

ASX: IXR

Equity Research

23rd February 2022

SPECULATIVE BUY

Share Price \$0.051
Price Target \$0.130

52-Week Range	\$0.021 - \$0.073
IXR Shares Outstanding	3,410.9m
Unlisted Options (\$0.0180 30 Nov 2022)	85.0m
Unlisted Options (\$0.0215 30 Nov 2023)	40.0m
Unlisted Options (\$0.060 28 Feb 2024)	35.0m
Unlisted Options (\$0.064 30 Nov 2024)	44.0m
Performance Rights	13.5m
Market Capitalisation	\$174.0m
Cash (30 December 2021)	\$7.2m
Enterprise Value	\$166.7m

Board & Management:

Trevor Benson	Chairman
Tim Harrison	Managing Director
Max McGarvie	Non-Executive Director
Jill Kelly	Executive Director

Major Shareholders:

Top 20	32.7%
Board, Executives, Key Advisors	11%



Ionic Rare Earths Limited (ASX: IXR) is focused on developing its flagship Makuutu Rare Earths Project in Uganda into a significant long life, low-cost, supplier of high-value magnet and heavy rare earths.

Makuutu is an advanced-stage, ionic adsorption clay-hosted project highlighted by near-surface mineralisation, significant exploration upside, excellent metallurgical characteristics and access to tier-one infrastructure. The ionic adsorption clay-hosted geology at Makuutu is similar to major rare earths projects in Southern China, which are responsible for the majority of global supply of low cost heavy and critical rare earths, specifically the high value magnet metals (Dysprosium and Terbium) Heavy Rare Earths (>98% originating from ionic clays).

Ionic Rare Earths Limited

A Uncomplicated Project Targeting HREO Market Needs

Outstanding Location: The Makuutu rare earths project in Uganda, is surrounded by tier-one infrastructure with tarred roads, nearby rail, power and water, cell-phone coverage, as well as being readily accessible throughout the year irrespective of weather conditions.

Outstanding Mineral Resource and still Growing: Makuutu is one of very few global ionic adsorption clay (IAC) deposits with scale to move the needle on HREO supply. Defined potential to supply 27+ year life of mine, with significant exploration upside.

Mining: with the mineral resource lying flat just below surface, mining will be straight forward, with a strip ratio below 1 at 0.76.

Part of the Processing Done by Mother Nature: A key characteristic of Makuutu is the geology, which is similar to the southern China ionic clay-type deposits, which are the cheapest and most readily accessible source of Heavy Rare Earth Oxides (HREO) and are extracted through rudimentary mining and simple processing methods.

High Basket Price: the high proportion of HREO translates into one of the highest basket price among the project peers.

Refining Value-Add Opportunity: While the scoping study considers a payability of 70% for the MREC concentrate produced, the recent acquisition of Seren Technologies brings an opportunity that adds significant value by selling individual rare earth oxides (REO) and receive 100% of the price. While the economic parameters for the refining plant are still unknown, we can expect that the value-add will be significantly larger than the outlay for the purchase price of the remaining 40% of the Makuutu mining project.

Makuutu Valuation: We have first modelled the Makuutu project in line with the scoping study parameters to check the model's validity, then brought some modifications such as brought forward some cash flow by increasing the initial capex and plant capacity, and extending the life of mine to reflect the obvious conversion (in time) of additional mineral resources and part of the exploration target into mining inventory.

Makuutu NPV Valuation based on extended LOM and increased initial capacity

Scenario / Item	Argus Base Apr 2021	Argus High Apr 2021	Argus Current Feb 2022
Minimum price over LOM	US\$58.7/kg	US\$60.5/kg	US\$101.8/kg
Maximum price over LOM	US\$118.9/kg	US\$203.9/kg	US\$101.8/kg
Capex	US\$129m	US\$129m	US\$129m
NPV @ 8% post tax	US\$760m	US\$1,670m	US\$743m
IRR post tax	29%	40%	43%

Source: Evolution Capital estimates

News flow: We anticipate several share price catalysts including drilling results, mineral resource update, feasibility study results, project development approvals, refining scoping study all taking place in 2022, in a sector, where increasing demand place upward pressure on the rare elements prices.

IXR Valuation: As the company continues to de-risk the processing flow chart and build new mining inventory, it will continue to add value to shareholders. By way of published timelines, over the next 12 months, the feasibility study should be completed, the regulatory approvals in place and project funding assuming 60% debt funding should be in place. At that time, our speculative target valuation currently stands at A\$700 million or \$0.13 per share, assuming some A\$80m of new equity raised at \$0.08 per share and 60% project debt financing.

This does not include potential upside with downstream refining and magnet recycling value add, which should be substantial.

TABLE OF CONTENTS

1. IXR Valuation	3
Makuutu NPV Valuation	3
IXR Sum of the Parts Valuation	4
IXR Valuation Compared to Market Peers.....	4
2. IXR Strategy.....	5
3. Company and Project Benchmarking	5
4. Rare Earths Market Outlook.....	6
Lanthanides.....	7
Scandium	8
Yttrium	8
5. Makuutu Rare Earths Project.....	9
Introduction.....	9
Infrastructure	9
Ownership	9
Geology.....	9
Mineral Resource	10
Mining.....	11
Processing.....	11
Refining	12
6. Directors & Management Team	12
Trevor Benson, Chairman	12
Tim Harrison, Managing Director.....	12
Max McGarvie, Non-Executive Director.....	13
Jill Kelley, Executive Director	13
Brett Dickson, Company Secretary	13
7. Investment Risks	13

All currencies are in Australian dollars unless otherwise specified.

1. IXR Valuation

Makuutu NPV Valuation

Firstly, we have modeled the development of the Makuutu project according to the scoping study parameters (ASX announcement 29 April 2021) and checked that our results were similar to those calculated by IXR. Evolution Capital NPV estimates are within 5% of IXR estimates.

Considering the strong rare earths pricing over the last few months, we ran the model with current prices (Argus Current Feb 2022), i.e. basket price of US\$101.8/kg, flat over the 11 years life of mine (LOM).

Table 1.1 – Makuutu NPV Valuation based on Scoping Study

Scenario / Item	Unit	Argus Low	Argus Base April 2021	Argus High	Argus Current Feb 2022
Minimum price over LOM	US\$/kg	\$52.16	\$58.68	\$60.48	\$101.8
Maximum price over LOM	US\$/kg	\$73.01	\$118.88	\$203.90	\$101.8
Capex	US\$m	89	89	89	89
Evolution Capital					
NPV @ 8% post tax	US\$m	108	328	704	401
IRR post tax	%	21%	34%	46%	52%
Ionic Rare Earth					
NPV @ 8% post tax	US\$m	114	321	726	n/a
IRR post tax	%	22.5%	37.6%	53.7%	n/a

Source: Evolution Capital estimates

We noted that the cash flows are relatively weak in the first 4-5 years. To correct this, we have increased the starting plant capacity, which leads to an increase in the initial capital expenditure.

So, we built an extended financial model with the following key changes:

- LOM extended to 27 years. This assumes a mining inventory of 290 million tonnes or a conversion ratio mineral resource to mining inventory of 92% based on the current mineral resource of 315 million tonnes. One should note that the Exploration Target (outside the current mineral resource) is estimated at 87 to 442 million tonnes at a grade range of 533ppm to 844ppm. Using the mid-point of that range results in a conversion ratio of just 50%.
- Bringing some capital expenditure forward to increase plant capacity from the start of operation: US\$89m + US\$40m = US\$129m. The initial plant capacity is 5 mtpa rather than 2.5 mtpa.

Based on the same rare earth oxide price scenarios, the results of the financial evaluation are summarised in Table 1.2

Table 1.2 – Makuutu NPV Valuation based on extended LOM and increased initial capacity

Scenario / Item	Unit	Argus Low	Argus Base Apr 2021	Argus High	Argus Current Feb 2022
Minimum price over LOM	US\$/kg	\$52.16	\$58.68	\$60.48	\$101.8
Maximum price over LOM	US\$/kg	\$73.01	\$118.88	\$203.90	\$101.8
Capex	US\$m	129	129	129	129
Evolution Capital					
NPV @ 8% post tax	US\$m	251	760	1,670	743
IRR post tax	%	18%	29%	40%	43%

Source: Evolution Capital estimates

The combined effect on the NPV valuation is quite significant while the capex remains at a reasonable level, compared to the current market capitalisation of the company. The NPV/capex ratio is excellent in most cases and remain above one even with the most conservative price forecast.

IXR Sum of the Parts Valuation

Table 1.3 summarises the sum of the parts valuation for IXR.

Table 1.3 – IXR Sum of the Parts Valuation

Asset	Value Range	Preferred	Per Share
Makuutu Project (27 years LOM)	US\$251m-\$1,670m	US\$750m	
in Australian dollars		A\$1,000.0m	
Risked NPV (70% risk factor)		\$700.0m	\$0.141
Purchase of remaining 40% of Makuutu project			
Upside from downstream refining			
Cash (31 Dec 2021)		\$7.2m	\$0.002
Options/rights exercised over next 18 months		\$2.4m	\$0.001
New equity		\$80.0m	\$0.018
Debt		(\$172.0m)	(\$0.038)
Corporate costs		(\$20.0m)	(\$0.004)
Total		\$597.6m	\$0.13

Source: Evolution Capital estimates

The negotiation for the purchase of the remaining 40% of the Makuutu project is likely to take place once the definitive feasibility study results are published. Note the minority holder is not free-carried and needs to secure its share of the capital expenditure unless a deal is done.

IXR has acquired Seren Technologies Ltd, a UK private company that has developed REE separation and refining technology using ionic liquids. This acquisition gives the opportunity to IXR to go one step further into the value-adding chain, producing the REE rather than a Mixed Rare Earths Carbonate concentrate and increasing the payability from 70% to 100%. While the economic parameters are still unknown, we can expect that the value-add will be significantly larger than the outlay for the purchase price of the remaining 40% of the Makuutu mining project. At this time, we conservatively left those items blank.

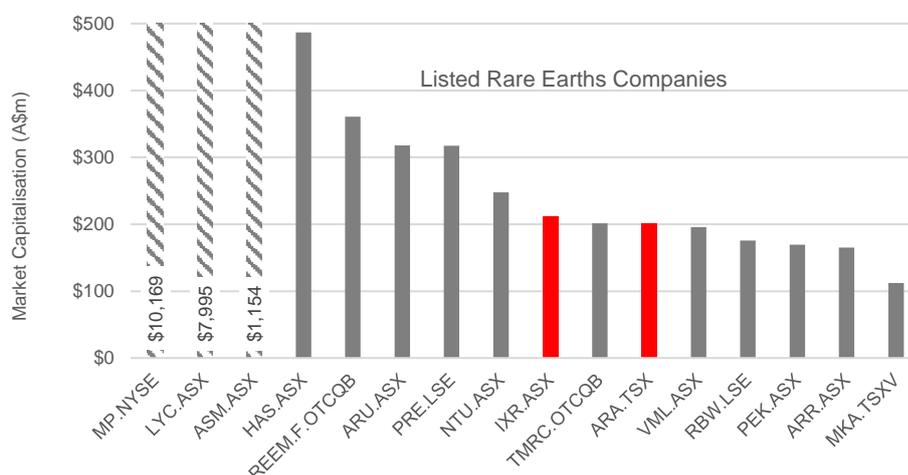
The valuation assumes a capital raising of 1 billion shares at \$0.08 for A\$80 million or US\$60 million to complement the assumed debt financing 60% of capital expenditure US\$129m.

The selected risk factor of 70% assumes the completion of the definitive feasibility study, as well as all project approvals in place and project financing executed.

IXR Valuation Compared to Market Peers

Figure 1.1 displays the market capitalisation of the listed rare earth companies (limited to market capitalisation above A\$100 million).

Figure 4.1 – Listed Rare Earths Companies



Source: S&P Global. Evolution Capital

Among those, only MP Materials (MP.NYSE), Lynas Corporation (LYC.ASX) and Vital Metals (VML.ASX) are in production. Hastings Technology Metals (HAS.ASX) is about to start construction at its Yangibana project and Northern Minerals (NTU.ASX) has been running a pilot plant at the Browns Range project since late 2018

Among those listed companies, only two are developing Ionic Adsorption Clay projects: Aclara Resources Inc. (ARA.TSX) with the Penco project in Chile and Ionic Rare Earths Ltd (IXR.ASX) with Makuutu in Uganda.

While rare earths projects can differ by a considerable number of parameters, we note that our IXR forward looking valuation is in line with HAS current market value. HAS is at a development stage close to where we set IXR valuation point.

2. IXR Strategy

The key elements of IXR strategy are as follows:

1. Extend (and increase the confidence) of the mineral resources at Makuutu
2. Progress development studies aiming at demonstrating superior economics, overall scale and path to production

Success will bring the following outcomes:

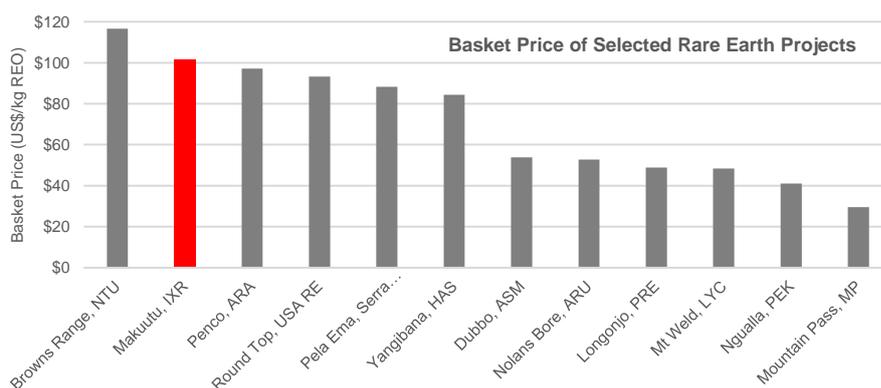
1. One of the largest ionic adsorption clay deposits outside China
2. A HREE project with a simple desorption/leaching process, low up-front capital, low capital intensity and high margins
3. As the other IAC projects are privately held, IXR offers a unique exposure to the superior economics of IAC deposits and a major source of future low cost HREE in a context of depleted or running out Chinese IAC mines and limited overall long term supply
4. Opportunity for a long-life asset to supplement declining HREO production from China and supply western markets with magnet and heavy rare earths. Extend (and increase the confidence) of the mineral resources at Makuutu

3. Company and Project Benchmarking

Beyond the complexity of rare earths project, the lack of consistent reporting between projects makes benchmarking of technical and financial parameters across project and companies a strenuous exercise. Then results are to be interpreted with caution, given the impact of different geologies impacting on processing flow chart, the different products resulting in a range of payabilities most often not disclosed.

Basket Price

Figure 3.1 – Basket Prices among Peers



Source: Company announcements. Evolution Capital

Figure 3.1 compares the basket price of a few selected projects. Thanks to their strong HREO component, projects such Browns Range from Northern Minerals (ASX: NTU), Makuutu, Penco Module from Aclara Resources (TSX: ARA) and Yangibana from Hastings Technology Metals (ASX: HAS) have high basket prices. Nevertheless, operating costs and payabilities of the rare earth product will further influence the operating margins those projects can deliver.

Looking at IXR closest listed peer, Table 3.1 summarises a number of technical and financial parameters.

Table 3.1 – Aclara Resources Inc. v Ionic Rare Earths Ltd Comparison

Company	Aclara Resources Inc.	Ionic Rare Earths Ltd
Code	ARA.TSX	IXR.ASX
Key Project, Location	Penco Module, Chile	Makuutu, Uganda
Ownership	100%	60% at DFS
Tenement Holding	451,585 ha	24,200 ha
Resource Date	Aug-21	Apr-21
Resource Tonnes	22.8 mt	315 mt
TREO Grade	2,415 ppm	650 ppm
TREO Content	54,966 t	204,750 t
Latest Study	PEA Sep 2021	Scoping Study April 2021
Life of Mine	12 years	11 years
Live of Mine Extent	Possible, but limited	Definite, 27+ years
Capital Expenditure	US\$119m	US\$89m
Initial Plant Throughput	1.766 mtpa	2.500 mtpa
Production Upside	No	Yes, funded by cash flow
Processing cost	US\$7.13/t processed	US\$6.71/t processed
Operating cost	US\$13.39/t	US\$12.62/t
MREC product	1,227 tpa	2,674 tpa (average)
Basket Price Assumption	US\$96/kg REO	US\$73/kg REO
Corporate Income Tax	27%	30%
Discount Rate	5%	8%
NPV Post-tax	US\$178m	US\$321m
IRR Post-tax	23%	38%
Market Capitalisation	A\$189	A\$174m
Cash	A\$130m ¹	A\$7.2m
Enterprise Value	A\$59m	\$167m
EV/Resource	\$1,073/t REO	\$1,359/t REO ²
NPV/Capex	1.5x	3.6x

Source: Company announcements. Evolution Capital. ¹ Net proceeds from 10 Dec 2021 IPO and Concurrent Private Placement. ² Taking into consideration 60% ownership

While the projects compare quite well on a number of parameters, the Makuutu project offers far more upside than the Penco Module. It also generates a superior economic outcome. Finally the longevity of the project should attract some major off-takers (or partners interested in developing new supply chains).

4. Rare Earths Market Outlook

Global rare earth mining production rose in 2021 from a year earlier, boosted by higher production in most supplier countries and strong consumer demand from the electric vehicle (EV) sector, according to the US Geological Survey.

Global production climbed by 17% to 280,000 tonnes of rare earth oxide in 2021. Growth in the downstream sectors, particularly the buoyant global EV industry boosted demand for magnets.

The world’s largest rare earth supplier, China, which accounts for 60% of the total output, raised its mining quotas for REO to 168,000 t last year, up by 20% from a year earlier.

The growing EV industry is expected to increase demand for permanent magnets and their rare feedstock in the coming years, which will allow more suppliers to enter the market, especially when traceability and sustainability become critical factors for the auto manufacturers.

Lanthanides

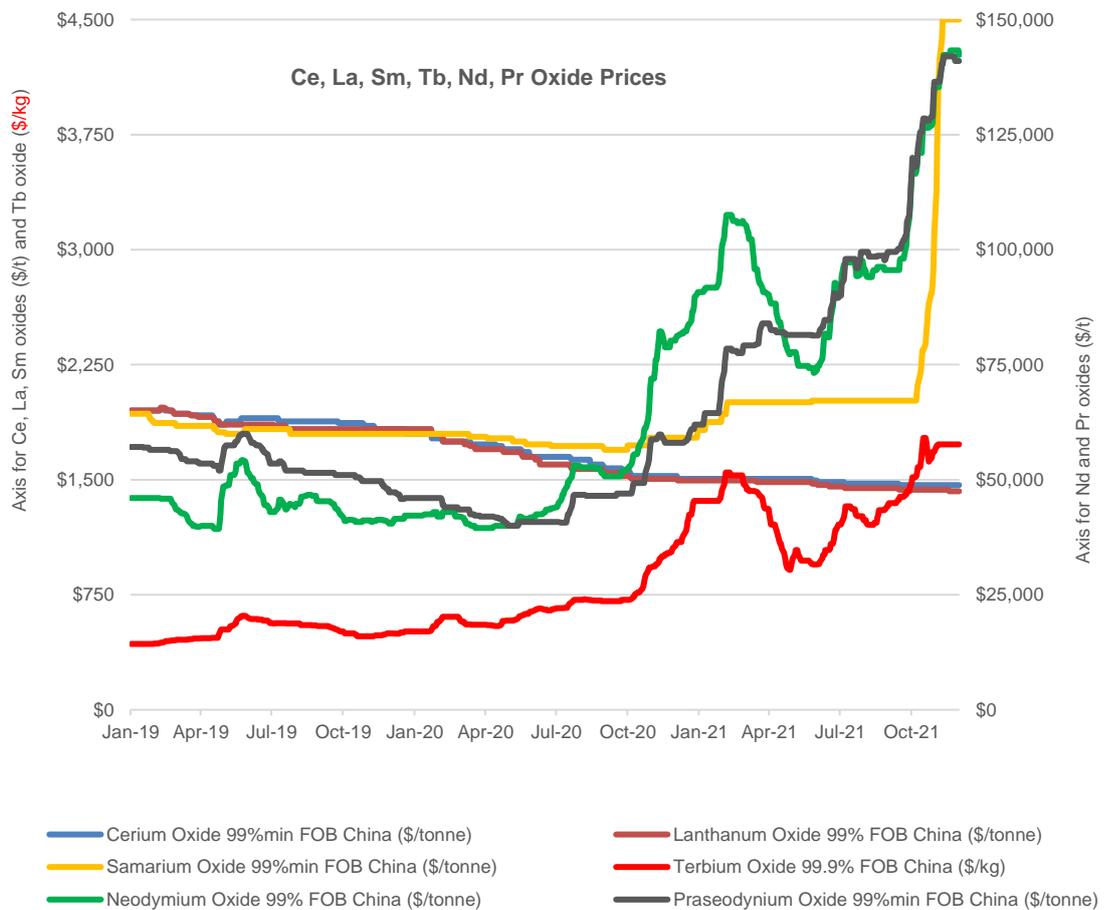
The world's reliance on China for rare earth elements has been gradually easing, but the country is expected to continue increasing production, exports and pricing for the commodity group through 2022, driven by increasing global demand for clean energy.

China has long held a strong influence on the rare earths market, but its share of global output and reserves has decreased after years of extensive mining. The rare earth elements comprise the 15 lanthanides as well as scandium and yttrium, many of which are essential for electric vehicles, magnets and other clean energy technologies.

According to the International Energy Agency, the demand for rare earth elements could increase three to seven times current levels by 2040.

The recent prices for six of the lanthanides are displayed in Figure 4.1. The chart display a clear surge in pricing over the last 18 months.

Figure 4.1 – Lanthanides Pricing



Source: S&P Global

Scandium

Owing to its scarcity and limited production, scandium is one of the most expensive of all the natural elements. Prices for 99.99% pure scandium have fluctuated between US\$4,000 and US\$20,000 per kilogram over the past decade. Of course, because of the limited amount of material produced globally and the limited market for scandium, there is also a wide range of prices offered for the metal at any given time.

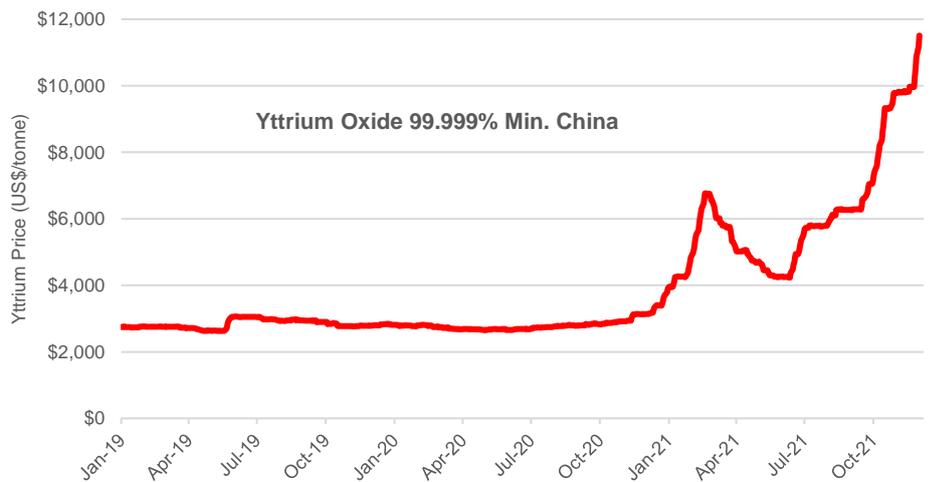
As at 28th January 2022, Shanghai Metals Market quotes the Scandium metal price at US\$4,550-\$5,490, averaging US\$5,020/kg. The Scandium oxide price ranges between US\$1,020 and US\$1,098/kg, averaging US\$1,059/kg. Our model assumes a flat price of US\$700/kg over the life of mine, except for the first two years of production

Yttrium

The most important uses of yttrium are LEDs and phosphors. Yttrium is also used in the production of electrodes, electrolytes, electronic filters, lasers, superconductors, various medical applications, and tracing various materials to enhance their properties.

Similarly to the lanthanides, yttrium prices have surged over the last 12 months. See

Figure 4.2 – Yttrium Pricing



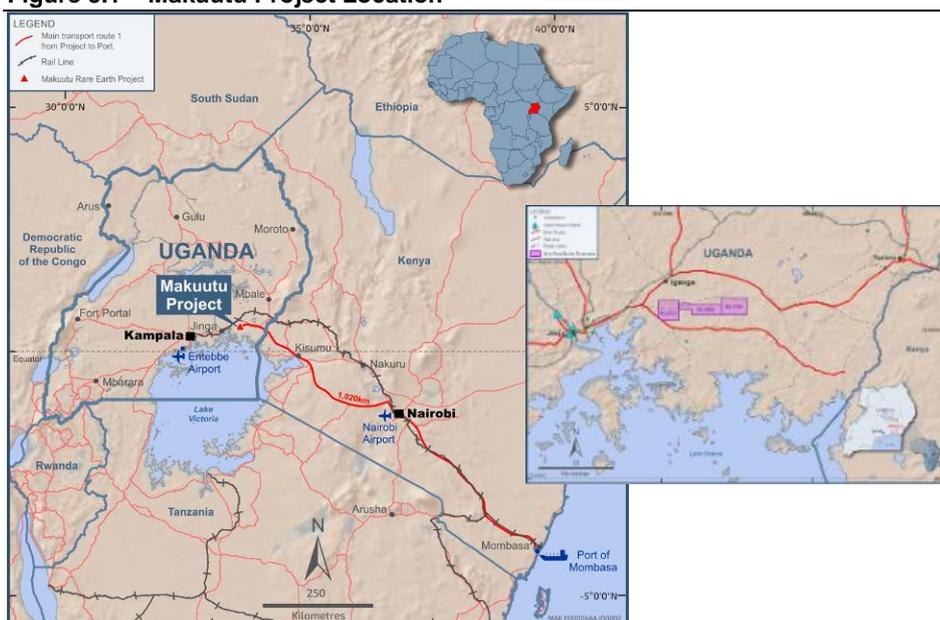
Source: S&P Global

5. Makuutu Rare Earths Project

Introduction

Makuutu comprises six licences covering approximately 300 km² and is located ~40km east of the regional centre of Jinja and 120km east of the capital city of Kampala in eastern Uganda. Makuutu is surrounded by tier-one infrastructure with tarred roads, nearby rail, power and water, cell-phone coverage, as well as being readily accessible throughout the year irrespective of weather conditions.

Figure 5.1 – Makuutu Project Location



Source: IXR

Infrastructure

In terms of logistics, the Makuutu project is located 10km from Highway 109, connecting Makuutu to both capital city Kampala and Port of Mombasa, Kenya. The project is also 20km from rail line connecting to Port of Mombasa.

65km from the Makuutu project, a large hydroelectric generation capacity (810 MW) will deliver low cost power (US\$0.05/kWh). Further capacity is also being developed. Existing electrical grid infrastructure is readily available adjacent to the project site providing stable power.

Fresh water is plentiful within and near the project area.

The proximity to Jinja town centre (40km) and Kampala capital city (120km) means that no camp site is required.

Overall, the project location reduces quite significantly the capital cost related to infrastructure.

Ownership

The Makuutu project is presently 51% owned by IXR, and as previously indicated in November 2020, the board of directors of IXR unanimously agreed to advance to the DFS which has now commenced. The completion of the DFS will increase the ownership to a 60% project interest. IRX also has the right to negotiate and purchase the final 40% ownership if mutually agreeable.

Geology

The Makuutu deposit is interpreted to be an IAC-type REE deposit similar to those in southern China, Myanmar, Madagascar, Chile and Brazil. IAC REE mineralisation can be summarised as REEs that are mainly adsorbed onto the

surfaces of clay minerals in the form of hydrated ions or hydroxyl-hydrated ions. These REE deposits are hosted within the regolith (laterite profile).

Makuutu is defined as a shallow, near surface orebody, with clay layer ranging from 5m to nearly 29m thick under cover approximately 3m deep. The key characteristics of Makuutu include continuous mineralisation, low strip ratio, low cost bulk mining potential, in conjunction with metallurgical recoveries of up to metallurgical recoveries of up to 75% TREE-Ce (Total Rare Earth minus Cerium) using simple extraction techniques, provide a platform for IXR to develop Makuutu into a significant, low-cost, rare earths operation. In addition to REE's, Makuutu has potential for production of appreciable content of scandium in the product, and potentially opportunities for the separation of scandium as a separate co-product will be explored in future phases of the project.

Mineral Resource

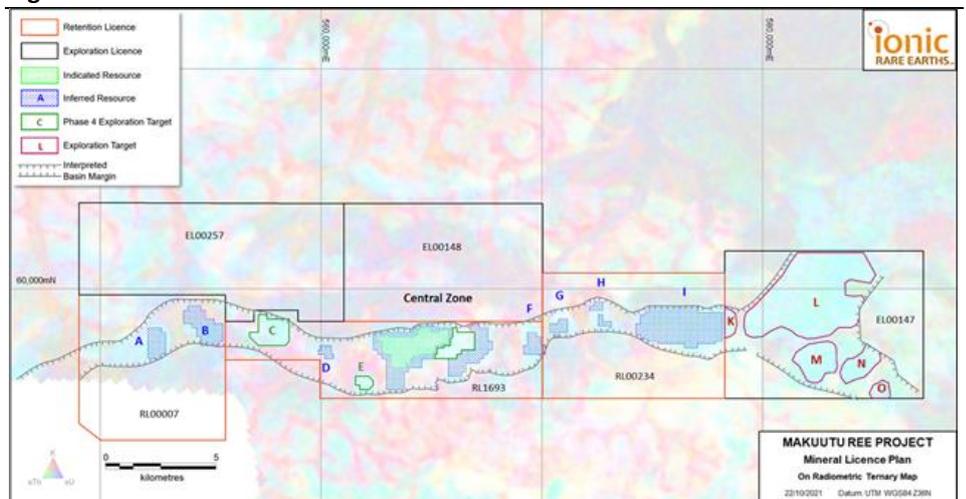
On 3rd March 2021, IXR announced a three-fold increase of the Makuutu mineral resource.

Table 5.1 – Makuutu Mineral Resource (3 March 2021)

Classification	Tonnes	TREO (ppm)	TREO minus CeO ₂ (ppm)	LREO (ppm)	HREO (ppm)	CREO (ppm)	Sc ₂ O ₃ (ppm)	U ₃ O ₈ (ppm)	ThO ₂ (ppm)
Indicated	66 mt	820	570	590	230	300	30	20	30
Inferred	248 mt	610	410	410	450	160	30	10	20
Total	315 mt	650	440	480	170	230	30	10	30

Source: IXR. Cut-off 200ppm TREO-CeO₂

Figure 5.2 – Resource Estimation Areas



Source: IXR

With Phase 4 drilling currently completed, and the drill assay results nearly all reported (5 of 6 tranches reported to date) we can expect that the mineral resource will grow further. The Exploration Target detailed in Table 5.2 for the areas has been tested with initial scout drilling reported in the RAB Phase 3 drilling reported in July 2021 confirmed numerous thick clay intervals and provides an insight of the substantial additional potential resource.

Table 5.2 – Makuutu Exploration Target (3 March 2021)

Zones	Tonnes		TREO	
	Min	Max	Min	Max
EL00147	60	270	550	900
Area C	14	27	450	675
Area E	5	10	450	675
Central East Zone	8	17	600	820
Hardcap + Transitions Zones RL00007, RL 1693m EL1766	0	120	530	900
Total	87	442	533	844

Source: IXR

Given the excellent geological continuity, the Exploration Target can comfortably support our assumption to extend the life of mine from 11 years to 27 years, i.e. increasing the mining inventory from 84.5 million tonnes to 280 plus million tonnes. Further extension is highly likely.

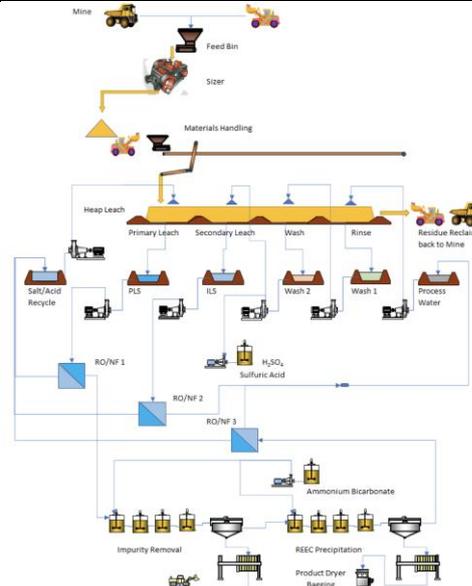
Mining

The deposit geometry makes the project amenable to open pit mining using relatively large-scale bulk mining equipment. The strip ratio is minimal at 0.76 to 1. The mining rate is scheduled to commence at 10 mtpa and step up to 12.5 mtpa in year 7, 15.0 mtpa in year 9 and 25 mtpa in year 10.

Processing

Figure 5.3 summarises the process flowchart.

Figure 5.3 – Process Flowchart



Source: IXR

IXR will implement a simple metallurgy and processing system at Makuutu, which is outlined below:

- The ROM ore will be stacked and heap leached using an acidified salt solution (ammonium sulfate) to desorb and leach REE from the ore. Once REE is extracted from the ore, the residue will be washed with water to recover residual reagents and REE content, prior to return back to the mining pits where the residue and mining pits will be progressively rehabilitated and returned back to agricultural use.
- The process liquors will be processed using membrane technology to upgrade the REE concentration, with the clean water recycled back to the heaps for washing. Excess water will be processed to recover any reagents and REE

content prior to disposal of high quality water back to the local environment once environmental standards for discharge have been met.

IXR intends to use a modular approach in relation to processing:

- Module 1 will process 2.5 mtpa of ore via heap leach/ desorption with a 2,250 tpa precipitation circuit for mixed rare earth carbonate (MREC) product, including membrane water treatment circuits to enable recycling of process liquors, recovery of ammonium sulfate (salt) and upgrading of REE pregnant leach solutions (PLS) and intermediate leach solution (ILS).
- Additional Module 2 will increase heap leach / desorption processing capacity to 5.0 Mtpa plus add membrane circuit capacity
- Module 3 replicate Module 1 processing plant capacity (increase to 7.5 Mtpa) and expands MREC precipitation capacity to 4,500 tpa
- Modules 4 (to 10 Mtpa) and 5 (to 12.5 Mtpa) will each add heap leach / desorption and membrane water treatment capacity.

Refining

IXR is now eyeing potential downstream REE processing and value addition through new secure and traceable supply chains. While the Makuutu scoping study considers a payability of 70% for the MREC concentrate produced, the recent acquisition of Seren Technologies and IXR's announced plans to develop downstream refinery and further vertical integration brings an opportunity to add significant value by selling individual rare earth oxides (REO) and receive 100% of the REO price, or participating further in the value chain to metals, alloys and magnets.

Also with appreciable upside potential, the early mover status in hydrometallurgical magnet recycling could be a big winner. The application of Seren Technologies patents and know-how in REE separation on spent and waste magnets has suggested a low cost, quick deployment to produce those magnet REOs in the most demand – Nd, Pr, Dy and Tb. This has the potential to be a growing sector of the REE supply chain in the near term, and a growing component over time presenting compounding growth potential.

6. Directors & Management Team

Trevor Benson, Chairman

Trevor has over 30 years' experience within investment banking and stockbroking, specialising in the resources sector. He has also worked for large Australian and international corporations, and held a number of directorships with ASX listed companies. Most recently he held the position of Executive Chairman and for Evolution Energy Minerals Ltd and Non-Executive Chairman for Cannon Resources Ltd.

Trevor's focus within the investment banking industry was within SE Asia and China specialising in merger and acquisitions and equity capital market transactions, and advising Australian and International companies, including being exclusive adviser to Chinese State-Owned Enterprises, and Hong Kong listed resource companies.

He has cross border experience including Africa, UK, Hong Kong, and China and has advised and listed numerous ASX listed companies..

Tim Harrison, Managing Director

Mr. Tim Harrison initially joined the Company in the role of Project Manager of Makuutu Rare Earths Project at the start of 2020. Since then he has been driving development and value creation, and was appointed CEO in June 2020 and was appointed Managing Director in December 2020.

Mr. Harrison holds a Bachelor of Chemical Engineering and has over 20 years of experience and an extensive and successful track record in the fields of both mineral processing and hydrometallurgy across multiple commodities.

Mr. Harrison has been involved in project development, process and flowsheet development, studies, test work planning and supervision, engineering, construction, commissioning, operations and project management.

Max McGarvie, Non-Executive Director

Mr. McGarvie is a senior mining executive with an extensive portfolio of technical/managerial appointments in a career exceeding 45 years in mine development, mineral processing, operational and management roles across Australia, Africa and the Middle East.

Mr. McGarvie has a long and distinguished career in the mining industry, a significant portion of this with Iluka Resources Limited and prior entities, including development roles within its mineral sands operation at Eneabba, Western Australia and a major role in returning the Sierra Rutile mineral sands operation in Sierra Leone (operated by Iluka) to profitable operations following the civil war in that country.

Mr. McGarvie's career has covered a range of senior roles in the mining sector including Production Manager, through Registered Mine Manager to CEO, and he has a deep knowledge and understanding of the African environment and project development in this theatre.

Jill Kelley, Executive Director

Ms. Kelley has previously held roles at the highest levels of international leadership and has played a crucial role in supporting U.S. military operations spanning over 60 countries, collectively known as the U.S. Coalition Allies. Ms. Kelley's networks in, and knowledge of, Europe, the Middle East, Asia, and South and Central America have helped advance American interests during the most critical points in current history.

As former honorary ambassador to U.S. Central Command General Mattis and CIA Director David Petraeus, Ms. Kelley met regularly with Royals, Presidents, Prime Ministers, and Parliamentarians to foster military, security, and economic relationships. Ms. Kelley received the Pentagon's esteemed Joint Chiefs of Staff Award for her leadership, along with the Multi-National Military Forces Award, an honour only bestowed upon a few individuals.

Brett Dickson, Company Secretary

Mr. Brett Dickson has over 20 years' experience focusing on the start-up, restructuring, management, growth and financing of emerging publicly listed exploration and mining companies, including projects advancing from exploration through development to production. This experience ranges through a spectrum of activities; from capital and debt raisings, corporate restructuring and stock exchange listings. He has been a Director of, and involved in the executive management of, a number of publicly listed resource companies with operations in Australia, Nicaragua, Chile, Mexico, Finland, Ukraine, Laos, Papua New Guinea and South Africa.

Mr. Dickson has a Bachelor's degree in Economics and Finance and is a Fellow of the Australian Society of Certified Practising Accountants. He has been Company Secretary and Chief Financial Officer (CFO) for a number of successful resource companies listed on the ASX. .

7. Investment Risks

IXR is exposed to a number of risks including:

- **Geological risk:** the actual characteristics of an ore deposit may differ significantly from initial interpretations.
- **Resource risk:** all resource estimates are expressions of judgement based on knowledge, experience and industry practice. Estimates, which were valid when originally calculated may alter significantly when new information or techniques become available. In addition, by

their very nature, resource estimates are imprecise and depend to some extent on interpretations, which may prove to be inaccurate.

- **Commodity price risk:** the revenues IXR will derive mainly through the sale of rare earths concentrate exposing the potential income to metal price risk. The prices of REO fluctuate and is affected by many factors beyond the control of IXR. Such factors include supply and demand fluctuations, technological advancements and macro-economic factors.
- **Exchange rate risk:** The revenue IXR derives from the sale of metal products exposes the potential income to exchange rate risk. International prices of rare earths are denominated in United States dollars, whereas the financial reporting currency of IXR is the Australian dollar, exposing the company to the fluctuations and volatility of the rate of exchange between the USD and the AUD as determined by international markets.
- **Mining risk:** A reduction in mine production would result in reduced revenue.
- **Processing risks:** A reduction in plant throughput would result in reduced revenue. In all processing plants, some metal is lost rather than reporting to the valuable product. If the recovery of metal is less than forecast, then revenue will be reduced.
- **Operational cost risk:** an increase in operating costs will reduce the profitability and free cash generation of the project.
- **Management and labour risk:** an experienced and skilled management team is essential to the successful development and operation of mining projects.

Evolution Capital Pty Ltd

Level 6, 1 Castlereagh Street
Sydney, NSW 2000
Tel: +61 2 8379 2958
www.eveq.com

Disclosure & Disclaimer

Evolution Capital Pty Ltd (ACN 652 397 263) ("Evolution Capital") is a corporate Authorised Representative (number 1293314) of Amplus Global Pty Ltd (ACN 162 631 325), the holder of Australian Financial Services Licence number 505929.

The information contained in this report is only intended for the use of those persons who satisfy the Wholesale definition, pursuant to Section 761G and Section 761GA of the Corporations Act 2001 (Cth) ("the Act"). Persons accessing this information should consider whether they are wholesale clients in accordance with the Act before relying on any information contained

Any financial product advice provided in this report is general in nature. Any content in this report does not take into account the objectives, financial situation or needs of any person, or purport to be comprehensive or constitute investment advice and should not be relied upon as such. You should consult a professional adviser to help you form your own opinion of the information and on whether the information is suitable for your individual objectives and needs as an investor.

The content of this report does not constitute an offer by any representative of Evolution Capital to buy or sell any financial products or services. Accordingly, reliance should not be placed solely on the content of this report as the basis for making an investment, financial or other decision.

Recipients should not act on any report or recommendation issued by Evolution Capital without first consulting a professional advisor in order to ascertain whether the recommendation (if any) is appropriate, having regard to their investment objectives, financial situation and particular needs. Any opinions expressed are subject to change without notice and may not be updated by Evolution Capital.

Evolution Capital believes the information contained in this report is correct. All information, opinions, conclusions and estimates that are provided are included with due care to their accuracy; however, no representation or warranty is made as to their accuracy, completeness, or reliability.

Evolution Capital disclaims all liability and responsibility for any direct or indirect loss, or damage, which may be incurred by any recipient through any information, omission, error, or inaccuracy contained within this report.

The views expressed in this report are those of the representative who wrote or authorised the report and no part of the compensation received by the representative is directly related to the inclusion of specific recommendations or opinions.

Evolution Capital and / or its associates may hold interests in the entities mentioned in any posted report or recommendation.

Evolution Capital, or its representatives, may have relationships with the companies mentioned in this report – for example, acting as corporate advisor, dealer, broker, or holder of principal positions. Evolution Capital and / or its representatives may also transact in those securities mentioned in the report, in a manner not consistent with recommendations made in the report.

Any recommendations or opinions stated in this report are done so based on assumptions made by Evolution Capital.

The information provided in this report and on which it is based may include projections and / or estimates which constitute forward-looking statements. These expressed beliefs of future performance, events, results, or returns may not eventuate and as such no guarantee of these future scenarios is given or implied by Evolution Capital. Any forward looking statements are subject to uncertainties and risks that may mean those forecasts made by Evolution Capital are materially different to actual events. As such, past performance is not an indicator of future performance.