IPERIONX

A U.S. Critical Materials Company

July 2022

IperionX Limited
ABN 84 618 935 372

Disclaimer

Forward Looking Statements
Information included in these materials constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward-looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, and “guidance”, or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

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This presentation has been prepared by the Company as a summary only and does not contain all information about assets and liabilities, financial position and performance, profits and losses, prospects, and the rights and liabilities attaching to securities. Any investment in the Company should be considered speculative and there is no guarantee that they will make a return on capital invested, that dividends would be paid, or that there will be an increase in the value of the investment in the future.

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Competent Persons Statements
The information in this document that relates to Exploration Results, Mineral Resources, Production Targets, Process Design, Mine Design, Cost Estimates, and Financial Analysis is extracted from IperionX’s ASX Announcement dated June 30, 2022 (“Original ASX Announcement”) which is available to view at IperionX’s website at www.IperionX.com.

The Company confirms that a) it is not aware of any new information or data that materially affects the information included in the Original ASX Announcement; b) all material assumptions and technical parameters underpinning the Production Target, and related forecast financial information derived from the Production Target included in the Original ASX Announcement continue to apply and have not materially changed; and c) the form and context in which the relevant Competent Persons’ findings are presented in this report have not been materially changed from the Original ASX Announcement.

Critical metals and their mineral feedstocks are key to U.S. advanced industries

Dy Dysprosium 162.50 | Nd Neodymium 144.24 | Tb Terbium 158.93 | Pr Praseodymium 140.91

Electric Vehicles

Dy Dysprosium 162.50 | Nd Neodymium 144.24 | Tb Terbium 158.93 | Pr Praseodymium 140.91

Renewable Power

Dy Dysprosium 162.50 | Nd Neodymium 144.24 | Tb Terbium 158.93 | Pr Praseodymium 140.91

Consumer Electronics

Ti Titanium 47.867

3D Printing

Dy Dysprosium 162.50 | Nd Neodymium 144.24 | Tb Terbium 158.93 | Pr Praseodymium 140.91

Robotics

Ti Titanium 47.867 | Dy Dysprosium 162.50 | Nd Neodymium 144.24 | Tb Terbium 158.93 | Pr Praseodymium 140.91

Space Exploration

Ti Titanium 47.867

Aerospace

Ti Titanium 47.867 | Zr Zirconium 91.224 | Dy Dysprosium 162.50 | Nd Neodymium 144.24 | Tb Terbium 158.93 | Pr Praseodymium 140.91

Defense

Titanium metal is extensively used in U.S. defense applications

- **Higher strength to weight than steel & aluminum**
- **Lighter than steel (~45% lighter)**
- **Superior corrosion resistance / longevity**
- **High temperature applications**

Current Defense Applications

U.S. Airforce

F-35 Lighting

V-22 Osprey

U.S. Army

M777 Howitzer

M1 Abrams

U.S. Navy

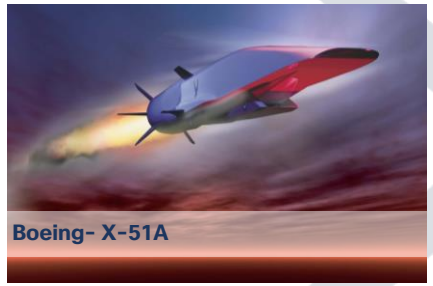
SSN774 Virginia Class

LPD17 San Antonio Class

Future Defense Applications

Hypersonics

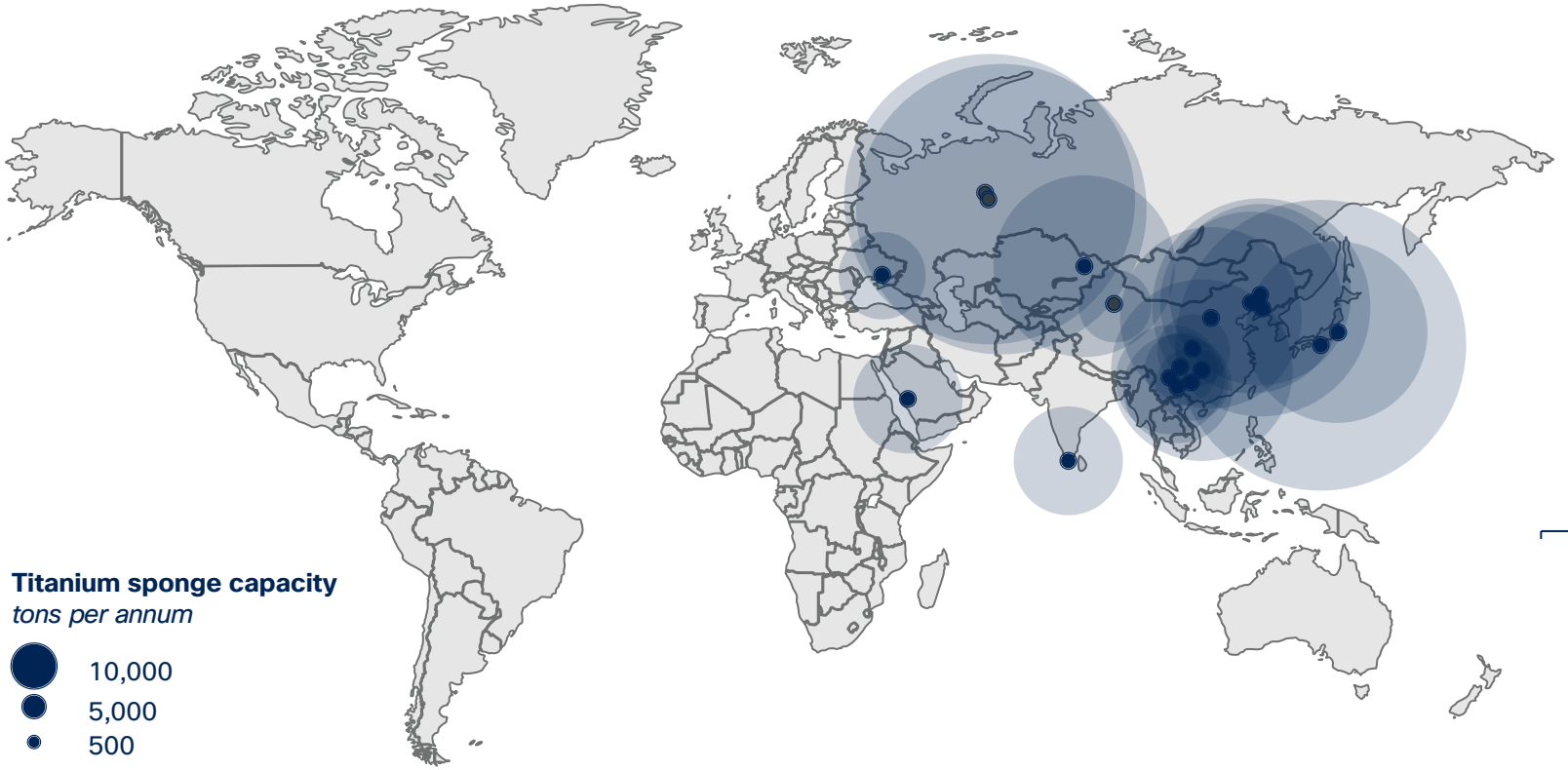
Lockheed Martin - SR72

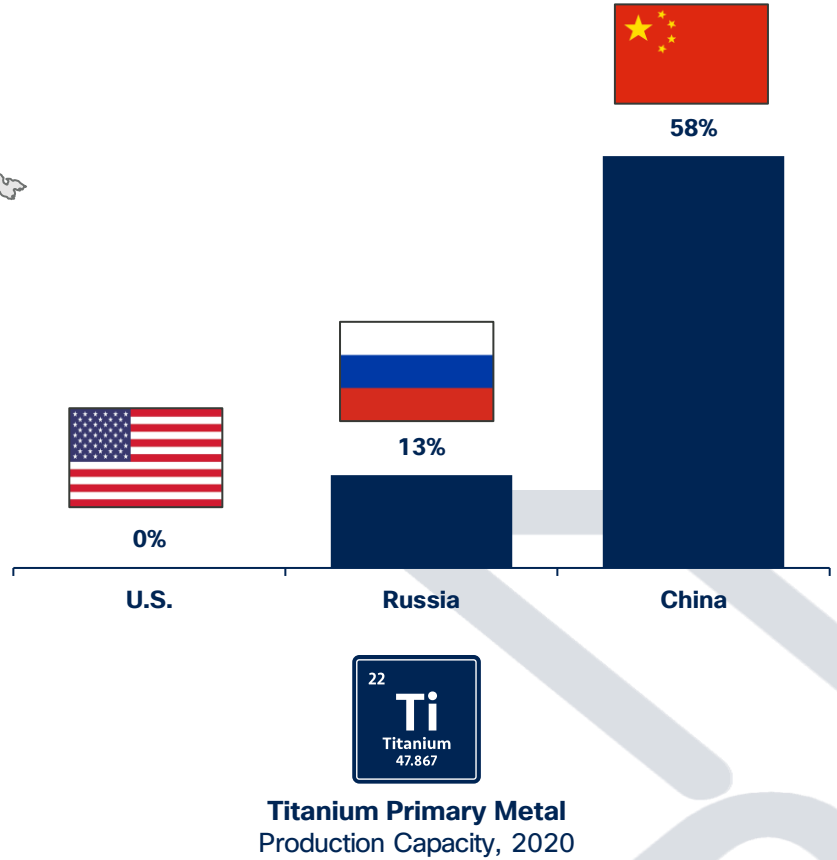


Boeing- X-51A

Source: U.S. Dept. of Commerce Bureau of Industry and Security, Roskill, Joint Program Management Office Picatinny Arsenal

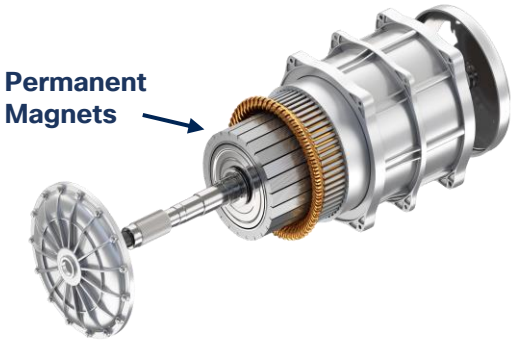
But the U.S. titanium metal sector is 100% import reliant





Titanium Primary Metal
Production Capacity, 2020

Source: US Geological Survey. Locations shown are approximate.



*Generators & Electric Motors require **Permanent Magnets***

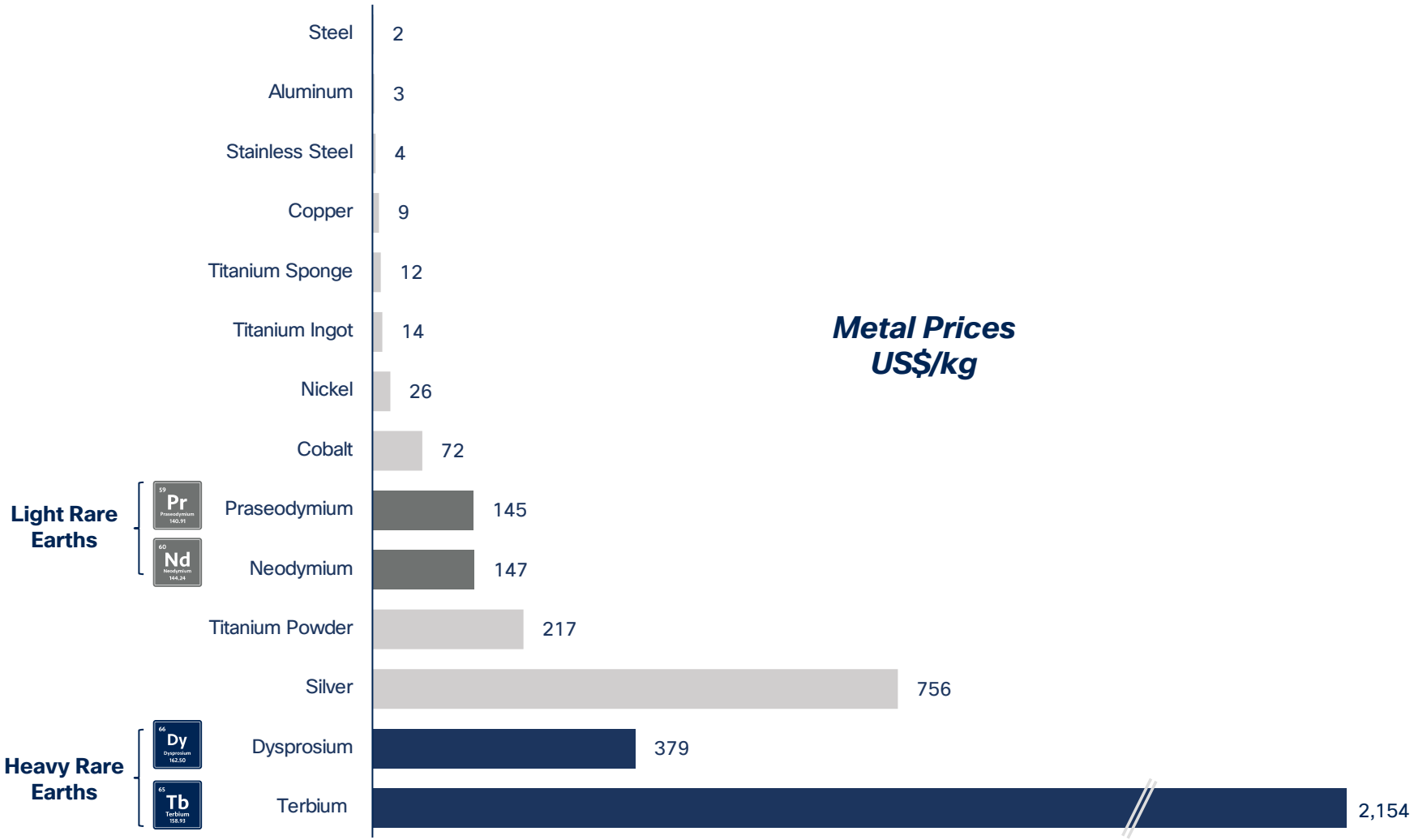
Rare earths are a crucial component of high-performance permanent magnets, which underpin the trend of the “electrification of everything”

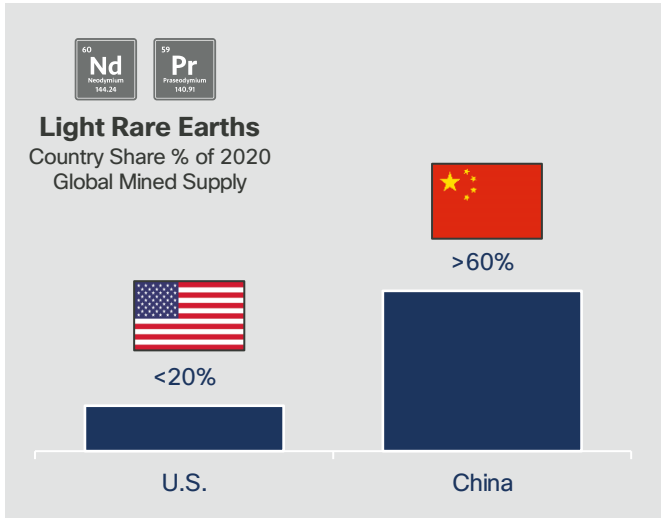
*Electric Vehicles require **Electric Motors***

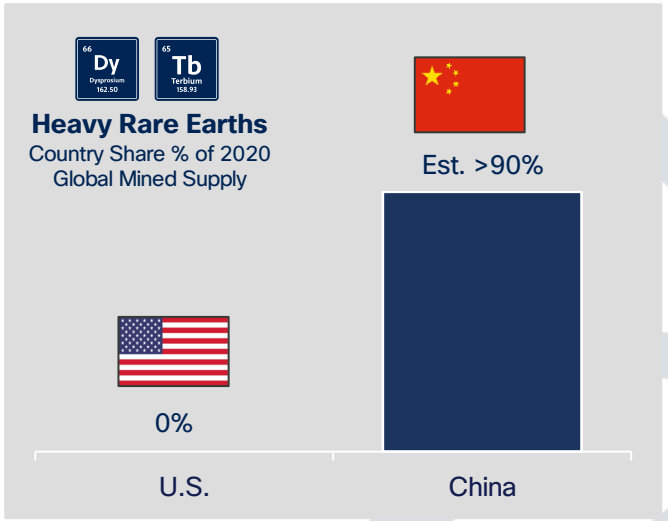
*Wind Turbines require **Generators***

Light & Heavy Rare Earths
are required by permanent magnet to allow for high temperature, high performance applications

The true “rare” earths are the heavies, but are dominated by China

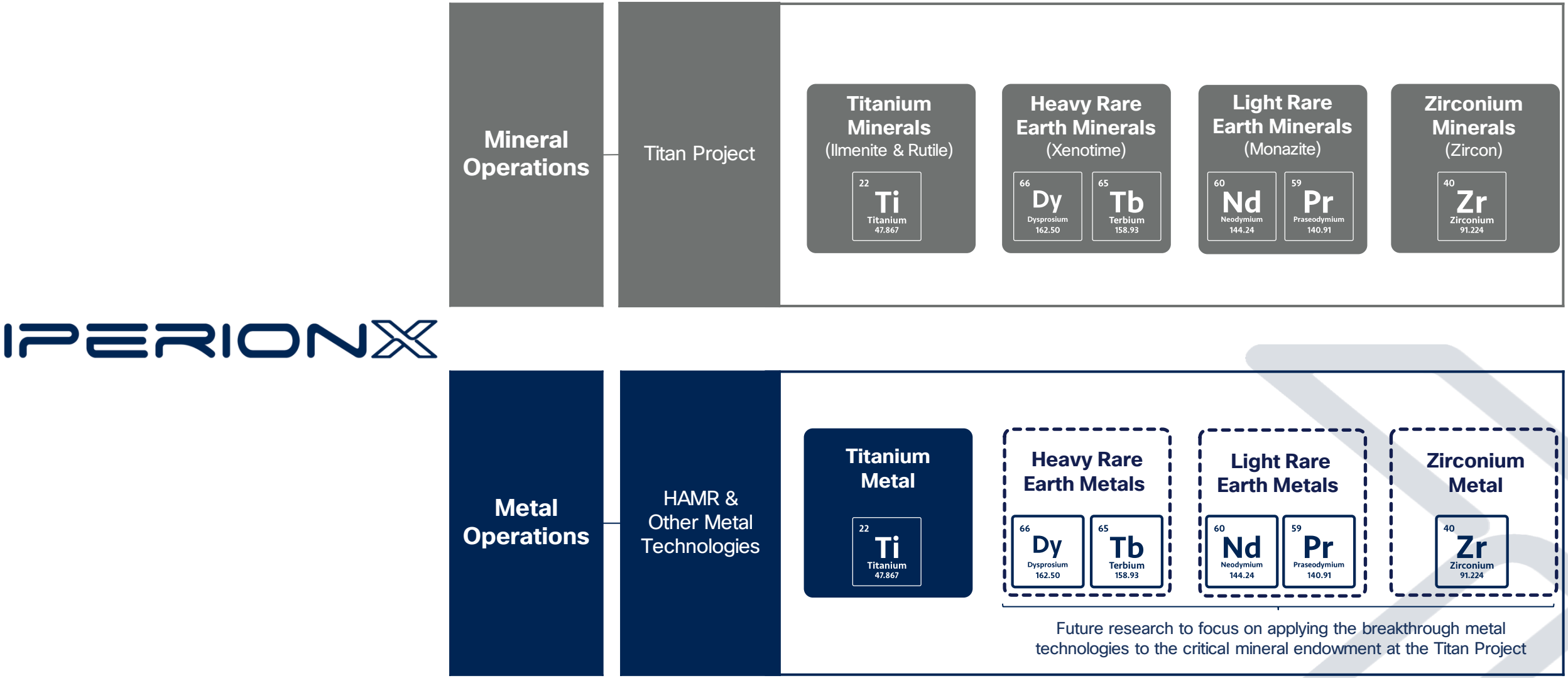






Source: Roskill, LME, Metal.com, AgMetalMiner Macquarie Research, Adamas Intelligence, US Geological Survey, Reuters, Public Company Documents. Mined production figures shown. Chinese heavy share assumed to include Myanmar production.

We have the solution



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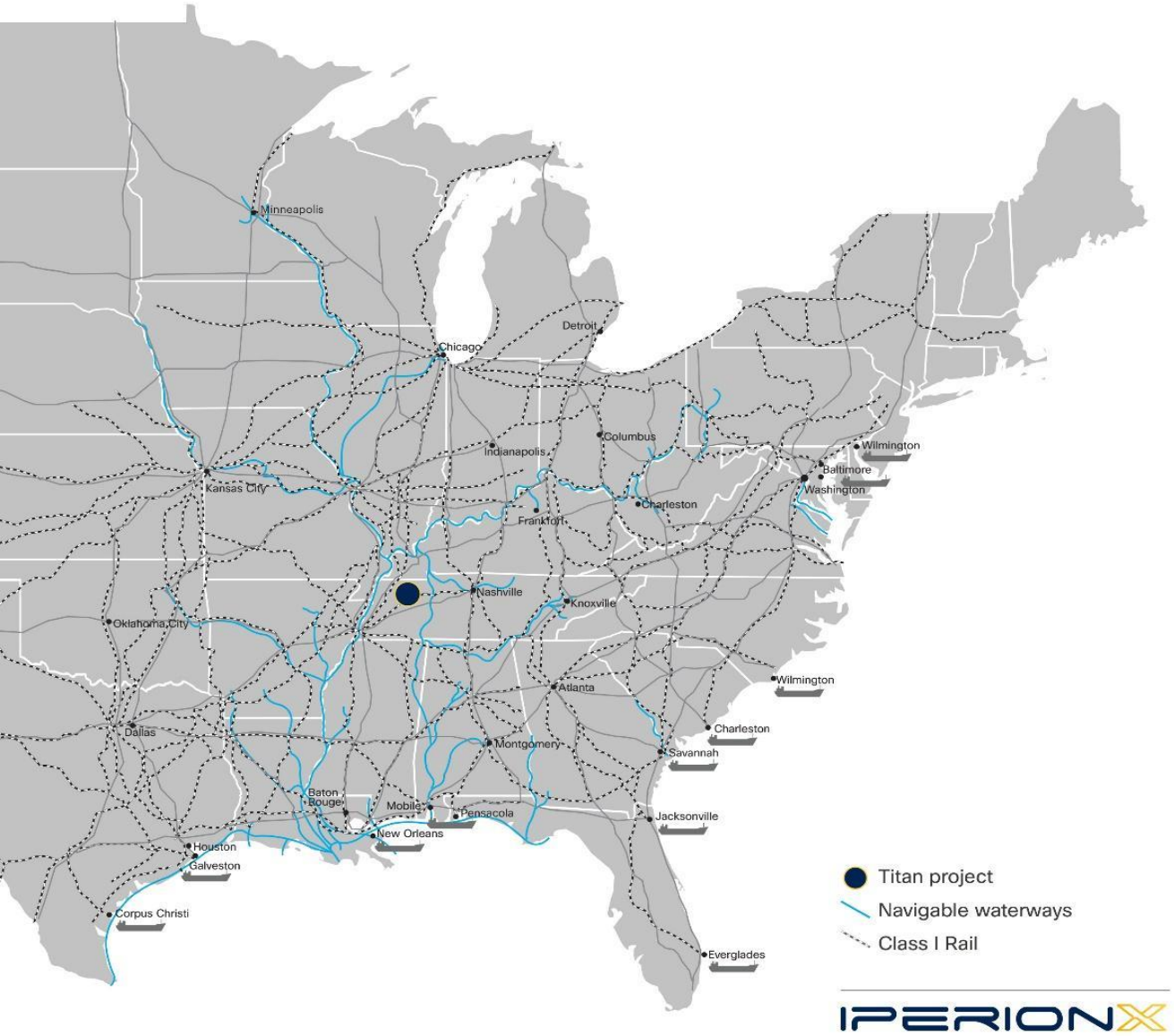
Mineral Operations



Our Titan Project is the large scale, simple & sustainable answer to U.S. critical mineral supply chains

100% owned by IperionX, our Titan Project covers 11,000+ acres of titanium & rare earth rich heavy mineral sands in west Tennessee

- Infrastructure rich location in the heartland of the U.S.
- The largest U.S. titanium and monazite / xenotime JORC code compliant resource
- Simple, low-cost extraction & processing operations
- Sustainable operations with active reclamation

Titan Project Scoping Study Outcomes

June 2022

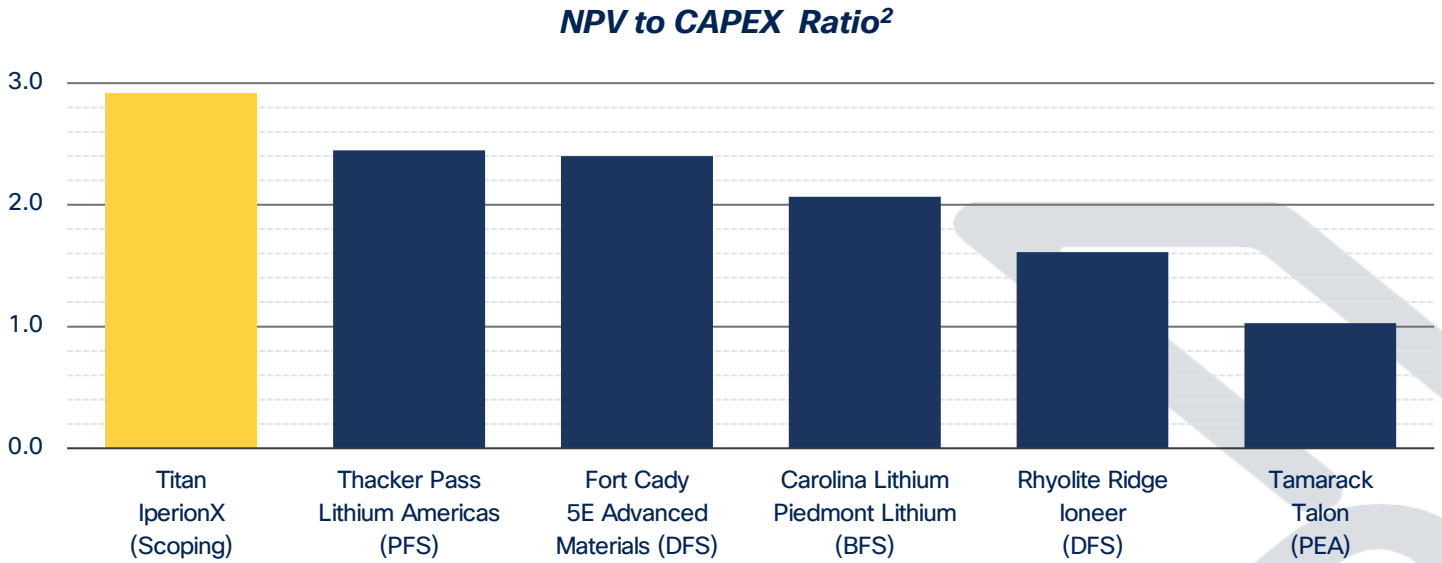
US$117 million
Average EBITDA[1]

US$692 million
$NPV_{8\%}$[1]

40%
After-tax IRR[1]

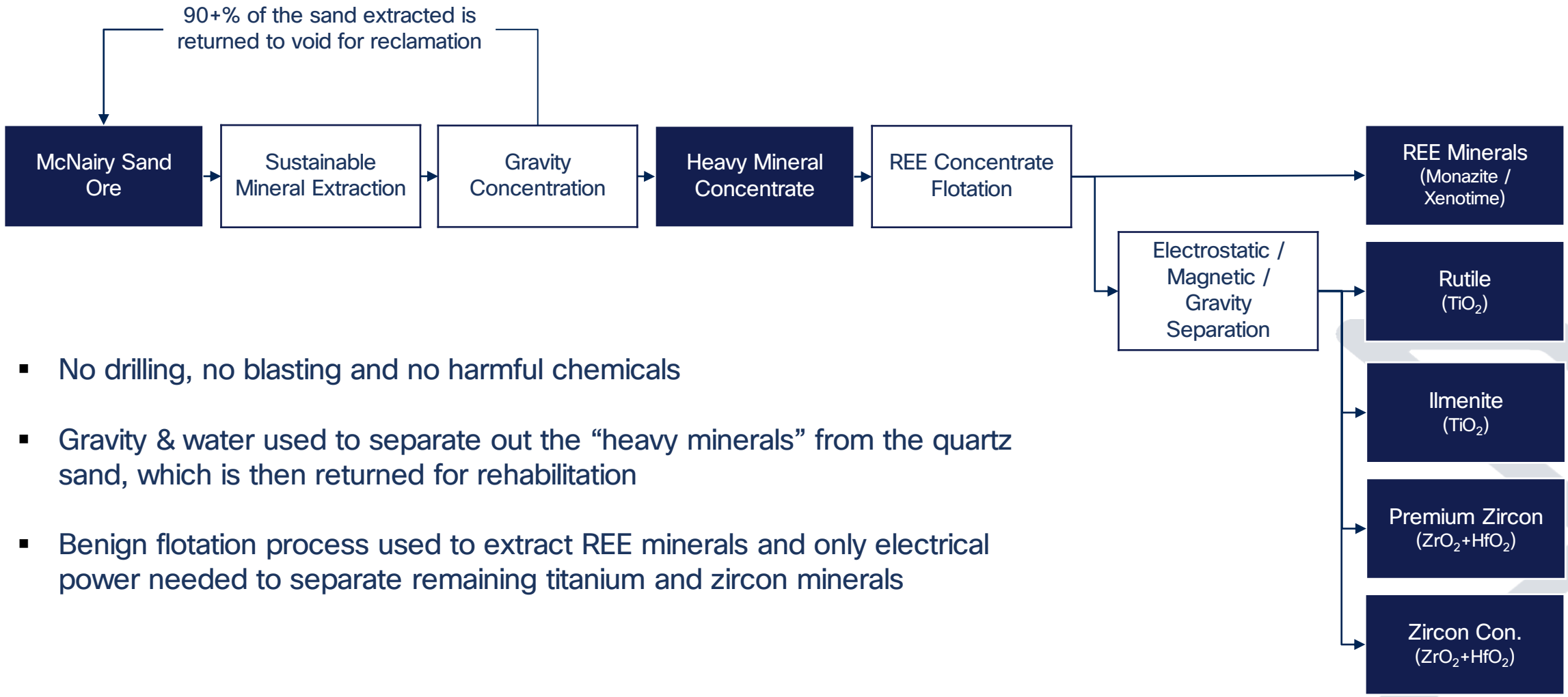
25 years
Initial life of operations

Potential economics demonstrate one of the highest NPV-to-CAPEX ratios of advanced U.S. critical mineral development projects



1. June 2022 Scoping Study projections are based on Q1-2022 price projections and cost estimates in U.S. Dollars. Evaluation was carried out on a 100% equity basis using an 8% discount rate. For further information, see Scoping Study press release dated June 30, 2022.
2. NPV to CAPEX ratio calculated as published NPV divided by published development CAPEX, and is unadjusted for inflation or different assumptions contained within each company's respective technical documents.
Sources: Lithium Americas Thacker Pass Project PFS (link), 5E Advanced Materials Fort Cady Project DFS (link), Piedmont Lithium Carolina Lithium Project BFS (link), Ioneer Rhyolite Ridge Project DFS (link), Talon Metals Tamarack Nickel Project PEA (link)

Simple and conventional extraction and processing



- No drilling, no blasting and no harmful chemicals
- Gravity & water used to separate out the “heavy minerals” from the quartz sand, which is then returned for rehabilitation
- Benign flotation process used to extract REE minerals and only electrical power needed to separate remaining titanium and zircon minerals

A potential major U.S. source of titanium and rare earths

Over its initial 25-year mine life, the Titan Project is projected to produce:

Contained Rare Earths Oxides to support

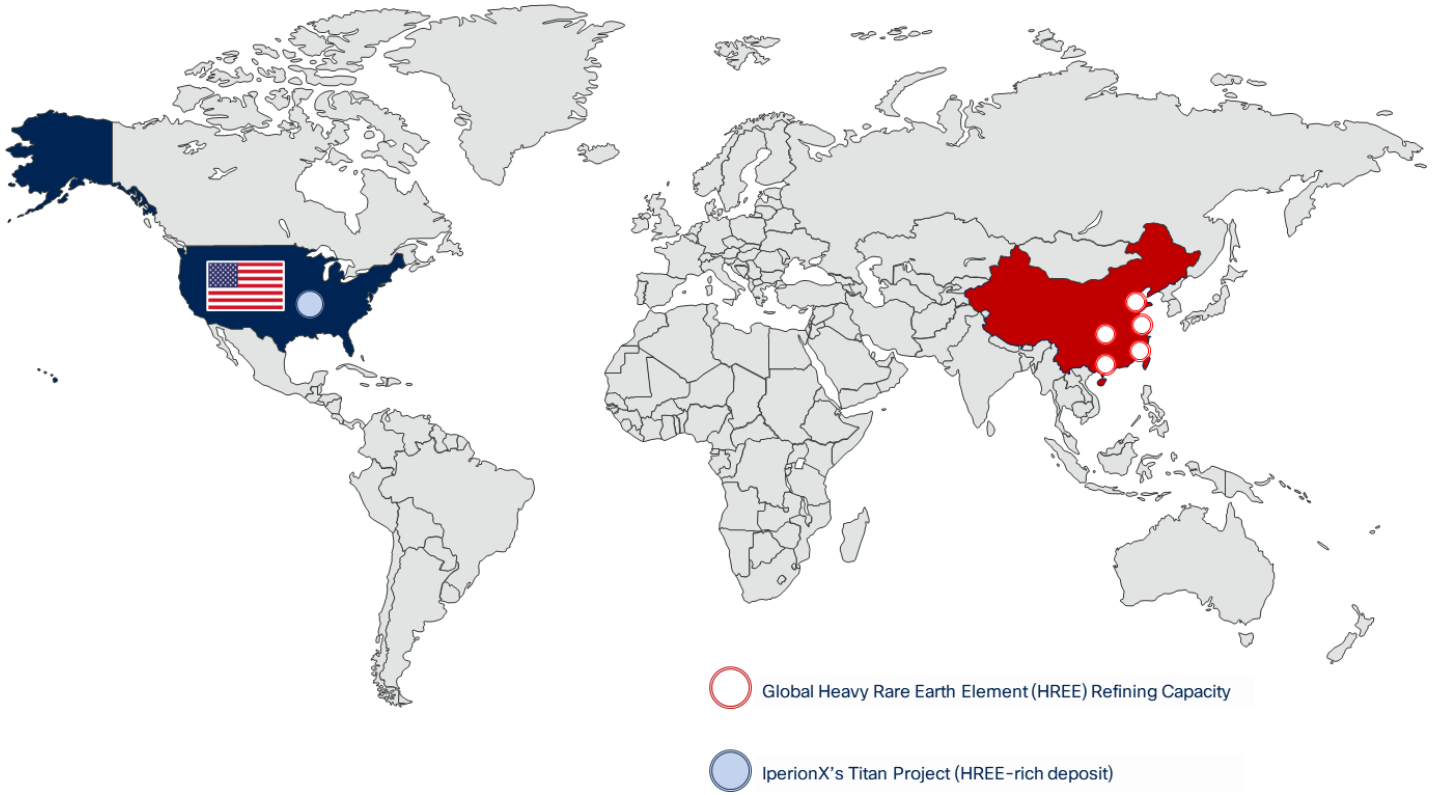
~24,000,000
ELECTRIC VEHICLES

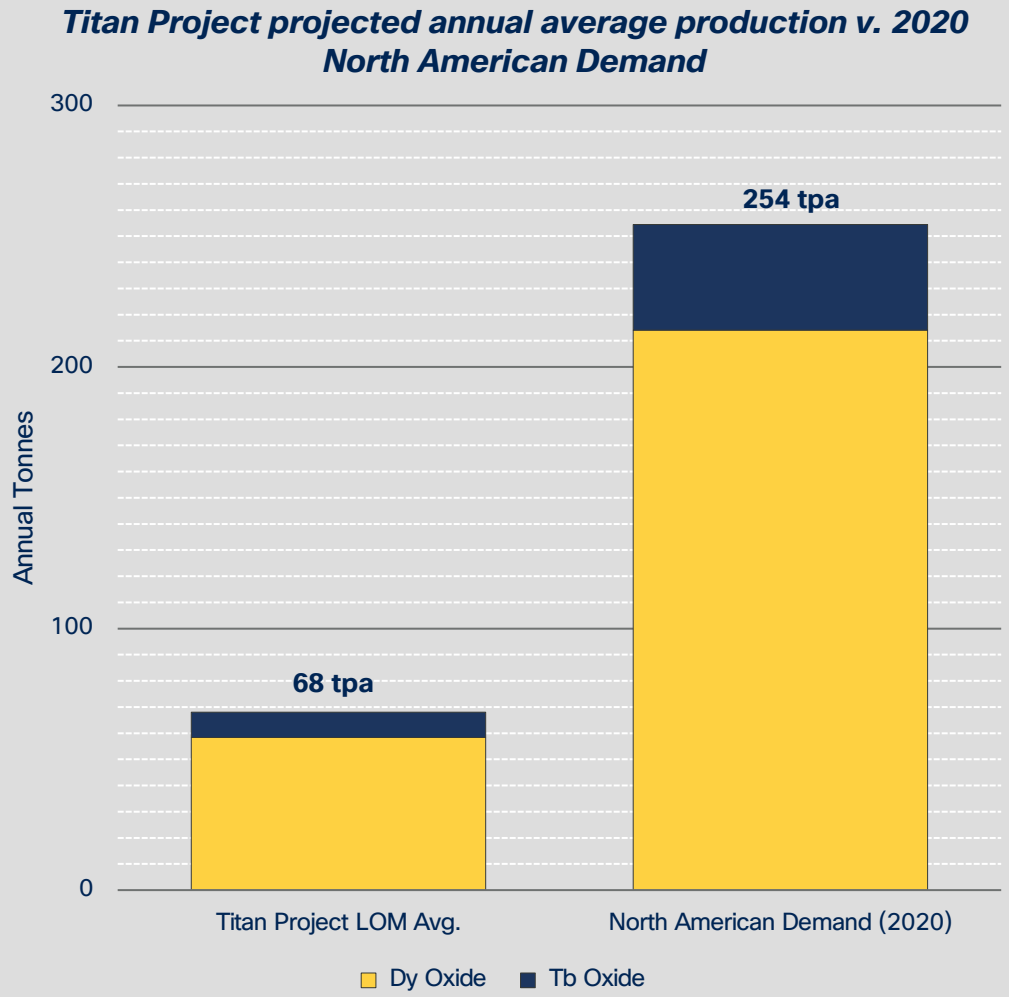
Contained Titanium minerals to support

~60,500
BOEING 787s

Source: Adamas Intelligence, Boeing, Titan Project Scoping Study.
Estimates are based on the in-situ Titanium metal and Neodymium metal contained in of the Titan Project's cumulative total mineral concentrate production over 25 years of projected mine life, as outlined in the Titan Project Scoping Study. Assumes 1.3kg of NdFeB magnet per electric vehicle and 31wt% Nd content per kg NdFeB magnet. Assumes Boeing 787 contains 15wt% Titanium, or approximately 18 metric tons.

Potential to be a significant source of U.S. heavy rare earth minerals





Source: US Geological Survey, Roskill, WoodMackenzie. Locations shown are approximate.

Minerals from the Titan Project can provide a potential U.S. pathway for domestic rare earth processing

Upstream

Expected to be shovel ready in calendar Q4-2023

Conventional processing routes

Low CAPEX relative to other projects

Midstream

Cracking & leaching operational today with multibillion dollar replacement value

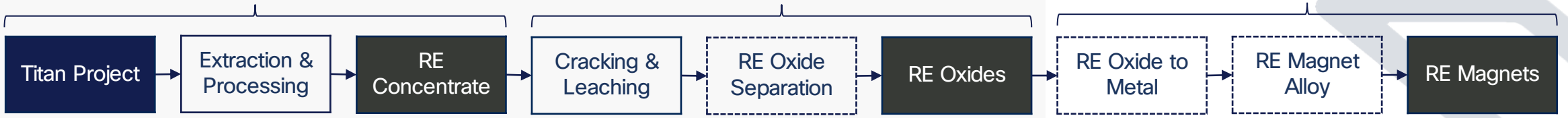
Separation expected in the coming years via conventional processing

Downstream

Future potential for metallization & magnet alloy manufacturing

Low CAPEX using conventional technology

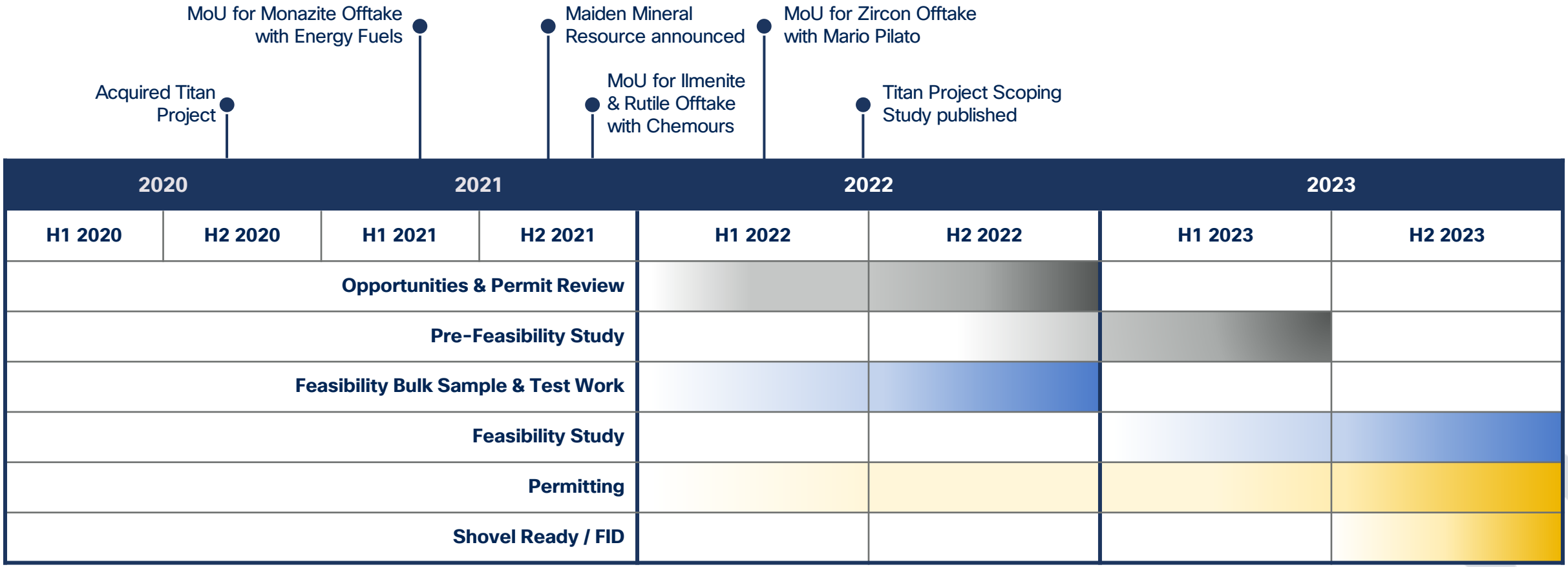
Potential to use IperionX HAMR technology



MoU signed between IperionX & Energy Fuels (NYSE: UUUU)[1] for development of the REE supply chain from U.S. mineral to oxides

1. See ASX announcements dated April 22nd, 2021, and update announcement dated March 8th, 2022 for details.

Targeting a shovel ready project for late 2023



- Pre-feasibility study significantly progressed with all test work completed for pre-feasibility process flow sheet development
- Feasibility level bulk sample and first stage separation (removal of <45 micron) material conducted at the Mineral Demonstration Facility and second stage spiral separation having been conducted by Mineral Technologies in Florida
- Heavy mineral concentrate now shipped to Mineral Technologies Australia and expected to be complete with all test work required for engineering study completion by year-end 2022 – typically the long lead time item in any project

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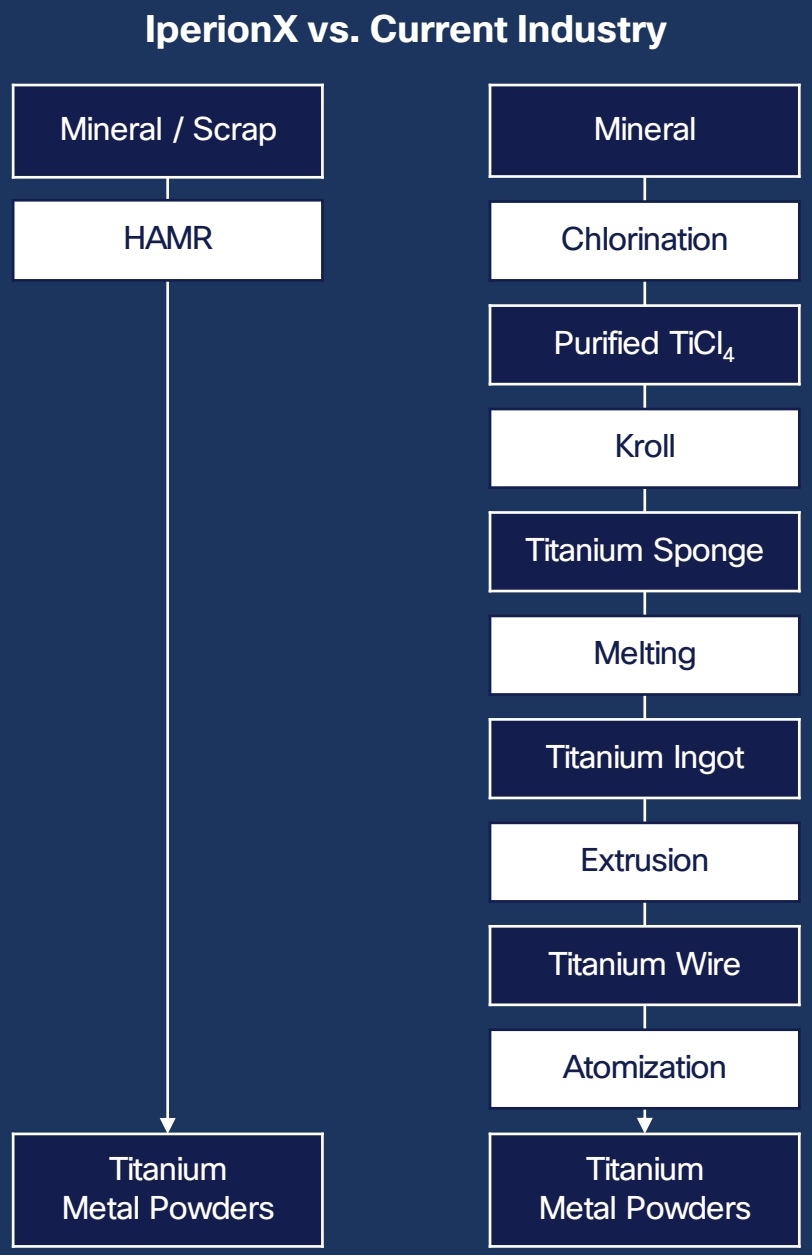
Metal Operations

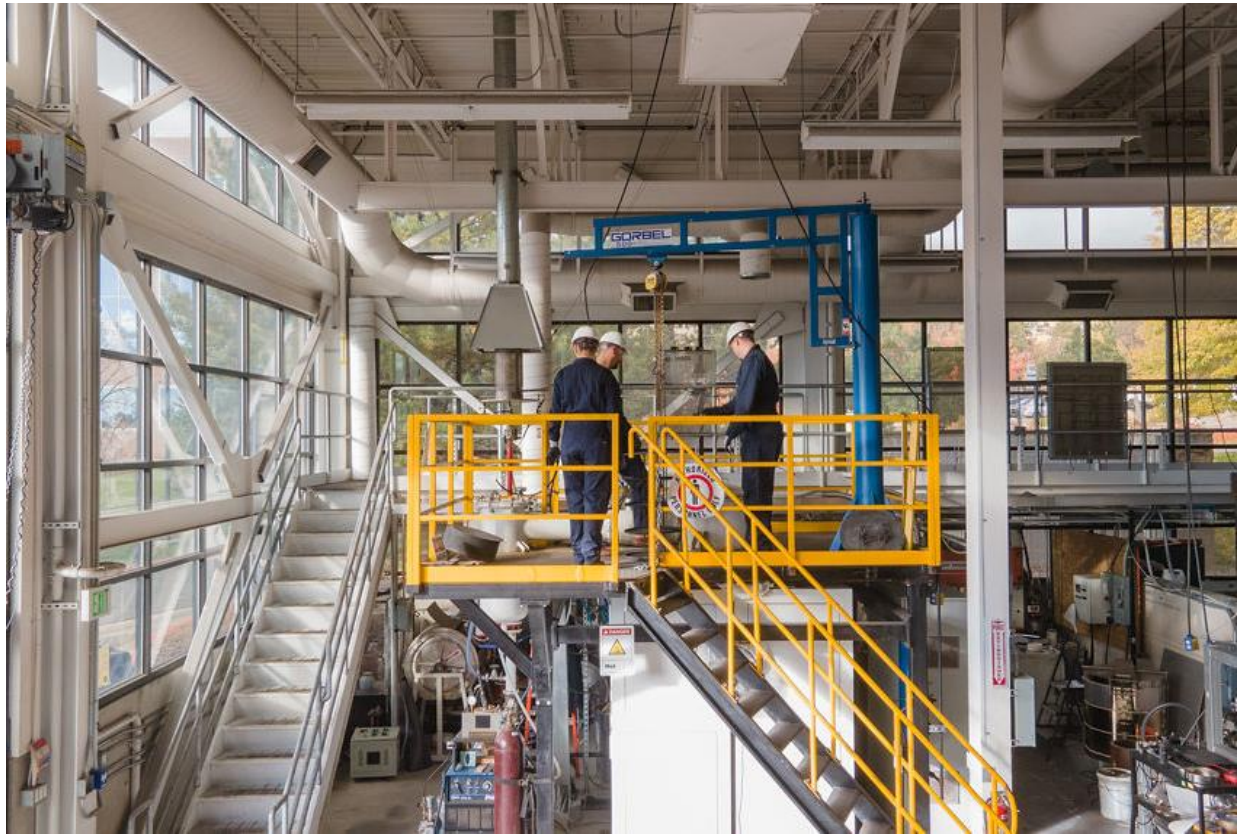


The HAMR technology could revolutionize the titanium manufacturing process

The patented metal technologies, centered around Hydrogen Assisted Metallothermic Reduction ("HAMR"), were invented by world-renowned metallurgist, Dr. Zak Fang, Professor of Metallurgical Engineering at the University of Utah. IperionX holds an exclusive option to acquire the HAMR technology and other associated technologies.

- Lower cost
- Reduced energy consumption
- Potential for zero carbon
- 100% recycling potential

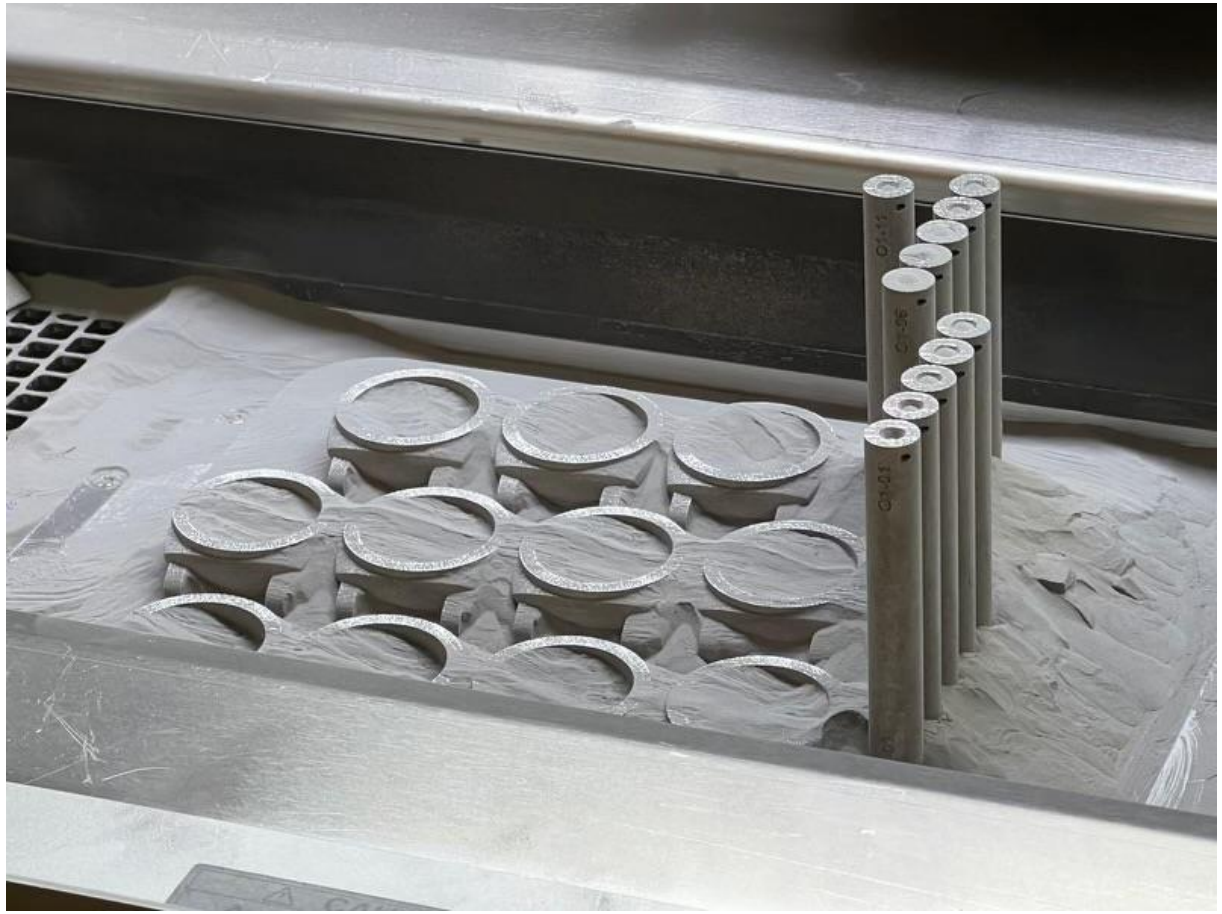
We are already producing titanium powder, with near-term plans to expand capacity



Our partner, Blacksand, has a pilot facility operating in Salt Lake City, Utah – built with funding from the U.S. Department of Energy's ARPA-E

- Development of a larger Titanium Demonstration Facility ("TDF") currently underway with targeted production capacity of 125tpa
- The TDF will serve a dual purpose of demonstrating scale while allowing for the commencement of powder production for commercial sales

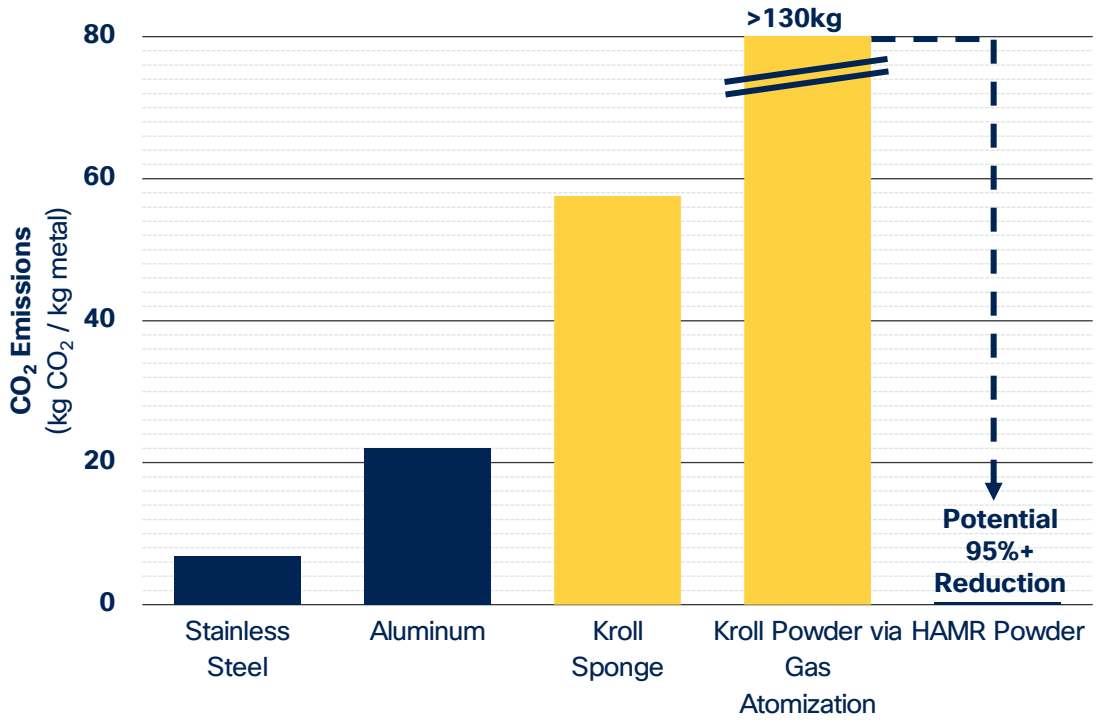
We are also providing powder and parts for customer prototyping



Spherical titanium powders, produced from scrap at our pilot facility, are being 3D-printed into parts and components for customer qualification and testing

And aiming to provide for long term sustainability of supply

Lower Carbon Emissions

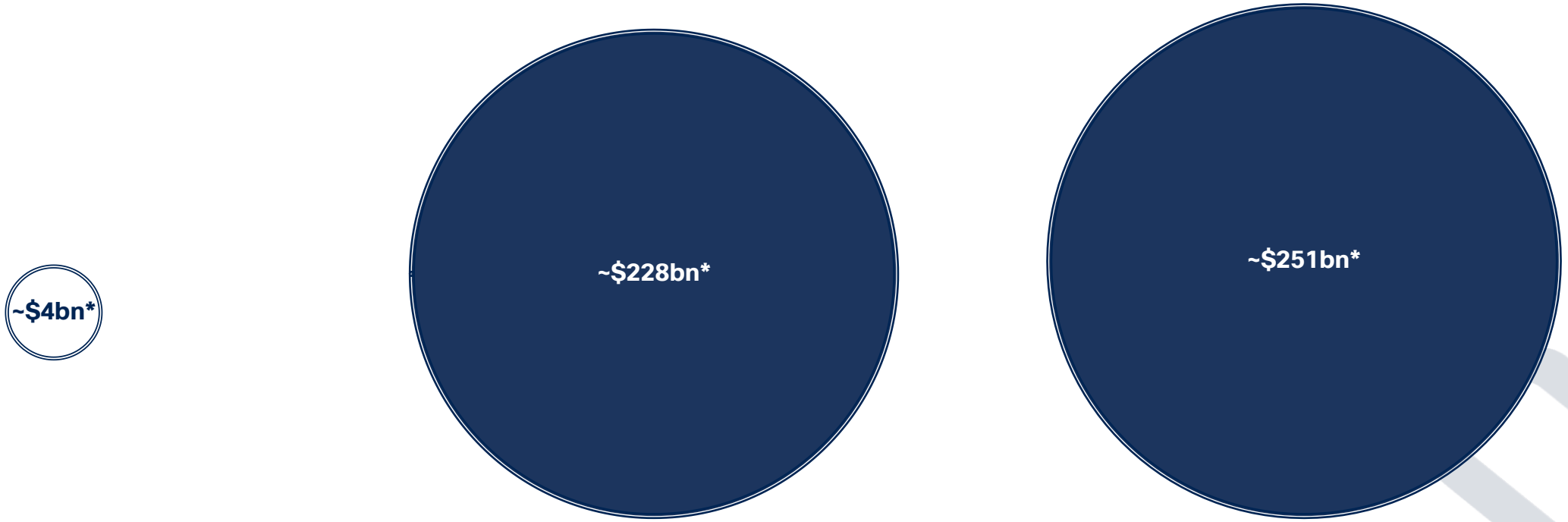


100% Recycled Product

Manufacturing of our titanium metal powders today is 100% fed by scrap titanium and in the future we envision an ore-metal supply chain with full recycling of manufacturing scrap and end-of-life products

Source: ARPA-E METALS Program, Feng Gao et al (Journal of Cleaner Production), IperionX Estimates for HAMR.
Assumes renewable power sourced for IPX Facility, and 100% scrap feedstock for HAMR spherical powder. Figures shown are targets at 10,000tpa capacity.

We have potential to disrupt existing stainless steel and aluminum markets



Titanium Market
2019 Ingot Production ~283kt
2019 Av. Price ~$15,100/t

Aluminum Market
2021 Production ~67Mt
Q1-2022 Price ~$3,400/t

Stainless Steel Market
2021 Production ~56Mt
Q1-2022 Price ~$4,450/t

* Estimated Global Market Summary in USD
Sources: Roskill, International Stainless Steel Forum, Jefferies Equity Research, LME, Metal Miner. Pricing as of Q1-2022.

IperionX's vision is to re-shore a U.S. sustainable critical material supply chain – our near-term milestones will help drive our success

- *NASDAQ Listing*
- *Release of the Scoping Study outlining the economics on the Titan Project*
- *Continued work to get the Titan Project "construction ready"*
- *Commercial discussions with potential Titanium metal strategic customers*
- *Scale-up of our titanium metal powder production capacity*

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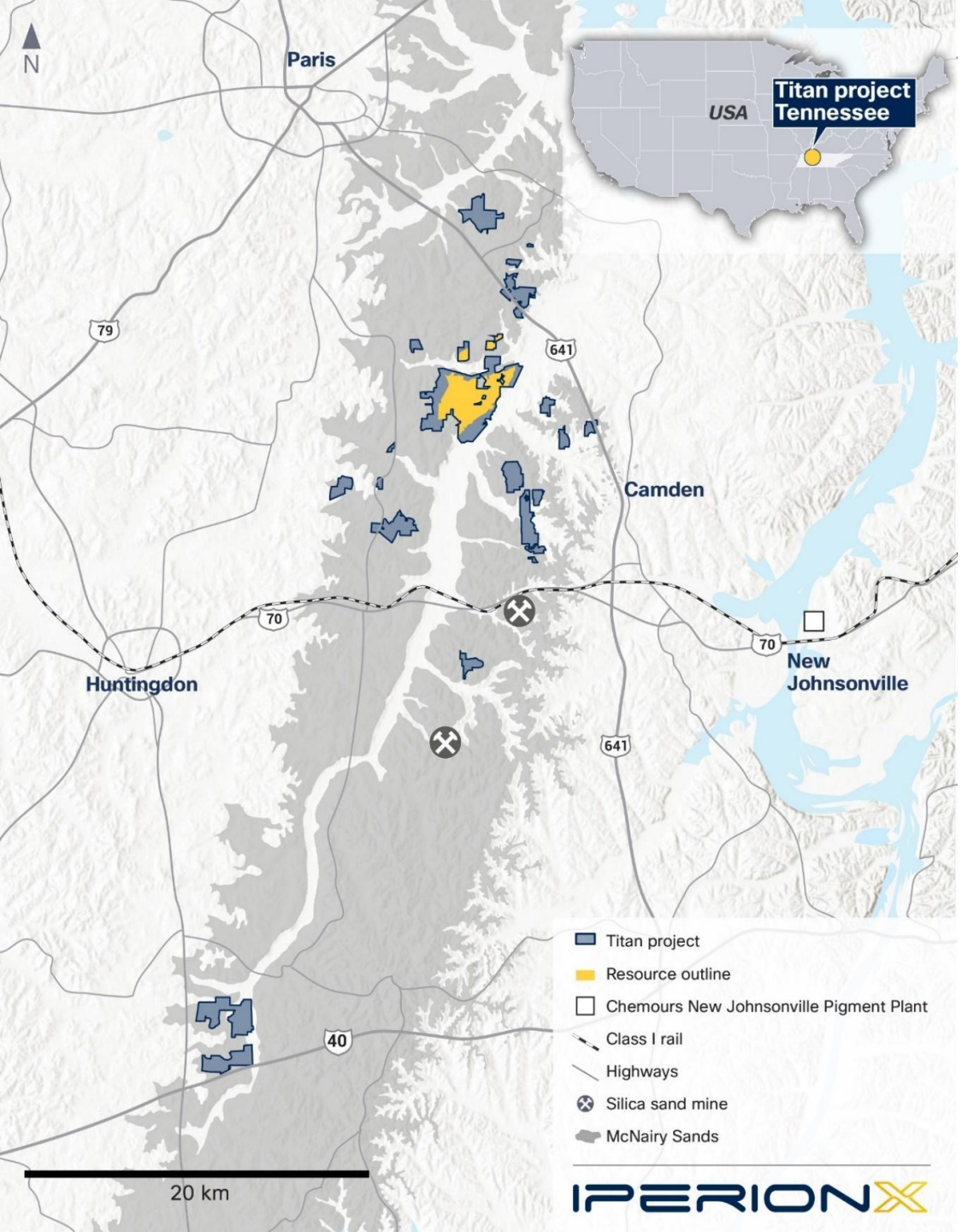
Appendix:
Additional Information on the Titan Project, Sustainability, Community Engagement, and Government Engagement



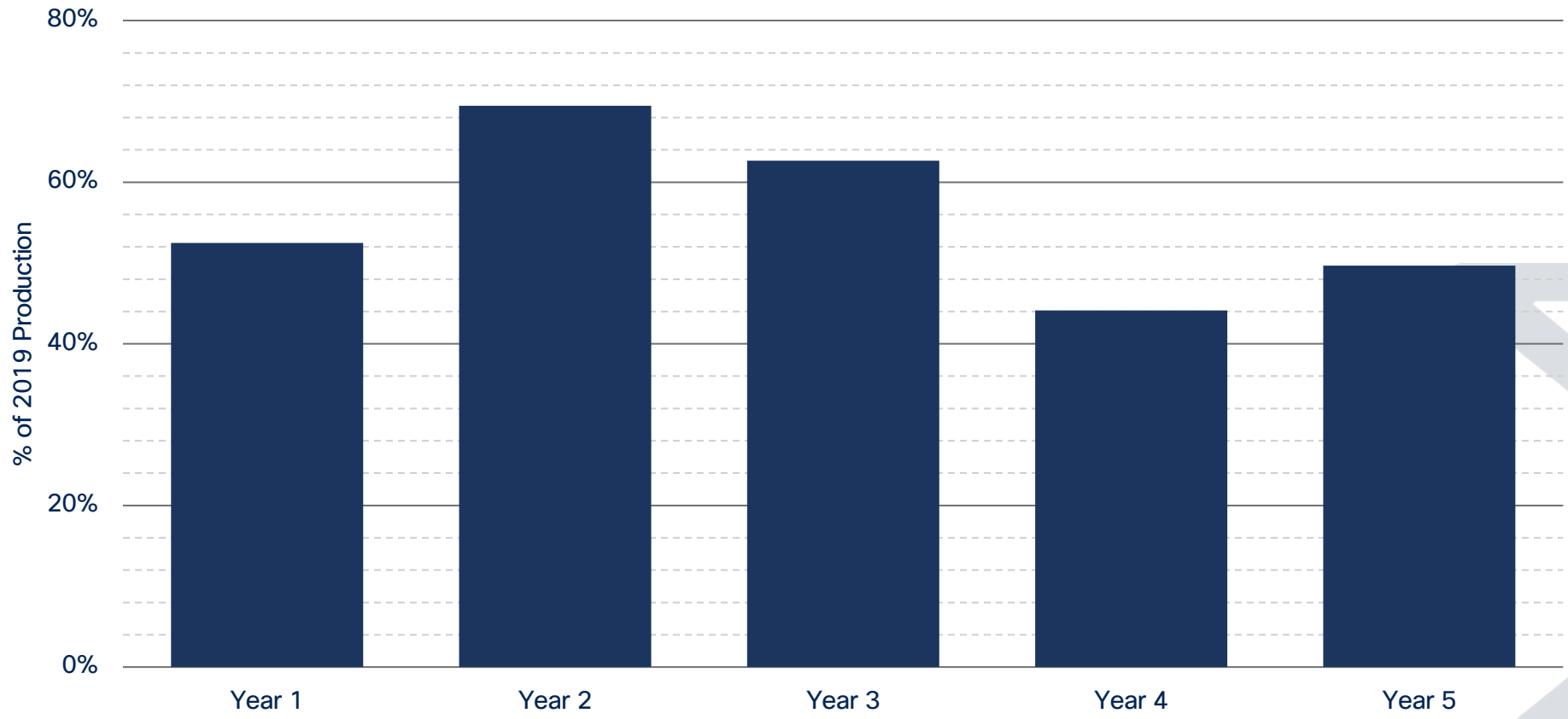
Based on the results of our Scoping Study, the Titan Project is a potential multi-decade asset for a long-term, domestic source of rare earths & titanium

- Geological formation targeted is the McNairy Sand, a massive formation extending North-South through west Tennessee
- Projected 25-year initial operational life covers only a small portion of existing landholdings
- Potential for additional resource discovery and conversion within land controlled by IperionX
- Potential for additional land leasing or acquisition could add to further resource conversion

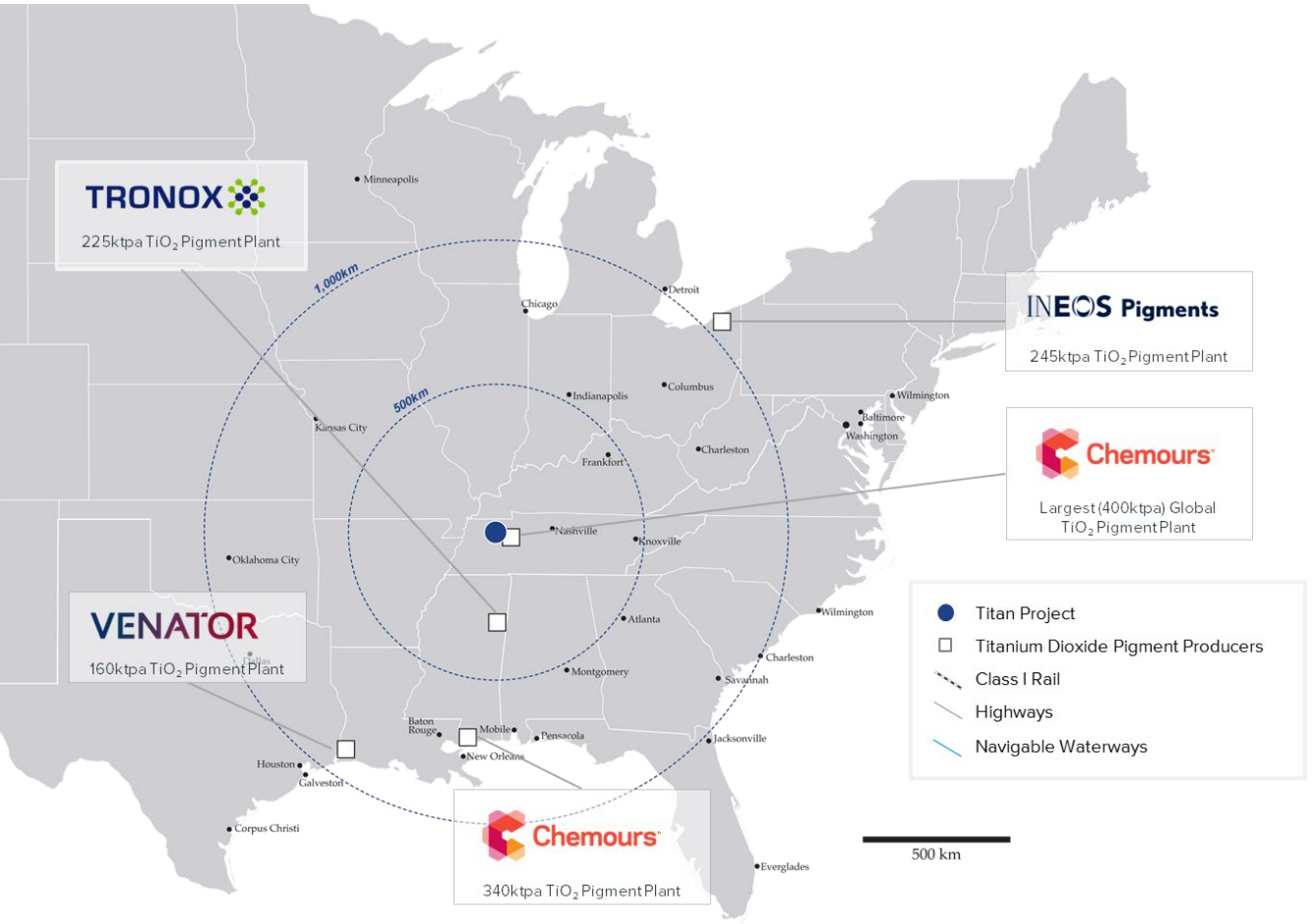
Potential to re-shore the domestic titanium metal industry's feedstock needs

Projected titanium metal produced from the Titan Project[1]

% of 2019 U.S. titanium ingot production



Source: US Geological Survey, Roskill, Titan Project Scoping Study announcement dated June 30, 2022 1. Contained titanium metal based on projected ilmenite and rutile production. Assumes 100% recovery from contained Titanium to Titanium Ingot for illustrative purposes.

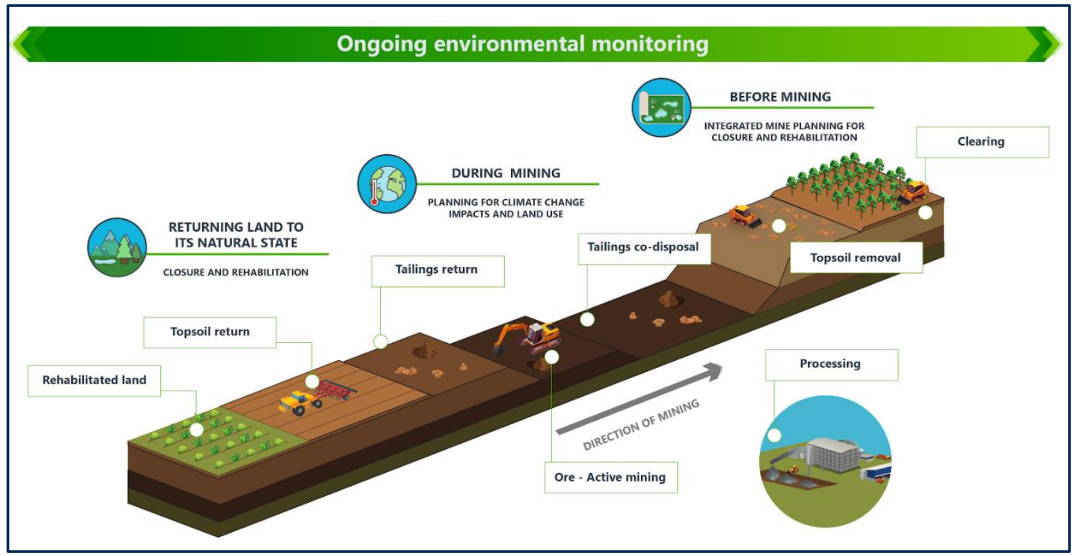


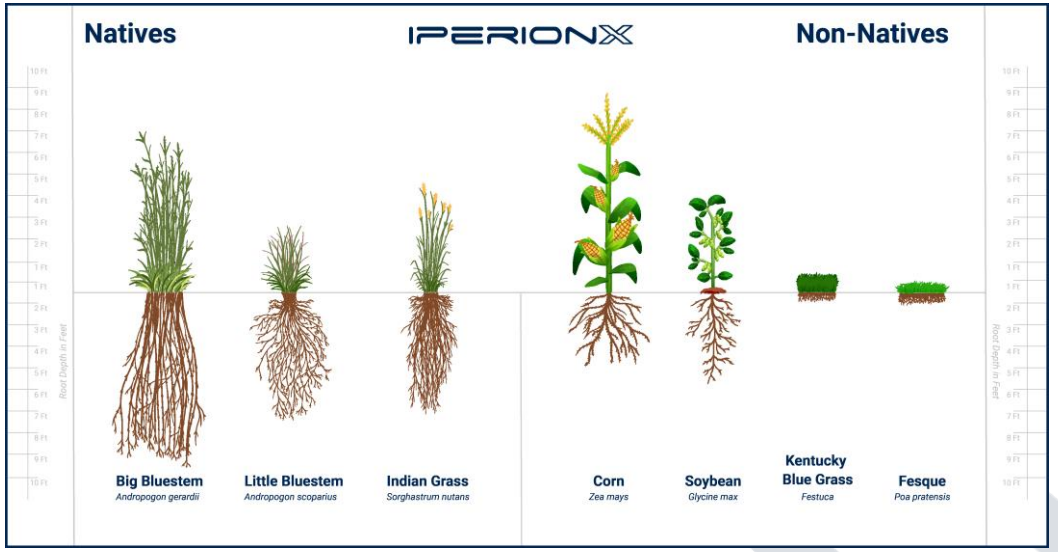
While also a major potential source of titanium minerals for the paint & pigment industry

- U.S. paint & pigment industry is 90+% import dependent on titanium minerals
- U.S. domestic consumption of TiO_2 pigment in 2021 was estimated to be ~1.1 million metric tons
- Our Scoping Study demonstrates that the Titan Project could produce ~120ktpa of titanium minerals that can be sold into the paint and pigment industry
- Ukraine was a major source of supply of titanium minerals

Source: US Geological Survey, Public Company Documents. Locations shown are approximate.

Focused on sustainable extraction, processing, reclamation, and rehabilitation





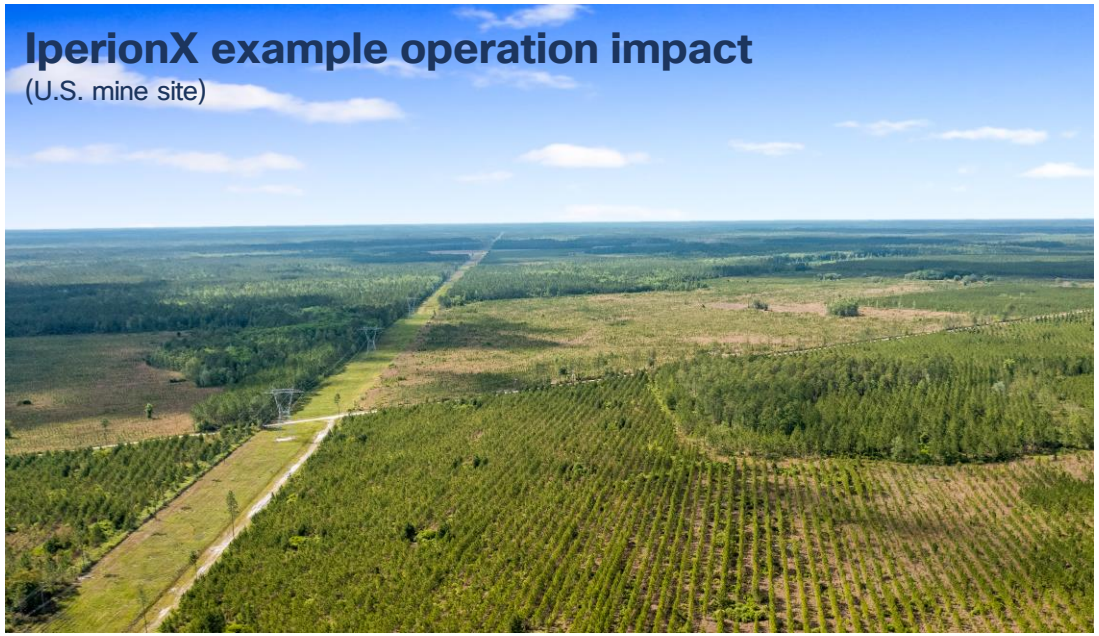
Low carbon impact extraction with active reclamation

- Focusing on zero carbon power (as processing requires mainly electrical power) to limit carbon intensity
- Reclaiming voids actively during extraction meaning only temporary disturbance in any one area at a time

Research into improved rehabilitation programs to return land to a better post operations state

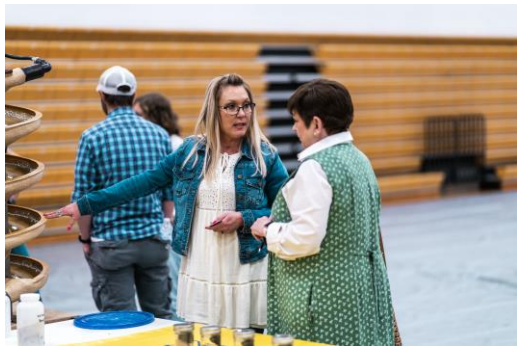
- Native warm season grasses experimental plots for improved rehabilitation
- Experimental plots investigating carbon sequestration opportunities during rehabilitation

We aim to develop one of the most environmentally sustainable mineral operations



- No drilling, blasting or hazardous chemicals used for extraction
- Active reclamation

- Drilling, blasting, grinding and often leaching required
- Process typically results in tailing ponds or piles



Benton County Community Q&A

Henry County Fish Fry

Committed to community engagement & education

- Since the beginning of IperionX, the strategy has been to engage and educate the communities of Benton, Henry & Carroll counties
- IperionX's team on the ground has been extremely active and over the last few years has undertaken many community outreach programs, including:
  - Engagement in all major community fairs and programs
  - Advertising in major community newspapers and local radio stations
  - Presenting to key leaders in the community
  - An open door policy where anyone can ask any question
- Strong community support and relations is a top priority of IperionX

Mineral Demonstration Facility for customer & community engagement

Stage 1 (Operational): Initial hydro-cyclones to remove fine (<45 micron) clays from McNairy Sand ore, successfully used to process feasibility bulk sample

Stage 2 (Targeted Calendar Q3 2022): Addition of spiral circuit to allow for gravity separation of heavy minerals from sand and produce a heavy mineral concentrate

Stage 3 (Targeted Calendar Q4 2022): Pilot scale flotation & electromagnetic equipment to produce samples of REE minerals, Titanium minerals and Zircon concentrate

Federal:
TN Senator Bill Hagerty visit to IperionX offices in Tennessee

State:
Speaking to the Tennessee Agriculture and Natural Resources committee, and meeting with Agriculture Department representatives

Municipal:
Meeting with the Mayor of McKenzie, TN

Engaging with agencies and representatives across all levels of government

- IperionX is working diligently to develop strong relationships with government stakeholders at the municipal, state, and federal levels
- Focus is on engaging with relevant individuals, committees, and departments who support the re-shoring of critical material supply chains

IperionX is potentially eligible for funding and support from numerous U.S. Government programs

Department of Interior's Critical Minerals Mapping Project
June 21st, 2022
DOI to provide funding to 30 states to support geological mapping efforts to identify critical mineralization deposits

Department of Defense's IBAS Grant to Lynas - $120m in funding
June 14th, 2022
DOD to provide $120m in non-dilutive funding to Lynas USA LLC to construct a heavy rare earth separation facility

AM (Additive Manufacturing) Forward Program

May 6th, 2022
Public-Private program with AM industry leaders to provide low-cost financing and technical advice to support small business growth in 3D printing

Securing a Made in America Supply Chain for Critical Materials
February 22nd, 2022
Federal Government to provide major investment funding towards the re-shoring of critical material supply chains to American soil

Department of Energy's Critical Minerals Extraction Facility - $140m in total funding
February 14th, 2022
DOE funding for a rare earth extraction facility, with funding from the Bipartisan Infrastructure Law

National Science Foundation's SBIR Program - $110m in total funding
January 11th, 2022
NSF's program to provide non-dilutive, non-interest-bearing funding to promising early-stage R&D start-ups to help commercialize their technology

Department of Energy's ARPA-E SCALEUP Program - $100m in total funding
December 16th, 2021
DOE program to provide non-dilutive, non-interest-bearing funding to novel pilot-scale technologies to commercialize them

Department of Commerce's Investigation into Neodymium Magnet Imports
September 24th, 2021
Commerce department to investigate the impacts of Neodymium rare earth magnet import reliance on national security

Department of Defense's DPA Grant to Lynas - $30m in total funding
February 1st, 2021
DOD to provide $30m in non-dilutive funding to Lynas USA LLC to construct a light rare earth separation facility in Texas