

Stock Data

Share Price:	0.26p
Market Cap:	£7.52m
Shares in issue:	2,893m
52-week high/low:	1.40p/0.24p

Company Profile

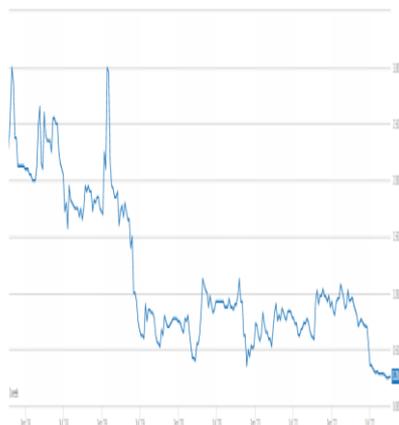
Sector:	Mining
Ticker:	IRON
Exchange:	AIM

Activities

Ironveld plc ('Ironveld' or 'the Group') is the owner of mining rights over approximately 28 kilometres of outcropping Bushveld magnetite with a JORC compliant ore resource of some 56 million tons of ore grading 1.12% V₂O₅, 68.6% Fe₂O₃ and 14.7% TiO₂.

www.ironveld.com/

5-year share price performance



Source: [LSE](https://www.lse.com/)

Past performance is not an indication of future performance.

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Ironveld

Ironveld has released an update on recent progress by its wholly owned subsidiaries, Ironveld Smelting Pty Limited and Ironveld Mining Pty Limited, as they move the Group's undeveloped and unique project ('the Project') in South Africa's Bushveld complex towards production. It details delivery of pre-operations power to the Rustenburg smelter, while also noting that mine planning remains on track to provide it with ore during the current quarter. Significantly also, Ironveld and the sole creditor of Ferrochrome Furnaces Pty Limited ('FCF') have agreed all commercial issues in the Debt Purchase Agreement ('DPA'); this is expected to be signed in the coming two weeks, following which steps to formally remove FCF from Business Rescue will be taken. Having reviewed of all works successfully completed to date, Ironveld Smelting expects first production of its suite of products (high purity iron, vanadium in slag and titanium in slag) in Q1 2023, which remains in line with its original estimate of a 6-9 month refurbishment programme. Completion of this potentially transformative acquisition thus positions the Group to fast-track generation of first revenue through already existing offtake/sales agreements less than one year from now. While providing a demonstration platform capable of securing initial production/commercial sales, this nevertheless represents just the first of three expansion phases proposed by the Board capable of multiplying output from the Project's very large resource. With Ironveld remaining on-track to become cash generative within its first year of production, the Board's ambitious medium to longer-term vision continues to gain credibility.

Highlights of the progress update

- Pre-operations power at the Rustenburg smelter now fully installed, with systems and equipment testing underway;
- Smelter refurbishment on schedule with first production anticipated in Q1 2023;
- Mine planning on track to commence operations in current quarter to provide ore to the smelter; and
- Debt Purchase Agreement with sole creditor expected to be signed in coming weeks.

Ironveld Smelting – First production of its suite of products in Q1 2023

Within the Share Purchase Agreement to acquire 100% of FCF signed by Ironveld Smelting, the only condition precedent is the signing of a DPA with FCF's sole creditor for a total of ZAR 115 million (approximately £5.75 million). Ironveld and the sole creditor have now agreed all commercial issues in the DPA, which is expected to be signed in the coming two weeks, although Ironveld's exclusivity remains in place until signing is completed. Following completion, Ironveld and the Business Rescue Practitioner will proceed with the formal steps to remove FCF from Business Rescue.

Having been secured on highly attractive terms, the Rustenburg smelter facility presents the opportunity to substantially de-risk the Group's potentially world-class high purity iron, vanadium and titanium project in the Bushveld, while delivering production that is expected to lead to early generation of cash flows. As was announced on 12 September 2022, Enernet Global Inc. ('Enernet'), the independent power producer ('IPP'), installed a pre-operations power supply at the smelter in order to test and re-commission the plant. A planned programme of systems and equipment testing/upgrades is now underway at the smelter and orders have been placed for critical long lead time components. Specialist contractors required for the refurbishment work have already been engaged and are active on site.

Further temporary additional power will be added to this facility to enable scaling up of plant operations in the coming months, prior to completion of Enernet's optimised power solution (including solar, battery storage and gas generation) that is expected in Q3 2023. While the IPP agreement guarantees supply at a discount to the national tariff, it also ensures no reliance on the South African electricity grid at any stage, thereby eliminating operational risk from the relatively unreliable electricity public utility, Eskom, which routinely undertakes daily 'load shedding' programmes. An agreement to incorporate certain aspects of the smelter's required electrical upgrades into Enernet's own project installation, is also expected to enable the Group to make savings in its planned short term capital expenditure.

All necessary environmental and other operational permits have already been put in place to enable the smelter complex's rapid move toward production. High Purity Iron ('HPI') from Ironveld's extensive magnetite resource that is held through a Mining Right on South Africa's Limpopo Province, is expected to contribute in excess of 95% of the Group's revenues going forward (with the balance coming in the form of vanadium and titanium slag credits). Given that raw materials supply can account for as much as 70% of production costs, having its own local source of high-quality ore (including by-product credits) provides the Group with a significant advantage over competition and should enable it to price its output in the lowest cost quartile. Demand for HPI in the form of a water atomized powder ('HPIP') continues to increase from specialist users, including the automotive industry and other manufacturers requiring powder metallurgy/magnetic materials for their final output; production can be blended through incorporation of other metals to impart hardness/wear resistance etc., while self-lubrication can be gained via porosity control. Recognising that this enables HPIP to command a price premium of 40% to 50% over standard HPI, the Group's forward planning includes additional spend (estimated at below US\$2m) to upgrade its production facility over the coming two years, with strong demand expected to be found through existing offtake agreements.

Ironveld Mining - Commencement of mining operations scheduled to begin in the current quarter

Mining operations are scheduled to begin in Q4 2022. Magnetite ore feedstock will be stockpiled on site at Rustenburg for delivery to the smelter as the three furnaces are sequentially brought into operation. The first full year of steady state production is expected to be reached by 2024/25E, by when the smelter will require c.40,000 tonnes of ore each year. External mining contractors have been engaged on site to minimise capex/related start-up costs. With high local availability of experienced staff for other ancillary works, the Group's Project is expected to create a total of 140 new jobs within its first 12 months of operation. Agreements with local trucking contractors are already in place with indicative costs to transport from mine gate to smelter (c.400km) put at less than US\$50/tonne. Total mine establishment and commissioning costs (including all social commitments) are estimated to be up to ZAR 5 million (<US\$275,000). Ironveld Mining is also investigating options for reselling fines (inferior grade ore separated from high-grade lump during the process of mining, crushing and screening), which although not suitable for the smelter still find a market amongst third parties willing to undertake beneficiation in order to remove gangue minerals contained therein. This could result in a modest reduction to average mining cost/tonne.

Three separate phases of commercial expansion provide route to early cash flow

Based on delivery of 40,000 tonnes of ore per annum (<4,000tpm ROM), the smelter is expected to provide the following approximate quantities of finished products per annum: 20,000 tonnes of HPI (price range US\$900 to US\$1,000/tonne)/HPIP (price range US\$1,300 to US\$1,500/tonne); 190 tonnes of vanadium in slag (price range US\$5,000-US\$5,300/tonne); and 3,800 tonnes of titanium in slag (price range US\$200-\$300/tonne). This equates to an annualised run rate of US\$27 million to US\$32 million once the facility is producing and selling iron powders. Given the expected short commissioning and preparation time required, ore stockpiling will commence shortly in tandem with the ongoing furnace refurbishment. Estimated operational expenditure ('opex') for HPI production is comfortably below selling prices, while revenues from the Vanadium and Titanium slag of c US\$2 million per annum would flow straight to the bottom line given their effective zero production cost. Sales Contracts, Approved Supplier or Marketing Agreements are already in place for final output of HPI, HPI Powders, Vanadium Slag offtake and Titanium Slag offtake with a number of senior counterparts and well-known international traders.

Based on TPI's estimated total mining cost to smelter of ZAR 2,000/tonne plus all-in transportation of ZAR 500/tonne and smelting cost of ZAR 7,950/tonne, FCF's direct operating costs total ZAR 10,450/tonne. Assuming the current US\$: ZAR rate of 18.2, this would be equivalent to US\$22.97m when operating on a steady state of 40,000 process tonnes/year. Revenues of US\$32m for the year would imply generation of an operating profit in excess of US\$9m from Ironveld Smelting, plus a little under a further US\$1m

contribution from Ironveld Mining. After servicing creditors debt payments, local administrative costs and paying away any South African corporation tax dues (at a rate of 28%, although carried forward losses should ensure this does not apply until 2026), Ironveld plc would be entitled to retain 76% the balance owned by its subsidiaries.

While the existing smelter provides a foundation for building a larger scaled-up production facility, the acquired site offers only limited space for expansion. The Board has therefore indicated three separate phases of commercial expansion as detailed below:

- PHASE 1** - The readymade 7.5MW capacity FCF smelter provides a platform for organic growth via demonstration of initial production and sales;
- PHASE 2** - Able to scale the initial project to construct a new 15MW+ smelter located next to the mining area, trebling production. Capex costs (estimated at c.US\$56 million), lenders subject to being satisfied with PHASE 1 proof of concept ('PoC');
- PHASE 3** - Long term objective to add four 75 MW smelters to process the large resource at the Project.

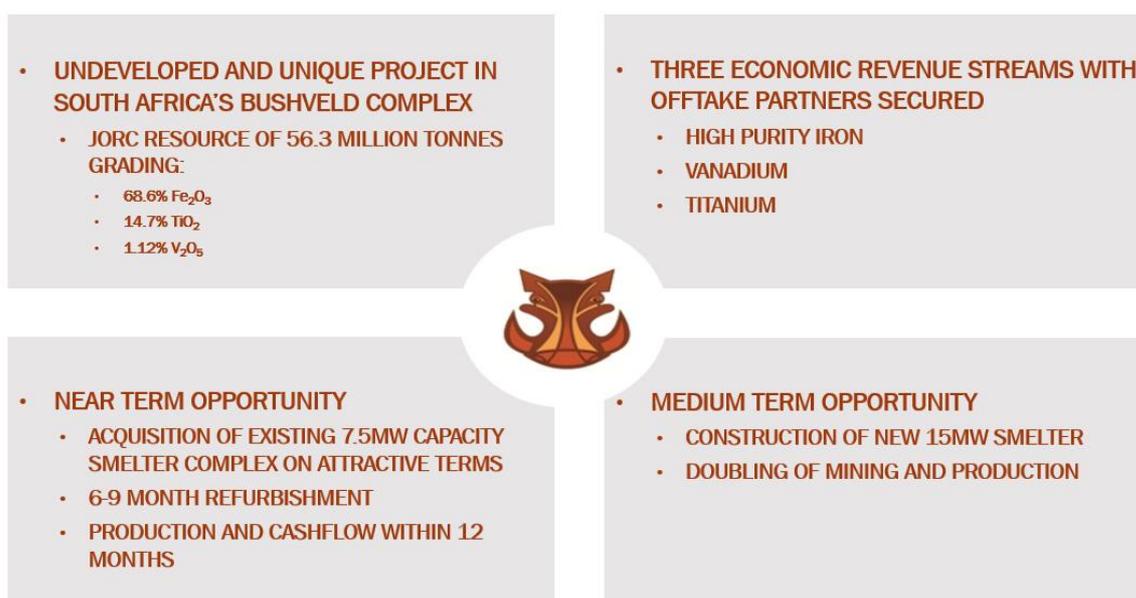
Ironveld's High Purity Iron, Vanadium and Titanium project

Bushveld is a known metallogenic province covering approx. 66,000km², which hosts various mineral deposits including platinum group metals, Vanadium, Chrome, Palladium and Rhodium. The Project has the potential to become a vertically integrated vanadium mining and processing business serving the increasing demand for vanadium in steel alloys and vanadium redox batteries. The Group retains unencumbered rights to:

- 80 million tonnes of magnetite ore - the JORC compliant mineral resources demonstrates that it holds 1.6 billion pounds of Vanadium, the equivalent to four times annual global demand.
- 32 million tons of 99.5% ('High Purity Iron', 'HPI') in situ.
- 9 million tonnes of Titanium.

The Project's 8 April 2013 JORC-compliant mineral resource provided the foundation for a subsequent Definitive Feasibility Study ('DFS') which was published on 23 April 2014. This confirmed its potential to deliver an exceptionally high-grade iron product at 99.5% Fe HPI which typically trades at a premium price in the market. The 56.4Mt ore grading at 1.12% Vanadium Oxide ('V₂O₅') represented almost twice the grade of other Vanadium resources that are currently being mined and processed within the Bushveld Complex.

Ironveld plc – Unique, Undeveloped Polymetallic Project in South Africa's Bushveld Complex



Source: Ironveld, Investor Presentation June 2022

Ironveld's High Purity Iron, Vanadium & Titanium Project

Products – Supplying Growing Demand Markets

PRODUCT*	CURRENT PRICING**	USES
HIGH PURITY IRON POWDER 20,000 tpa	\$1,300-\$1,500/t	<ul style="list-style-type: none"> Sintered components in vehicles, power tools and white goods using Powdered Metallurgy ("PM"): <ul style="list-style-type: none"> Vehicles have 10kg - 27kg of PM components PM manufacturing is quicker, more efficient Other uses – soft magnetic components, welding rods, pharmaceuticals, chemicals, printing, filtration and surface coating
VANADIUM IN SLAG 190 tpa	\$5,000-5,300/t	<ul style="list-style-type: none"> Steel additive to increase strength, toughness and heat resistance <ul style="list-style-type: none"> Used in gears, axles and crankshafts New Vanadium Redox Battery ("VRB") systems under development could significantly impact demand: <ul style="list-style-type: none"> Volume storage for electricity generated by solar and wind
TITANIUM IN SLAG 3,818 tpa	\$200-\$300/t	<ul style="list-style-type: none"> Typically used in alloy with iron, aluminium, molybdenum and manganese Main uses in aerospace, both aircraft and engine Resistant to seawater so also used for hulls and propeller shafts Potential for incorporation in lithium-ion batteries

*Forecast annualised production from FCF Smelter

Source: Ironveld, Investor Presentation June 2022

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