

# The Simandou Mine

FORGING GUINEA'S  
FUTURE FROM IRON







SIMANDOU

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Forging Guinea's Future from Iron

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**D**eep within Guinea's forested southeast, in a remote corner largely untouched by industrial ambitions, a mountain of promise is rising. Simandou, a storied iron ore deposit long described as the world's largest untapped resource, is swiftly becoming reality. After decades of anticipation, complicated negotiations, and immense logistical hurdles, a consortium of international giants and local heroes is transforming dreams into infrastructure, ore into opportunity, and potential into prosperity.

"Simandou will deliver a significant new source of high-grade iron ore...along with trans-Guinean rail and port infrastructure that can make a major contribution to Guinea's economic development," says Bold Baatar, CEO of Rio Tinto Copper & Guinea operations, capturing the project's significance succinctly.

#### **A Global Giant Awakens**

The scale of Simandou is immense—almost mythical. With reserves of approximately four billion tonnes of iron ore, each boasting an unparalleled iron content of around 65%, the project is poised to reshape global steel markets profoundly. It is expected to produce up to 100 million tonnes of high-grade ore annually once fully operational, a volume that could shift trade flows and pricing dynamics globally. But beyond the sheer volume, Simandou's geological quality and strategic location make it a jewel of the global mining sector. Its ore requires less processing, resulting in lower carbon emissions and reduced operating costs—a key factor as the global steel industry pushes for decarbonisation. The project's position along the southern spine of Guinea provides direct access to the Atlantic, making logistics more viable and globally competitive.





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In Guinea, CIS and Welhy established a joint company, WELHY-CIS to provide full ranges of services to SIMFER Rio Tinto SIMANDOU Project.

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As a reliable and long-standing partner, WELHY-CIS supports its customers with robust logistics and high-quality services, enabling them to focus on their most important operational challenges. WELHY-CIS teams, driven by a passion for our business, work every day to create safe and welcoming environments for base residents and non-residents.

We are committed to the sustainable development of Guinea, by recruiting and training our employees, and by adopting a proactive approach focused on innovation and continuous improvement to reduce our impact on the environment.



**We are seeing the birth  
of a new economic  
era—an era built on  
self-determination,  
industrial sovereignty,  
and smart partnerships**

"This is not just a mine, it is a new axis for Guinea's emergence," says Djiba Diakité, Chairman of the Strategic Committee for Simandou. "We are seeing the birth of a new economic era—an era built on self-determination, industrial sovereignty, and smart partnerships."

This story transcends mere mining statistics; it's about crafting a legacy of sustainable growth in one of Africa's most resource-rich yet historically underserved nations.

#### **Infrastructure: The Backbone of Progress**

At the heart of Simandou's success lies groundbreaking infrastructure: over 600 kilometers of new railway traversing jungles and mountains, and a deepwater port designed for global shipping demands. Mota Engil, a global leader in construction, secured a monumental \$300 million contract for the railway's earthworks, bridge foundations, and drainage.







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## Additionally, extensive communication and technology networks have been installed, ensuring seamless operational management and safety

This marks the project's largest single construction contract to date, symbolizing significant forward momentum.

"Today marks the most important date in the development of the Simandou project," remarked Robin Lu of the Winning Consortium Simandou (WCS) upon signing the rail joint venture. The railway, a lifeline designed not only to transport iron ore but also to open Guinea's interior to trade and connectivity,

promises transformative socio-economic impacts far beyond mining alone.

At the coastal terminus in Morebaya, China Harbour Engineering Company (CHEC) is carving a new maritime gateway. CHEC is dredging a massive 22.6 km channel to enable giant bulk carriers to dock—a critical infrastructure element that will establish Guinea as a maritime hub for West Africa.

**The estimated total capital expenditure (CAPEX) for the full project is approximately \$15 billion, making it one of Africa's most capital-intensive undertakings.**

The mine itself, nestled within the Simandou mountains, incorporates state-of-the-art facilities designed for efficiency and sustainability. Using a combination of conventional open-pit mining and advanced ore beneficiation, the operation will reduce waste and maximize yield. A fleet of autonomous haul trucks, real-time ore tracking systems, and AI-assisted maintenance will boost productivity and lower downtime. Ore will undergo dry crushing and screening, minimizing water usage and improving environmental performance.

Supporting infrastructure around the mine is equally impressive, including a robust power generation system that combines renewable sources and conventional generators to guarantee stable energy supplies. Comprehensive water management systems have been developed to recycle and treat water, significantly reducing water consumption and protecting local ecosystems. These sophisticated systems represent Simandou's commitment to environmental stewardship and long-term operational sustainability.

Additionally, extensive communication and technology networks have been installed, ensuring seamless operational management and safety. Dedicated logistics hubs strategically positioned along the railway route enhance operational efficiency and supply-chain reliability, facilitating rapid responses to operational demands.

### Global Players, Local Champions

Simandou's success hinges on robust partnerships. The estimated total capital expenditure (CAPEX) for the full project is approximately \$15 billion, making it one of Africa's most capital-intensive undertakings. Production is scheduled to begin by 2026, with the Guinean state





**Our partnership extends beyond locomotives—we're fostering local employment and skills to keep this rail network running for generations," affirms Mpilo Dlamini, Wabtec's Vice President for Africa**

holding a 15% equity stake alongside Rio Tinto, Baowu, Chinalco, and WCS.

The project's financial architecture blends private investment, international equity, and concessional infrastructure financing, making it a textbook case in mobilizing long-term capital for strategic assets.

"Simandou is an economic accelerator," said Dr. Moussa Magassouba, Guinea's Minister of Mines and Geology. "It is the foundation of our industrial ambition and a pillar of our future export economy."

"The incorporation of La Compagnie du TransGuinée with our partners underscores the importance of Simandou in today's decarbonising world," says Baatar, emphasizing the strategic vision behind the venture.

## Suppliers: Powering the Project, Empowering Guinea

Simandou's supply chain is a vibrant blend of global expertise and local entrepreneurship. Wabtec Corporation from the United States is delivering over \$500 million worth of state-of-the-art locomotives, while Komatsu, through its distributor BIA Group, will supply heavy mining machinery coupled with a training academy for local operators. Portuguese firm Mota Engil, alongside CHEC, anchors large-scale civil engineering tasks, while

local firms contribute critical services and capacity building.

CIS Group, a global leader in integrated life-support services, is managing "remote-hotel" facilities, providing food, housing, and healthcare to over 4,000 workers. HSEC Training & Services, a Guinean company, is leading health, safety, and ESG training, already educating over 2,000 project personnel.



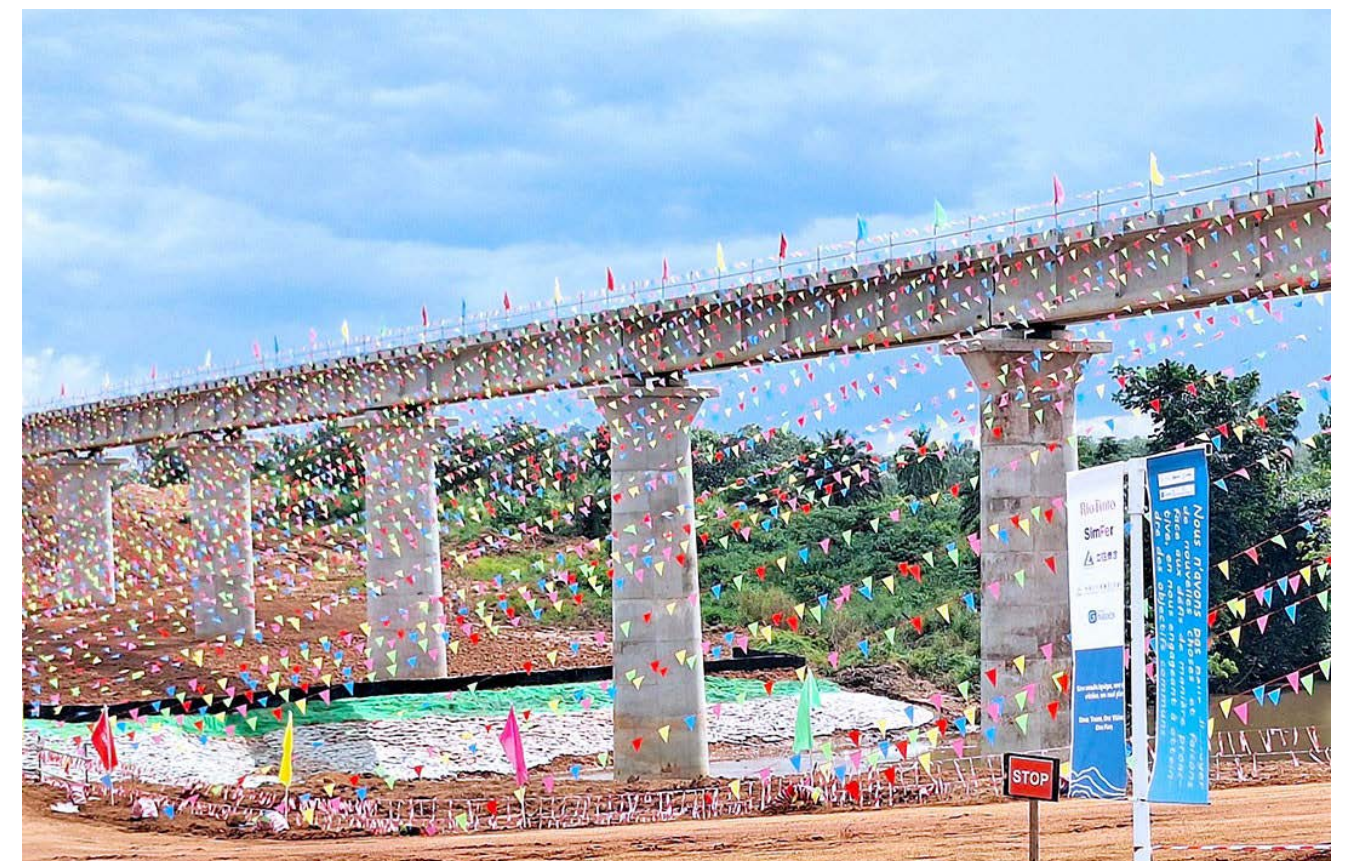
Neemba Guinée, another local champion, oversees warehouse management and logistics, while The Mining House centralizes procurement and supply operations, greatly enhancing project efficiency. Africa Transport Logistics recently secured a \$120 million contract, handling extensive freight logistics and establishing a robust local training program under the HSEC Training & Services.

"Our partnership extends beyond locomotives—we're fostering local employment and skills to keep this rail network running for generations," affirms Mpilo Dlamini, Wabtec's Vice President for Africa.

### Socio-Economic Transformation: Jobs, Skills, and Local Content

Already employing over 13,000 people, primarily Guineans, the project is reshaping local economies. Job creation goes hand-in-hand with intensive training programs, such as the University of Conakry's specialized railway engineering course, producing the country's first homegrown rail engineers.

Local content laws ensure significant procurement stays within Guinea, stimulating an industrial and





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businesses, fostering entrepreneurial spirit among residents. Women-led cooperatives are thriving, and youth employment has significantly increased, offering new hope and stability. This grassroots transformation ensures that Simandou’s legacy is deeply woven into the fabric of local society.

ESG at its Core: Environment, Social, Governance

Transparency and environmental responsibility are cornerstones of Simandou. Extensive environmental assessments have resulted in dedicated conservation zones, wildlife corridors, and innovative construction techniques minimizing ecological impact.

Djiba Diakité, Chair of the Simandou Strategic Committee, reassures



stakeholders, "Industrial commitments to Simandou are now irreversible—the project is Guinea’s strategic lever for a diversified economy." His words reflect stringent governance standards designed to prevent mismanagement and ensure revenue transparency. Moreover, social development initiatives, from health clinics to educational facilities, embed Simandou deeply within the community fabric, securing its social license to operate.



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entrepreneurial surge. "Working with local suppliers is central to our pledge to invest in Guinea and grow its economy," highlights Chris Aitchison, CEO of Rio Tinto Simfer, underscoring the project’s commitment to local empowerment.

By directing approximately \$600 million to Guinean businesses, Simandou is not just building a mine but creating a sustainable economic ecosystem poised to thrive long after extraction ends.

Local Impact: Community and Quality of Life

In communities surrounding Simandou, the project’s impact is palpable. Villages previously isolated now benefit from improved access to clean water, healthcare facilities, and schools. Investments have spurred growth in local markets and small





Rio Tinto and WCS have also committed to long-term sustainability programs, including carbon offset initiatives, green energy investments, and biodiversity conservation. As part of the mine's closure planning—even before its operational phase begins—stakeholders are collaborating on future land use strategies that ensure ecological and economic resilience. An ESG monitoring council, composed of independent observers and local community representatives, provides transparency and regular performance assessments.

**Navigating Execution: Delivering at Scale**

Despite its immense promise, delivering Simandou at full scale is not without its challenges. The terrain—marked



by mountainous rainforest and limited existing infrastructure—poses formidable engineering hurdles. Coordinating thousands of workers, subcontractors, and materials across multiple jurisdictions requires robust project management systems.

Weather patterns in the region, including intense seasonal rains, have demanded resilient construction methods and advanced drainage engineering. To



mitigate delays, modular pre-fabrication of rail and port components is being deployed, while digital twin models assist with risk forecasting and logistics planning. "We are not building a mine; we are building a nation-scale transformation," said Mamady Youla, former Prime Minister and strategic advisor to the project. "The complexity is high—but so is our resolve."

**A Vision Beyond Extraction**

Simandou is more than a mining project—it is a national transformation engine. Guinea's leaders envision this mega-project as the cornerstone of the Simandou 2040 Vision, a blueprint for diversification across agriculture, education, healthcare, and industry. With revenues from the mine projected to significantly bolster GDP and government coffers, the nation

is positioning itself not merely as a raw material exporter, but as an emerging regional economic power.

This vision is echoed by the project's global partners. "Simandou is a project that is truly multi-generational—it represents the future of responsible resource development, blending economic value, environmental stewardship, and human impact," says Baatar. Diakité reinforces this message, stating, "We are building more than railways and ports—we are building the future of Guinea."

In an era when the world is rethinking supply chains, environmental footprints, and equitable growth, Simandou stands out. It offers a rare and timely case study of how mineral wealth—managed well—can light a path to national transformation. From the depths of its mountains to the breadth of its ambitions, Simandou is Guinea's iron resolve forged into a beacon of hope.

And for those watching from boardrooms in London, Beijing, Conakry, and beyond, the message is clear: Simandou is no longer a myth. It is a model. And its time is now.

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