacturing value chain."

Manganese is a critical metal used in two of the world's most prominent types of rechargeable battery and, as the world moves more decisively towards a green energy transition, demand for

manganese is rising each year. But Dr Mulenga has his sights set far higher than battery metals alone. Manganese is also an essential alloy that helps to convert iron into steel. The potential for Zambia to tap into opportunities for value addition are far-reaching, and extend into several sectors. But above all, perhaps, Dr Mulenga wants to lay the groundwork for economic diversification around his new mine. One source of inspiration has been Kalumbila – a mining town that was designed to outlive the mine for which it was established. Dr Mulenga's mind is brimming with ideas for creating an ecosystem in which mining operations catalyse development in sectors like agro-processing and manufacturing that can sustain themselves beyond the life of mine.

"Looking to the future is an integral part of what I'm doing, and it's what I believe in. I've always felt that mining can do more."

Dr Mulenga dreams big. After all, he founded Zambia's very first wholly and privately-owned large-scale, indigenous mining company. The name he chose is 'Musamu Resources'.

"'Musamu' means 'medicine' and it also means 'tree'," explained Dr Mulenga. "But from a philosophical point of view, a musamu signifies growth and development, which speaks to the Green Revolution we're embarking on. You'll notice there are two trees in my logo: there's a bigger tree and a smaller tree. The bigger tree signifies the world. And me? I'm a small tree that's part of a bigger forest – the forest of global development."

Look out for Part 2 to find out how Dr Mulenga

plans to develop a sustainable and diverse economy around Musamu Resource's manganese mine and processing plant, designed to outlast the operations that brought it to life.



TANTALEX LITHIUM ON TRACK TO BECOME DRC'S FIRST LITHIUM PRODUCER

While the DRC has some of the best lithium resources in the world, it has, as yet, no formal large-scale lithium production.

This situation is likely to change within the next two years as Canadian junior Tantalex Lithium Resources is now well advanced with its plans to produce lithium – and some tin and tantalum – from its primary asset, the Manono tailings dumps in the DRC.

Tantalex's CEO, ERIC ALLARD, recently updated Contributing Editor ARTHUR TASSELL on the progress being made on the project, which could be commissioned by early 2025.

The Manono dumps, located close to the town of Manono in the DRC's Tanganyika Province, are a legacy of more than 60 years of mining at the Manono site.

The Manono-Kitotolo mine operated from 2019 through to the mid-1980s, producing over this period an estimated 140 000 to 180 000 tonnes of tin and 4 500 tonnes of coltan concentrate.

The lithium in the ore mined was not recovered as it was not considered a valuable product over these years.

The resource is contained within 11 tailings dumps spanning a length of 12 km in a south-west to north-east direction.

The lithium mineralization is primarily hosted in spodumene while the tin mineralization is hosted in cassiterite and the tantalum in tantalite.

The tailings were deposited on ground adjacent to the various open pits. The coarse tailings were deposited into raised heaps that reach up to 70 m above surface in some dumps while the fine tailings material was deposited into flat terraces adjacent to the coarse tailings dumps.

Tantalex Lithium, which was founded in 2013 and is listed on the Canadian Securities Exchange, the Frankfurt Stock Exchange and the OTCQB Venture Market in the US, currently holds a 52% stake in the joint venture – known as MINOCOM Mining – which holds the Manono tailings exploitation licence (PER13698).

Its partners are state-owned mining company COMINIÈRE SAS and Congolese company MINOR SARL, which respectively hold 30% and 18% of the project.

Allard, a French-Canadian geological engineer, has

been President and CEO of Tantalex Lithium since 2019, after previously working as a consultant to the company.

Partially brought up in Africa, he has wide experience of working not only in the DRC but also the Republic of Congo and Ethiopia.

"The Manono Lithium Tailings project is highly attractive," he says. "The distinguishing feature is speed to market compared to its peers since the material we will exploit has already been mined and the process route is likely to be very straightforward, incorporating standard and well understood technologies and equipment.

"We are actively working on a PEA to be followed by further studies and are aiming for production in early 2025, which will very likely make us the DRC's first formal lithium producer."

He adds that he does not foresee any problems in financing the project. "The lithium price has come off in recent months but is still in record territory.

"Moreover, the outlook for the metal remains very positive over the medium-to longer-term. It has been estimated that to meet the needs of the battery storage and EV industry, the world is going to need roughly five new mines a year over the next few years.

"This puts us in a great position and our project is already attracting attention from potential investors and offtakers even though our PEA is not yet out."

A SIZABLE RESOURCE

A big step forward for the project was the release in December last year of a maiden MRE prepared by South Africa's MSA Group.

According to the MRE, the project has 5.46 Mt at 0.72% Li₂O in the measured and indicated categories and 6.63 Mt in the inferred category at a grade of 0.49% Li₂O.

The MRE is based on geochemical analyses of samples obtained by air-core drilling undertaken by Tantalex Lithium from September 2021 to July 2022.

In all, 368 holes were drilled for a total of 11 922 m of drilling, the majority of them being collared in what is known as the K dump (which has a 700 x 630 m footprint and a maximum depth of 24 m), which contains stacked tailings.

"The resource we have is very sizeable for a tailings project and definitely has scope to grow as it is

based on just five of the 11 dumps we have," Allard says.

The fact that a sizeable part of the resource is in the inferred category is a result of the geometry of the dumps, in particular the angle of repose of the stacked tailings.

"Drilling on the slopes was not possible so we have had to class much of the material in the slopes as inferred," he explains. "We are looking at ways and means of getting this material into the indicated or measured categories."

Tantalex is currently well advanced with the PEA. This is being undertaken by NovoPro of Montreal, Canada and the results are expected shortly.

It will be followed almost immediately by a PFS, which is targeted for completion by late this year. Already some of the work streams that will feed into the PFS, such as the ESIA, road surveys, and further metallurgical work, are in progress.

"We are currently undertaking further metallurgical test work to finalise the conceptual flowsheet and to determine what additional technologies can be deployed to ensure that we extract maximum value from the tailings," says Allard.

POTENTIAL FOR FURTHER DEVELOPMENT

While the mining operation and the process plant will be straightforward, the logistics of the project are more challenging, given that Manono is located about 480 km north of Lubumbashi. "The distance by road is over 600 km and the road, at least in parts, is in poor condition," he notes.

"Having said this, we have brought in some trial loads using 22-tonne trucks, which will be sufficient to bring in all the modules of the proposed plant when we reach the construction stage.

"We're currently surveying the road, in close cooperation with the relevant authorities, to establish which sections will need rehabilitation and which bridges might need strengthening."

While the tailings project is currently Tantalex's flagship, a second project it has in the Manono area offers 'blue sky' for the longer term. This is its Pegmatite Exploration Corridor (PEC), a 25 km long, 5 km wide corridor which has been defined by an aeromagnetic survey. Two 4 x 2 km radiometric anomalies are located at the north-east and south-west ends of the corridor, indicating the presence

Tantalex Lithium On Track To Become DRC's First Lithium Producer continued...

of pegmatites below a shallow cover.

The PEC ground is located south-west and down strike of the Dathcom Mining JORC-compliant 400 Mt Roche Dure resource, grading 1.65% Li₂O, 715 ppm Sn and 34 ppm Ta, which is regarded as one of the biggest undeveloped hard-rock lithium resources in the world.

Australian company AVZ, which is a major shareholder in Dathcom Mining, has completed a DFS demonstrating Roche Dure's ability to produce 700 ktpa of high grade SC6 lithium.

"Depending on exploration success, we could end up transitioning from being a company primarily dependent on the recycling of tailings to a hard-rock lithium miner," says Allard.

"Certainly, we believe we're in the right neck of the woods for a discovery. Our exploration is in its early phases but we're now going to start ramping up our activity on the PEC.

We have a total of 20 000 km of RC and diamond drilling planned over the next few months at drill

targets identified from aeromagnetics and radiometric surveys."

Apart from the Manono tailings and the PEC, Tantalex has a third asset in the Manono area – the TiTan project held by United Cominiere SAS, which is a joint venture between Tantalex (with a 70 % interest) and Cominiere SAS (with 30 %). TiTan will exploit an alluvial coltan and cassiterite resource in an ancient riverbed located about 30 km south-west of the town of Manono and just south of the PEC. The coltan and cassiterite is found in gravel layers 1 to 2 m thick under approximately 5-7 m of overburden.

The mining method will be conventional strip mining in an upstream direction (north to south) across the old river channel to minimise the influence of water when the mineral-rich gravel is excavated.

The overburden of each strip will be backfilled into the previously mined-out strip, rehabilitating the mined-out areas as mining proceeds. The gravels will be treated in a 130 t/h modular plant which has

already been delivered to Manono and trial tested.

Earthworks have been completed with foundation work ongoing and 70% of the plant already arrived on site from Manono.

The facility – said to be the most modern alluvial plant in the DRC – will be commissioning within the next few weeks and should be in production by May this year.

Finally, and assessing Tantalex's prospects, Allard says the company has a very bright future "With TiTan close to commissioning and the Manono Tailings project at an advanced stage, we're well on our way to transitioning from being a junior explorer to a producer," he states.

"We believe that Tantalex has great combination of near-term producing assets and Greenfields exploration opportunities and is well positioned to become as an important player in the DRC's mining sector."

SOURCE: miningreview.com

BILL GATES-BACKED KOBOLD METALS IS THE SILICON VALLEY'S NEWEST UNICORN



Berkeley-based mining company KoBold Metals has hit the \$1 billion unicorn valuation, the Wall Street Journal reported.

Its most recent \$200 million round included money from Breakthrough Energy Ventures, a Bill Gates-backed venture capital firm that invests in clean energy companies on behalf of people including Jeff Bezos and Jack Ma.

Founded in 2018, KoBold uses machine learning to look for deposits of critical minerals like copper, nickel, lithium and cobalt.

"Our proprietary A.I. tools build on a concept we call

efficacy of information (EOI), enabl[ing] KoBold to determine which data to collect at each exploration step, to maximize uncertainty reduction," the company's website states.

"Our proprietary A.I. tools build on a concept we call efficacy of information (EOI), enabl[ing] KoBold to determine which data to collect at each exploration step, to maximize uncertainty reduction," the company's website states.

In December, KoBold committed \$159 million to develop the Mingomba copper-cobalt mine in Zambia, said to be the world's highest-grade

undeveloped large deposit of the orange metal.

The company's quest for battery metals begun three year ago in Canada, after it acquired rights to an area of about 1,000 square km (386 sq. miles) in northern Quebec, just south of Glencore's Raglan nickel mine.

It now has about a dozen exploration properties in Zambia, Quebec, Saskatchewan, Ontario, and Western Australia, which have resulted from joint ventures with BHP and with Bluejay Mining (LON: JAY) to explore for minerals in Greenland.

SOURCE: mining.com

IVANHOE ELECTRIC AND MA'ADEN FINALIZE EXPLORATION JV AND INVESTMENT

Ivanhoe Electric Executive Chairman, Robert Friedland and President and Chief Executive Officer, Taylor Melvin announced yesterday 15th May the signing of a Definitive Agreement with Saudi Arabian Mining Company Ma'aden ("Ma'aden") (Saudi Stock Exchange Tadawul: 1211), finalizing the terms of the transactions was announced on January 11, 2023.

Mr. Friedland commented: "We are excited to finalize our transaction terms with Ma'aden and begin the important work of minerals exploration in the Kingdom of Saudi Arabia.

Our joint venture will embark on the largest exploration program ever conducted using our highly powerful and disruptive Typhoon™ geophysical surveying system. With our Typhoon™ technology, our Computational Geosciences' machine-based learning software, and the combined talents of our highly experienced team of women and men, we believe that we have all the tools necessary to conduct a transformational exploration program for electric and precious metals in the Kingdom of Saudi Arabia. The potential for future discoveries is extraordinary."

Mr. Melvin commented: "Today's signing is a significant achievement for both companies. We look forward to growing our important partnership with Ma'aden as our Joint Venture deploys Typhoon™ and CGI software in Saudi Arabia to search for new discoveries over a vast area of highly prospective land. We are also grateful that Ma'aden has chosen to make a significant strategic investment in Ivanhoe Electric as we build a successful future together."

Ma'aden Chief Executive Officer Mr. Robert Wilt commented: "Our partnership with Ivanhoe Electric provides Ma'aden with a platform to pursue high impact growth opportunities, as we explore the tremendous mineral wealth potential of the Kingdom of Saudi Arabia.

This Joint Venture is going to enable us to roll out Ivanhoe Electric's cutting-edge Typhoon™ technology to accelerate our exploration program as we look to grow our production pipeline faster, and for less.

Together with partners like Ivanhoe Electric, we are confident in our ability to continue to drive the rapid growth of the sector in Saudi Arabia, ensure we are meeting our own long term growth targets and that we are taking the necessary steps to establish mining as the third pillar of the Saudi economy."

At closing, Ma'aden and Ivanhoe Electric will form a 50/50 exploration joint venture in Saudi Arabia (the "Joint Venture") to explore for copper, nickel, gold, silver and other electric metals.

Ivanhoe Electric is the operator of the Joint Venture during the exploration phase, and Ma'aden will become the operator for the development of any economically viable deposits found and specifically designated by the Joint Venture.

The Joint Venture will deploy the Typhoon™ geophysical surveying system in the largest exploration program ever conducted using the technology. Typhoon™ is the brand name for Ivanhoe Electric's proprietary electrical geophysical surveying transmitter, which can detect the presence of sulfide minerals containing copper, nickel, gold and silver (as well as water and oil).

The technology was developed by Ivanhoe Electric's former parent, I-Pulse Inc. of Toulouse, France (<https://www.ipulse-group.com/>), to unlock exploration in areas where potential deposits are hidden by cover, where target depths exceed the range of conventional geophysical surveying systems, or where the scale and topography of an exploration target area prevents efficient and cost-effective conventional surveying.

Typhoon™ consists of highly sophisticated capacitors and switches derived from I-Pulse technology. A subsidiary of Ivanhoe Electric holds the relevant patents, however I-Pulse has the right to use Typhoon™ in non-mineral exploration activities, including in geothermal and in the exploration for water and oil.

The I-Pulse suite of technologies which led the development of Typhoon™, compresses and releases stored electricity in billionths of a second. These extremely high-powered electric discharges underpin the Typhoon™ system and are also used by I-Pulse in other applications, including to shape and assemble metals in advanced manufacturing and to quickly and efficiently shatter rock containing minerals or gemstones.

Typhoon™ achieves its results through its unique specifications, which include a current output of up to 200 amps and a voltage output of up to 10,000 volts.

The transmitter uses switches and capacitance systems which generate a very pure and stable transmitted signal, resulting in an extremely high signal-to-noise ratio. Typhoon™ is also capable of transmitting both induced polarization and electromagnetic signals, meaning that the same transmitter can be used to search for a wide variety of mineral deposit types.

Ivanhoe Electric currently has three Typhoon™ units, one of which will be deployed to Saudi Arabia in the near-term for use by the Joint Venture. Three more Typhoon™ units will be purchased by the Joint Venture from I-Pulse. The first of these new generation Typhoon™ units is expected to be delivered in H1 2024.

At closing, Ivanhoe Electric expects to issue approximately 10.2 million common shares to Ma'aden, representing 9.9% of common shares outstanding, at a purchase price of \$12.38 per share for gross proceeds of US\$126.5 million. US\$66 million of proceeds will go to the Joint Venture to fund exploration activities, including the purchase of three new-generation Typhoon™ machines to be used by

the Joint Venture.

The remaining US\$60 million will be retained by Ivanhoe Electric to advance its portfolio of US mineral projects, and for working capital and general corporate purposes.

As part of the equity private placement, Ivanhoe Electric will grant Ma'aden a top-up right allowing Ma'aden to maintain its 9.9% ownership, and Ma'aden will agree to a five-year standstill limiting its shareholding to a maximum of 19.9%, subject to certain exceptions. Ma'aden will have the right to appoint a nominee to the Ivanhoe Electric board of directors.

The transactions are expected to close by the end of Q2 2023 subject to the approval of a supplemental listing application by the New York Stock Exchange and the corporate and regulatory formalities required in Saudi Arabia to incorporate the joint venture entity.

About Ma'aden

Ma'aden is the largest multi-commodity mining and metals company in the Middle East and among the fastest-growing mining companies in the world, with revenues of SAR 40.4 billion (US\$10.7 billion) in 2022. Ma'aden is developing the mining industry into the third pillar of the Saudi economy in line with Vision 2030, and aims to be a role model in responsible and sustainable operations.

Ma'aden operates 17 mines and sites, has 6,500+ direct employees and exports products to over 30 countries. Ma'aden is embarking on massive growth over the next 18 years across phosphate, aluminum, gold, copper and new minerals.

About Ivanhoe Electric

Ivanhoe Electric is an American technology and mineral exploration company that is re-inventing mining for the electrification of everything by combining advanced mineral exploration technologies, renewable energy storage solutions and electric metals projects predominantly located in the United States.

Ivanhoe Electric uses its Typhoon™ transmitter, an accurate and powerful geophysical survey system, together with advanced data analytics provided by its subsidiary, Computational Geosciences, to accelerate and de-risk the mineral exploration process as well as to potentially discover deposits of critical metals that may otherwise be undetectable by traditional exploration technologies.

Through its controlling interest in VRB Energy, Ivanhoe Electric also develops and manufactures advanced grid-scale vanadium redox battery storage systems.

Finally, through advancing its portfolio of electric metals projects located primarily in the United States, headlined by the Santa Cruz Copper Project in Arizona and the Tintic Copper-Gold Project in Utah, as well as projects in Montana, Nevada, Oregon and North Carolina, Ivanhoe Electric is also well positioned to support American supply chain independence by delivering the critical metals necessary for electrification of the economy.

ARSP STARTED COMPLIANCE CHECKS IN COMPANIES ON MAY 8, 2023 IN KINSHASA, DRC

THE REGULATORY AUTHORITY FOR SUBCONTRACTING IN THE PRIVATE SECTOR (ARSP) IS LAUNCHING, THIS MONDAY, MAY 8, 2023, THE COMPLIANCE CHECK IN THE MAIN COMPANIES AND SUBCONTRACTORS IN KINSHASA.

The announcement was made in an official statement signed by ARSP Director General, Miguel Kasha Katemb.

The number one of the ARSP indeed calls on the companies concerned to collaborate with the inspectors deployed for the success of the said mission.

Below is the full official press release:

In accordance with the control of subcontracting activities in the private sector, the ARSP brings to the attention of the main companies and those of subcontracting working in the city of Kinshasa and operating in all sectors of economic activity From Monday, May 08, 2023, the ARSP teams will pass for a control mission within their respective companies.

To this end, a notice of passage will be left to them 48 hours before the date of the inspection visit. These are, for example, the companies below concerned:

I. TELECOMMUNICATIONS SECTOR

1. Vodacom Congo RDC SA
2. Orange RDC SA
3. Airtel Congo DRC SA
4. Africell RDC SA
5. Standard Telecom 6.liquid Telecom RDC Sarl
7. Huawei Technologies RDC Sarl
8. Eastcastle Infrastructure
9. HT DRC Infraco(helios Towers)
10. Brandwild And Cloud Service (BCS) Sarl
11. Groupe Vivendi Africa RDC, GVA Sa
12. Societe Congolaise De La Fiber, Socof And Consort

II. BREWERIES AND LEMONADERIES SECTOR

1. Brasserie Du Congo
2. Brasserie Limonaderie Et maleterie Bralima Sa
3. Beverage Industry In Congo IBC And Consort

III. TRANSPORT SECTOR

1. Air France

2. Ethiopian Airlines
3. Kenya Airways
4. CAA Compagnie Africaine D'aviation
5. Gomair RDC
6. South Africa Airways (SAA)
7. Turkish Airlines
8. Air Cote D'ivoire
9. Royal Air Maroc
10. Brussels Airlines
11. Asky Airlines and Associates

IV. INFRASTRUCTURE, BUILDING AND PUBLIC WORKS SECTOR

1. Dp World (dubai Port World)
2. Adi Construction Sarl
3. Dematco Sarl
4. Entreprise Générale Malta Forrest Sa
5. Crec 7 Sarl
6. Crec 8
7. Ccecc
8. Groupe Chanimetel
9. Safricas Congo Sa
10. Congolese Company Of Modern Construction (sccm) and Consorts

V. AGRI-FOOD SECTOR

1. Minoterie Du Congo(,mino Congo)
2. Plantations Et Huileries Du Congo, Phc Sa
3. Ghandour Food
4. Inalca Kinshasa
5. Congo Future
6. Marsavco Sa
7. Beltexco Sa
8. Socimex Sarl Et Consorts

VI. QUARRY SECTOR

1. Carrigres Sarl
2. Safricas
3. Crec 7 And Others

VII. BAKING SECTOR

1. African Food Industrial Development Society (sadia)

2. General Bread Society (victory Bread)
3. UPAK

4. New Pastry And Consorts

VIII. LOGISTICS SECTOR

1. Bollore Africa Logistics RDC Sa
2. Cargo Trans Sarlu
3. Delmas RDC-groupe Cma Cgm
4. DHL Intl Congo Sarl
5. KPM Logistics
6. Maersk Congo Sarl
7. Serve Air Sarl
8. Safmarines RDC et Consorts

IX. COSMETICS SECTOR

1. Angel Cosmetics
2. Dover Cosmetics
3. Manufacturing Packaging Assembly And Packaging (femco)
4. Ghandour Industrie Congo
5. Palmco Company and Consorts

X. PHARMACEUTICAL SECTOR

1. New Cesamex
2. Prince Pharma Sarl
3. Shalina Pharmacy
4. Zenufa
5. Imex Pharma Distribution
6. Promed Pharma
7. Pharmagros et al

XI. SERVICE SECTOR

1. Central Motors Sarl
2. Cfao Motors
3. Pygma
4. Dispromalt Sarl
5. Prodimpex
6. Proton Sarl
7. Sokin Sarl and Consorts

Honorable Miguel KASHAL KATEMB
GENERAL DIRECTOR



COPPERBELT ENERGY CORPORATION TO EXPAND INVESTMENTS IN THE DRC

The Copperbelt Energy Corporation (CEC) has announced plans to expand its investments in the Democratic Republic of Congo (DRC), aiming to explore additional energy-related business prospects.

This strategic move aligns with CEC's development plan, according to a statement issued by Verona Nkolola, the Head of Corporate Communications at CEC.

CEC Managing Director Owen Silavwe emphasized the importance of the DRC market for the power company, During the DRC Mining Week, Expo, and Conference, which was held under the theme 'Recognizing DRC's Mining Triumphs and Victories' in

Lubumbashi,

Silavwe highlighted that CEC was a key stakeholder and one of the largest power traders in the Southern African region. Furthermore, he expressed the company's commitment to strengthening its presence in the DRC since entering the market in 2011.

During the event, Silavwe participated in a panel discussion that focused on enhancing energy sector growth through private and green energy investments.

He emphasized the role of the mining sector in the Southern African Development Community (SADC) region in the global energy transition.

CEC, headquartered in Kitwe, supplies power to

mining firms in the Copperbelt region of Zambia and the Katanga region of the Democratic Republic of Congo.

The company recognizes the significance of energy accessibility in the mining sector, which was appreciated by Samukelo Madlabane, the DRC Mining Week Event Director.

CEC is poised to expand its investments in the DRC as it seeks to capitalize on energy-related opportunities in the region. By reinforcing its presence in the market, CEC aims to contribute to the growth and development of the energy sector, particularly in the mining industry, which plays a vital role in the SADC region's energy transition.

FQM CEO: INNOVATION DRIVES ZAMBIA'S GREEN ECONOMY IN RESPONSIBLE MINING

Innovation is crucial for Zambia's green economy future, according to Tristan Pascall, the CEO of First Quantum Minerals (FQM). Despite facing challenges in 2022, FQM remains committed to executing projects that promote production growth with a lower carbon footprint.

Mr. Pascall emphasized the company's dedication to responsible resource extraction and sustainable operations, as evidenced by their seventh Environment, Social, and Governance (ESG) report.

FQM takes pride in the positive contribution of mining to communities and society. Innovation plays a key role in FQM's sustainability agenda, with notable projects including plans for a 430 MW wind and solar project in Zambia and feasibility trials with Hitachi Construction Machinery for the first full battery-powered dump trucks at the Kansanshi mine.

The ESG report highlights FQM's infrastructure investments and energy-saving initiatives in its

Zambian operations. These initiatives, such as trolley-assist electric mining fleets and in-pit crushing and conveying, demonstrate the company's commitment to continuous improvement and resource optimization.

Recognizing the vital role of mining in providing metals for decarbonization efforts, FQM believes that copper, in particular, is essential for the global transition to a low-carbon economy and the socioeconomic development of developing economies.

By refining locally produced copper concentrate in their Zambian smelter powered by predominantly hydroelectricity, FQM reduces emissions associated with transportation and refining, differentiating their approach from smelters relying on gas or coal power.

The report also notes that First Quantum's Kansanshi operations have contributed to a decrease in sulphur dioxide emissions through efforts to increase sulphur dioxide capture.

ESG principles have always been integrated into FQM's operating model, aiming to drive real change in the transition to a low-carbon economy and socioeconomic development. By leveraging innovation for sustainability, operational efficiencies, and cost savings, FQM seeks to improve its operations continuously.

FQM believes that the growing demand for copper driven by renewable energy and electric vehicle transitions will be crucial for meeting global energy market needs.

The company emphasizes the importance of energy security and the role of copper and nickel in enabling increased renewable power usage and electric vehicle adoption for global decarbonization.

According to Mr. Pascall, new projects will ultimately be required to support these goals.

MARIE-CHANTAL KANINDA APPOINTED AS CEO OF GLENCORE DRC SUBSIDIARY



Marie-Chantal Kaninda has been appointed as the CEO of Glencore DRC, the Congolese subsidiary of the global commodity trading giant Glencore.

Kaninda is considered one of the most powerful women on the continent, having worked in the mining industry for more than 25 years. She was chosen to lead the company at a crucial time when Glencore is trying to regain the trust of the Congolese government after being accused of corruption between 2007 and 2018.

Kaninda's appointment is seen as a sign that she has the experience and the leadership qualities to handle the situation and maintain

the company's operations in Congo.

She has also been involved in the fight against corruption in the private sector in Congo, having contributed to the development of the first code of conduct for Congolese businesses.

Kaninda has worked in several African countries, including Congo, Central African Republic, Guinea, Cameroon, South Africa, Zimbabwe, Angola, Namibia, Botswana, and Madagascar. She holds a degree in economics from the University of Liège in Belgium and has previously worked for companies such as Ashanti Goldfields, AngloGold Ashanti, De Beers, and Rio Tinto.



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EXPLORING THE VAST CENTRAL AFRICAN COPPERBELT – EARTH'S LARGEST COPPER PROVINCE

The Central African Copperbelt, spanning Zambia and the Democratic Republic of Congo, is renowned for its geological wonders and major mining projects shaping the copper industry. It covers 500 km in length and 150 km in width, making it the largest sediment-hosted copper province globally.

In Zambia, notable mining projects within the Copperbelt region include:

Kansanshi Mine: Operated by FQM, the Kansanshi Mine is one of the largest copper mines in Africa. It has substantial reserves and employs modern mining techniques for extraction and processing.

Lumwana Mine: Owned by Barrick Gold Corporation, it is one of Africa's largest open-pit copper mines with substantial reserves and modern mining techniques.

Mopani Copper Mines: Formerly a Glencore subsidiary and currently run by ZCCM-IH, Mopani operates multiple mines in the Copperbelt region, including Nkana and Mufulira. These mines contribute significantly to Zambia's copper production.

In the DRC, the Congolese Copperbelt hosts major mining projects such as:

Tenke Fungurume Mine: Owned by China Molybdenum Co. Ltd., it is a large-scale copper-cobalt operation with abundant mineral resources and a critical role in the global cobalt supply chain.

Kamoa-Kakula Project: Jointly operated by Ivanhoe Mines, Zijin Mining Group, and the government of the DRC, it is one

of the world's largest undeveloped high-grade copper deposits, holding significant potential for future copper production.

Frontier Mine: Operated by ERG (Eurasian Resources Group), it is an open-pit copper mine with substantial reserves, employing modern mining practices for extraction and processing.

These mining projects significantly contribute to copper production in Zambia and the DRC, driving economic growth, generating revenue, and providing employment opportunities for local communities.

The Central African Copperbelt's geological processes are intriguing. Tectonic events and volcanic activities during the late Precambrian era created favorable conditions for copper-rich sediment deposition. Subsequent geological changes further enriched the copper deposits, leading to the massive resources observed today.

Mining operations in the Copperbelt have shaped the economies of Zambia and the DRC. Abundant copper has attracted significant investment, establishing both countries as key players in the global copper industry. Mining activities have driven infrastructure development and provided employment opportunities. However, environmental concerns like water pollution and habitat destruction must be addressed through sustainable mining practices.

The future of the Central African Copperbelt looks promising. Ongoing

exploration and technological advancements continue to unveil new mineral resources. With increasing global demand for copper in renewable energy, electric vehicles, and infrastructure development, the Copperbelt's significance will grow. Sustainable practices and responsible mining are crucial for the region's success while minimizing environmental and community impact.

In conclusion, the Central African Copperbelt showcases geological wonders. Its size, rich copper deposits, and historical significance make it the world's largest sediment-hosted copper province. The region's distinctive geology, major mining projects, and contribution to the global copper market highlight its importance. Balancing economic development, environmental stewardship, and responsible mining practices is key to sustainably exploiting this extraordinary geological treasure.



NAMIBIA BANS EXPORT OF UNPROCESSED CRITICAL MINERALS

Namibia has banned the export of unprocessed lithium and other critical minerals, the government announced on Thursday June 8th, as it seeks to profit from growing global demand for metals used in clean energy technologies.

The southern African country has significant deposits of lithium, which is vital for renewable energy storage, as well as rare earth minerals such as dysprosium and terbium needed for permanent magnets in the batteries of electric cars and wind turbines.

"Cabinet approved the prohibition of the export of certain critical minerals such as unprocessed crushed lithium ore, cobalt,

manganese, graphite and rare earth minerals," Namibia's information ministry said in a statement.

Only small quantities of the specified minerals would be allowed, after approval by the mines minister, it said.

Namibia is one of the top global producers of uranium and gem-quality diamonds, but its battery metals are attracting growing interest as the world shifts away from polluting fuels to renewable energy.

Last year, Namibia signed an agreement to supply rare earth minerals to the European Union under the bloc's plan to reduce its reliance on China for critical minerals.

Some firms with critical minerals projects in Namibia include the Australia-listed Prospect Resources Arcadia Minerals and Askari Metals Celsius Resources and Namibia Critical Metals are developing cobalt and rare earth projects, respectively.

Another African lithium producer Zimbabwe banned lithium ore exports last December, allowing only concentrates to be shipped out.

Zimbabwe has said it wants lithium miners operating in the country to work towards producing battery-grade lithium locally and could impose a tax on exports of lithium concentrate in future.



FIRST STONE LAID IN ANGOLA TO COMMENCE THE TETELO MINE PROJECT

Angola's Minister of Mineral Resources, Oil and Gas, Diamantino Pedro Azevedo, officially laid the first stone for the construction of the Tetelo mine, for copper and gold exploration, in the town of Mavoio, municipality of Maquela do Zombo, in Uíge province on Thursday.

The mine will be constructed in an area of 4 square kilometers over a period of 27 months, with a total cost of 205 million US dollars to the State.

The first phase of production is expected to begin by the end of next year, with an estimated minimum annual production of around 300,000 tons.

The Tetelo mine is an open pit mine, with initial reserves estimated for a period of 3 years.

However, it has the potential for extension up to 10 years as new resources are discovered.

Diamantino Azevedo mentioned that the project has made significant progress, going through the stages of research, prospecting, and analysis, while adhering to international standards for mining exploration.

"We hope for the successful and timely completion of this project because it presents an opportunity for the country to have its first copper mine, which will bring job opportunities and development to the province of Uíge," he stated.

During the initial phase, the project will create 210 direct jobs, and this number is expected to

reach a maximum of 1,000 jobs at its peak.

Diamantino Azevedo assured that the Ministry of Mineral Resources and the Provincial Government of Uíge will closely monitor the project's development and provide necessary support for its success. He also advised the traditional authorities of the region to support the project promoters and not create any hindrances.

Governor José Carvalho da Rocha of Uíge mentioned that this project represents a significant investment that will provide job opportunities and contribute to the overall development of the province. It lays the foundation for progress and local development in the region.

STARTUP UNVEILS GROUNDBREAKING TECHNIQUE FOR REVOLUTIONARY EV BATTERY TECHNOLOGY

In the latest development in printing technology, Sakuu, a startup from Silicon Valley, is 3D printing solid-state batteries. This is a very, very big deal.

In February, Sakuu announced that it had successfully and consistently produced full-functioning batteries in custom shapes and sizes using 3D printing. These batteries could be used in everything from smartphones to household appliances to e-bikes.

As it currently stands, lithium-ion batteries are considered king. They store large amounts of energy and recharge quickly, but they also come with safety concerns and a huge environmental impact. It takes an estimated 500,000 gallons of water to mine just one metric ton (about 1.1 U.S. tons) of lithium.

Sakuu's successful production of a solid-state battery could mean low-cost, high-speed manufacturing for a lithium-ion alternative.

"As far as our solid-state battery development, we are preparing to unveil a new category of rapid-printed batteries manufactured at scale using our

additive manufacturing platform," Sakuu CEO Robert Bagheri said in a press release. "The sustainability and supply chain implications of this pioneering development will be transformational."

The stats behind Sakuu's design are truly impressive. In an interview with CleanTechnica, the company said the production of its solid-state batteries produces less than 1% material waste. With that in mind, Sakuu anticipates a 69% reduction in manufacturing process steps and 33% lower manufacturing costs compared to traditional battery manufacturing.

"We believe we have the only known solution for manufacturing solid-state batteries at scale with our novel Kavian platform," Bagheri said in a press release. "Collectively, our additive manufacturing and battery teams have accomplished what most thought impossible."

Bagheri continued on to say, "Printing custom patterned batteries using a dry process that starts with raw material and concludes with a fully functional high-performance battery is a breakthrough that has the potential to transform how batteries of the future are manufactured for all industries."

AUSTRALIAN COMPANY PIONEERS DYNAMIC CHARGING FOR ELECTRIC MINING TRUCKS

Headquartered in Brisbane, Australia, BluVein is working with a suite of OEM truck companies to develop dynamic charging technology to enable mining vehicles to be recharged while in operation.

When commercialised, the advanced technology will allow higher utilisation rates of electrified mining trucks, faster and easier installation and relocation and less maintenance.

BluVein started as a partnership between Brisbane based engineering company Olitek and a European-based electric highways developer. BluVein has adapted the technology for harsh mining applications.

The BluVein system comprises a "hammer" which senses and connects with a charging rail which encloses high-voltage conductors.

The charging rail is mounted overhead in underground mines or on short poles in surface mining applications and is installed in sections enabling fast installation, easier repair and maintenance and simplified relocation.

The hammer, which is designed for harsh mining conditions, attaches and detaches from the rail automatically in two stages. Firstly connecting with the outer rail case before connecting to the high-voltage conductors.

The company has two versions of the the system. BluVein1 which is for underground applications has a charging speed of 1MW and BluVeinXL for open pit applications will be 8MW.

"While power transfer while in motion is our obvious advantage, our system is basically an automated IP2X-rated power connection that can transfer up to 8 MW of energy" said BluVein CEO James Oliver.

"All miners see the need for an industry-standardised, OEM-agnostic, safe, dynamic charging infrastructure to suit mixed OEM open-pit fleets.

"Early studies show the batteries can be reduced as much as 60% when coupled with dynamic charge that has enough capacity to power the drive and charge the battery."

BluVein is in discussions with Sandvik, MacLean, Volvo and Scania, among others, on preparing demonstration vehicles for the BluVein1 pilot site. The company says the system is OEM agnostic and can be used for different types of electrified mining vehicles.

BluVein's open-pit model, Bluvein XL, was named among eight winners of the Charge On Innovation Challenge which is an innovation initiative including a consortium of mining companies to develop and commercialise charging technology for the mining industry.

Late last year, Austmine, which manages the BluVeinXL project, welcomed Rio Tinto, OZ Minerals, BHP, Newcrest Mining, Evolution Mining and Freeport-McMoRan to the consortium of funding members to fast-track the BluVein technology.

"Being directly involved with the BluVeinXL Consortium provides a unique opportunity to bring together world-class innovators in advancing electrification of mining haul trucks." said Austmine's Director Dr Robert Trzebski.

"Following on from last year's Charge On Innovation Challenge it is very gratifying to see global collaboration continuing at an industry scale."

BluVein is planning to conduct its first pilot demonstration later this year.

NEW LOADER CONCEPTS UNVEILED AT BOBCAT DEMO DAYS

At this year's Bobcat Demo Days, customers, dealers and press from across Europe, the Middle East and Africa (EMEA) witnessed the latest solutions that Bobcat has to offer.

Demo Days 2023 provided an industry unique opportunity to try out the full range of Bobcat wheeled and tracked loaders, mini-excavators, telehandlers, light compaction products and attachments in working conditions.

In addition to this lineup, the company also showed how the recently acquired Doosan industrial Vehicle forklifts and Doosan Portable Power products will look in Bobcat white and orange branding.

Front and centre of the event was the smaller and larger sized wheel loader models, developed in line with Bobcat's commitment to become a compact wheel loader full liner in the near future.

The new L95 compact wheel loader will be the next addition to the Bobcat wheel loader line-up, following on from the L85 machine launched in 2021. The L95 is powered by a Bobcat 75 HP engine and offers a top speed of 40 km/h and an increased lift capacity.

Like the L85, there are multiple Bobcat loader attachments approved for use on the L95. These include a 1.0 cu/m general purpose bucket and a 1.5 cu/m light material bucket and new grapple bucket and tines attachments for agriculture.

Other new features include an air-ride heated seat; DAB+ radio with phone connectivity and improved automatic ride control, high flow and quick tach systems.

At the show, Bobcat took the opportunity to test market interest with two new wheel loader concepts in the form of the L40 and L35. The former weighs less than 2.5 tonnes and is designed as a powerful load and carry, application-focused machine.

Simple, robust and easy to operate, the L40 is designed for heavy duty applications such as road maintenance and construction.

The L35 represents a new small articulated loader concept machine that is an extension of the existing portfolio to cover the market segment for high performance machines which are easy to transport on a trailer.

The machine weight is again below 2.5 tonnes, which allows easy transportation and a high lift capacity. The engine power on the L35 is 57 HP, which allows for higher travel speeds and pushing power.

The L35 is designed to be a tool carrier machine with high hydraulic power available for demanding attachments such as snow blowers, sweepers or angle brooms and it is equipped with a telescopic boom as standard to ensure a higher working range.

"With the new L95 loader and the smaller wheeled loader concepts, we are once again demonstrating our commitment to offer the most complete loader portfolio in the world.

Demo Days also provides our dealers and customers with an exclusive first look at the new L35 and L40 concept machines that enables them to participate in the development process as well as provide us with their valued assessments and feedback," commented Jaroslav Fiser, product line director loaders for Doosan Bobcat EMEA.

A broad portfolio

Across the full run time of Demo Days, Bobcat blended established products

with new developments. For instance, the T86 compact track loader was presented in a forestry application that demonstrated the Super Flow function by equipping the machine with the new XT FRC extra torque forestry cutter.

Supplied as a plug and play solution, the new forestry cutter with 2 m width is perfect for mulching tree sections into smaller chips.

The XT FRC can even operate below grade to process mulch into the soil. Despite the power of the attachment, the compact size and manoeuvrability of the T86 allow the operator to easily move between trees and surgically cut only the damaged/unwanted tree sections.

Like the T7X, the world's first all-electric compact track loader unveiled last year, the S7X prototype is all electric, as it is powered by a 60.5-kWh, lithium-ion battery, features electric drive motors and utilizes ball screw actuators for lift and tilt functions.

Together, the battery and electrical powertrain generate incredible performance characteristics, with instantaneous torque that is as much as three times greater than traditional loaders.

The powerful loader balances sustainability and performance with zero emissions and is equipped to outperform its diesel-powered equivalent.

This electric solution was joined by the Bobcat E35z electro-hydraulic mini-excavator in combination for the first time with the company's MaxControl remote operation system.

Bobcat MaxControl enables operators to control their Bobcat excavator from outside of the cab at a variety of distances using their iPhone to maximize versatility on the jobsite.

Another key highlight of the show was the Bobcat MaxControl Remote Operation, providing convenient, easily accessible remote-control operation using an app on an iPhone.

Bobcat has combined MaxControl with the universal Razer Kishi mobile gaming controller designed to bring console-level comfort in controlling the machine.

This innovation was joined by the T-OLED touchscreen. Mounted on a compact loader, the tool is an advance in transparent display technology developed together with LG that gives operators the ability to touch and customize their user interface with smart widgets and interactive applications.

This transparent, multifunction set-up, delivers jobsite-specific data, providing vital information and machine insights for users in real-time.

Thanks to its transparent nature, operators can simply refocus their vision to see everything that is going on around them on site.

This formidable display of the company's portfolio was a true representation of the significant growth it has achieved in the past five years. Notably within this period, Doosan Bobcat recently announced a new global branding strategy to create business and growth opportunities for the Bobcat product portfolio.

This initiative includes rebranding of the product offering of Doosan Industrial Vehicle (DIV), a supplier of quality material handling equipment, including forklifts and Doosan Portable Power (DPP), an industry-leading global manufacturer of air compressors, mobile generators and light towers under the Bobcat brand.



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We are thrilled to announce that **CKM Digital Platforms** are now reaching over **68K followers** on LinkedIn with **32K Subscribers** to **CKM Weekly Newsletter**.

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