

The background of the slide is a photograph of a rocket launch. A rocket is seen ascending from the bottom center, leaving a thick, dark plume of smoke and fire. The sky is filled with large, billowing white clouds, and the top of the image shows a clear blue sky. The overall scene is dynamic and evokes a sense of progress and achievement.

# DEVELOPING SUSTAINABLE CRITICAL MINERALS FOR ADVANCED U.S. INDUSTRIES

ASX: HYM | May 2021

# Disclaimers

## Forward Looking Statements

Information included in this release 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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Forward looking statements are based on the Company and its management’s good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the Company’s business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company’s business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company’s control.

Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

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## Competent Persons Statements

The information in this presentation that relates to Exploration Results is extracted from the Company’s ASX Announcements titled “Titan Project Update” dated 6 May 2021, “Exploration Defines Potential for a World Class Critical Mineral Rich Province in the USA” dated 10 March 2021, “Maiden Drill Results Confirm Potential For A Thick, High Grade U.S. Titanium & Zircon Deposit’ dated 7 January 2021 and ‘Phase 2 Sampling Results Extend Prospect Areas At Milford’ dated 3 November 2020 (“Original ASX Announcements”) which are available to view at the Company’s website at [hyperionmetals.us](https://hyperionmetals.us).

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 Announcements; b) all material assumptions included in the Original ASX Announcements 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 Announcements.



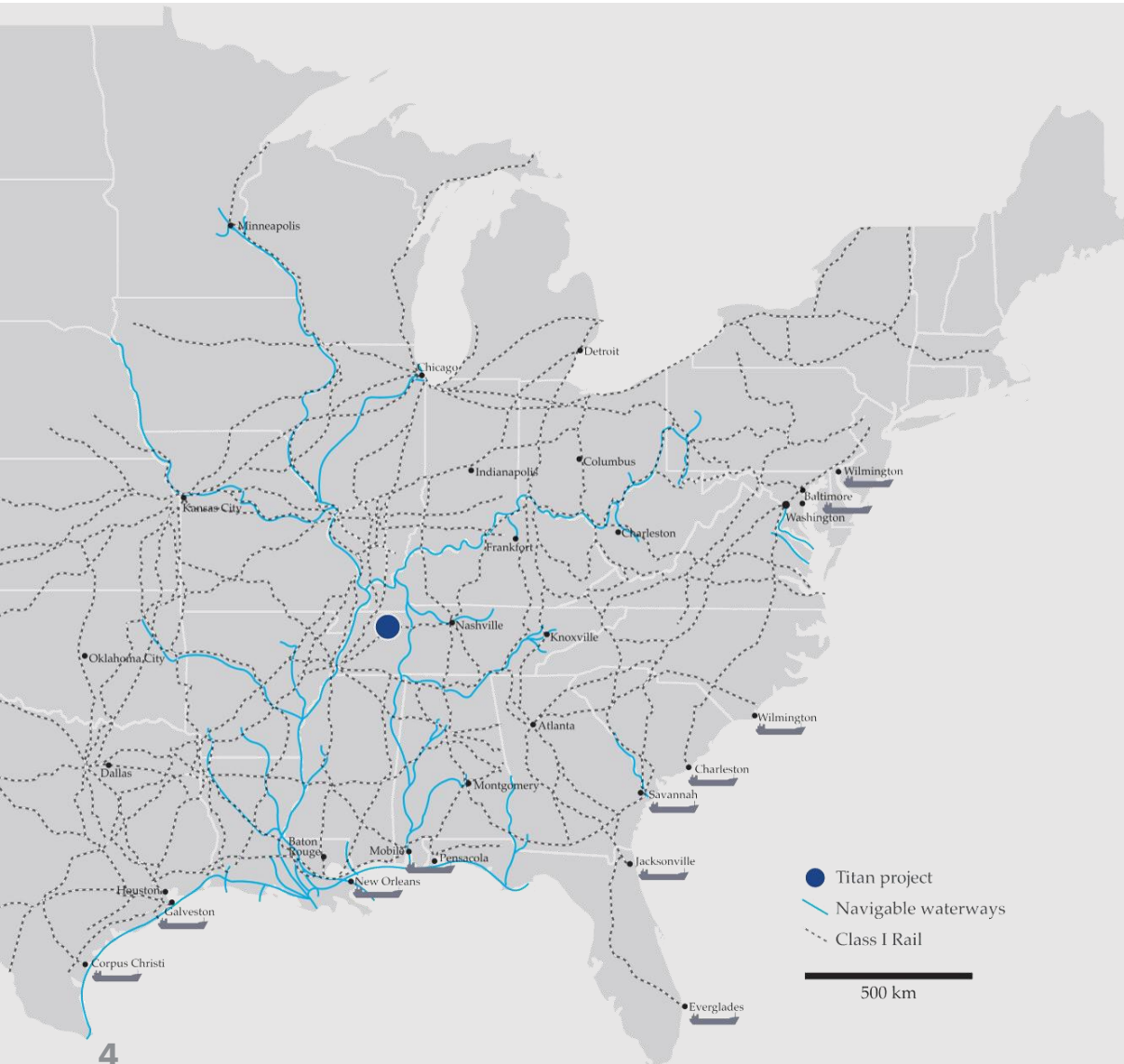


**Our Mission** is to be the leading developer of zero carbon, sustainable, critical material supply chains for advanced American industries including space, aerospace, electric vehicles, and 3D printing/additive manufacturing.

Leveraging our **Titan Critical Mineral Project**, we aim to re-shore the supply chain of titanium, rare earths and ceramic mineral feedstocks in the U.S.

Our exclusive license for the **HAMR titanium metal technology** has the potential to disrupt the modern metals market with the potential for zero carbon, lower cost titanium.

# WORLD LEADING ACCESS TO SKILLED LABOR AND INFRASTRUCTURE



## Power & Gas

High-capacity transmission lines near project



## Freight Rail

Norfolk Southern mainline running through Camden, TN



## Major Highways

I-40 10 miles south of Camden, TN



## Skilled Workforce

Camden, TN (pop. ~3,500)  
~3 million pop. <90 min drive  
Skilled in HME and plant operations



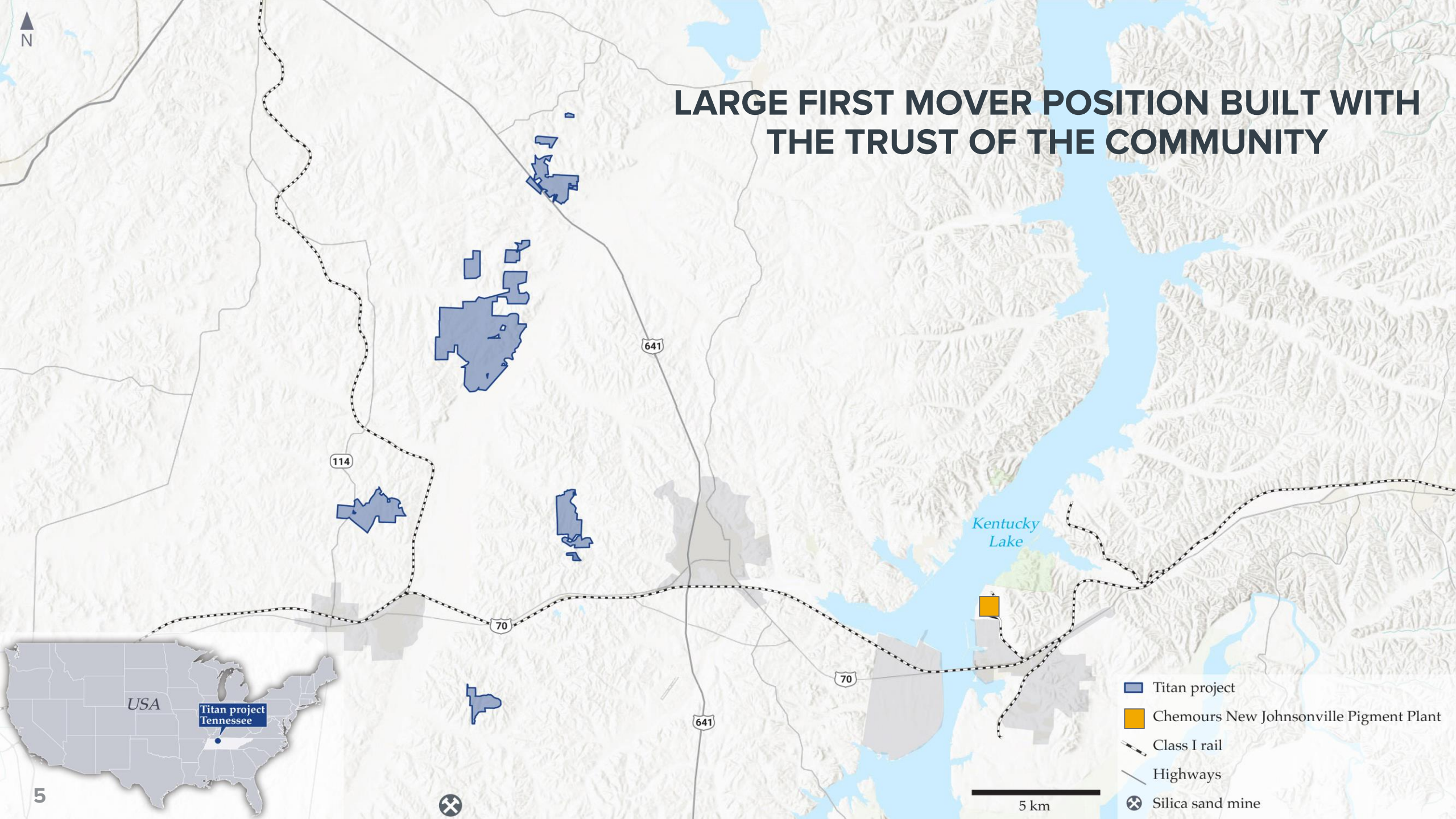
## Ports

Major barge-loading point 15 miles from Project connecting to all major U.S. customers and export ports

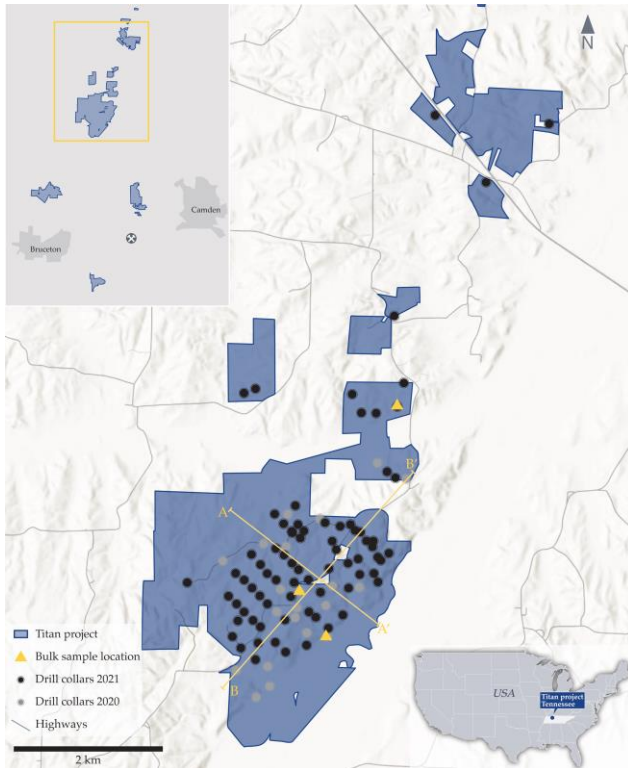




# LARGE FIRST MOVER POSITION BUILT WITH THE TRUST OF THE COMMUNITY

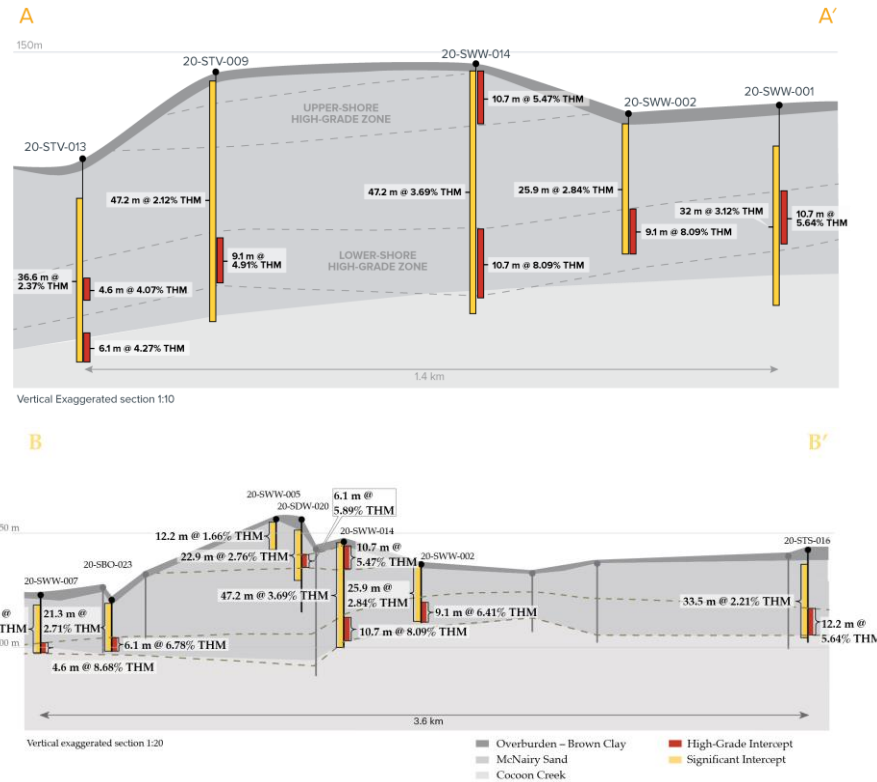


# RAPIDLY ESTABLISHING A MAJOR CRITICAL MINERAL PROVINCE



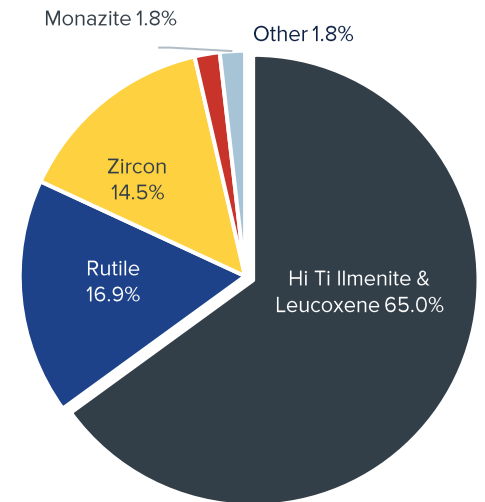
## Accelerated Development

Drilled over 100+ holes, completing analysis of 3,000+ samples and a preliminary bulk sample program all within the last 6 months



## Large Scale, Low Cost Potential

Exploration work has defined thick & consistent mineralization potentially amenable to large scale, low cost sustainable mineral sand extraction



## High Grade & High Value Minerals

Preliminary metallurgical test work has demonstrated heavy mineral grades with high proportion of high value minerals within the product suite

# WORLD LEADING STANDARDS FOR THE BENEFIT OF ALL STAKEHOLDERS



## Measure & Disclose Carbon Emissions

Maintain annual operational net zero carbon emissions balance based on metered data



## Improve Verification and Rigor

Upgrade to other zero carbon options for other processes, including water and waste



## Reduce Energy Demand

Energy efficiency will be prioritized through our HAMR process



## Community Engagement

Working closely with local and regional communities



## Generate Balance from Renewable Energy

Supply remaining energy demand from renewable energy sources



## Diversity

Attract, develop, and advance the most talented individuals regardless of race, sexual orientation, religion, age, gender or disability status



# AIMING TO EXCEED ESG STANDARDS BEING PURSUED BY GOVERNMENTS AND CORPORATIONS

## ENERGY



Net zero by 2050



Net zero by 2050



Net zero by 2050



Net zero by 2050

## AUTOMOTIVE & AVIATION



Mercedes-Benz

Net zero by 2050



Net zero by 2040



Net zero by 2050



Net zero by 2050

## MANUFACTURING



Net zero by 2050



Net zero between 2030-2050



Carbon negative by 2030



Carbon negative by 2030

## INDUSTRIALS



Net zero by 2050



Carbon neutral by 2030



Net zero by 2030



Net zero by 2050

## FUNDS MANAGEMENT



Carbon neutral by 2030



Net zero financing by 2030



Net zero support by 2050



Net zero support by 2050

## TECHNOLOGY



Carbon neutral by 2030



Net zero by 2030



Carbon negative by 2030



Net zero by 2030

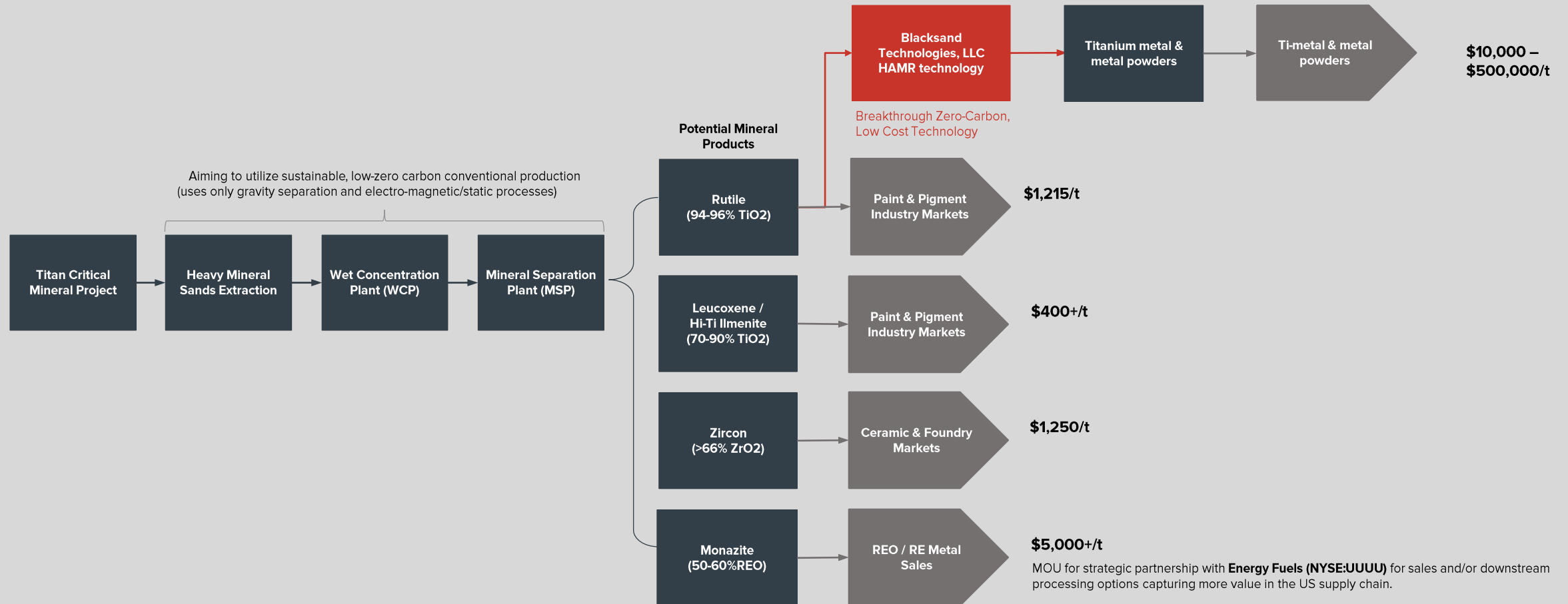
“Climate change is the biggest threat to our planet.”

- Jeff Bezos, CEO, Amazon





# COMBINING CONVENTIONAL MINERAL PROCESSING WITH BREAKTHROUGH TECHNOLOGY FOR METAL PRODUCTION



# SUSTAINABLY RE-SHORING CRITICAL MINERAL SUPPLY CHAINS IN THE U.S.

## Critical Metals

Aerospace, Space, Defense, EV & Renewable, Advanced Industries

### Titanium Metal



### Rare Earth Metals



## Critical Minerals

Renewables, Housing, Manufacturing, Consumer Goods

### Titanium Minerals



### Zircon Minerals



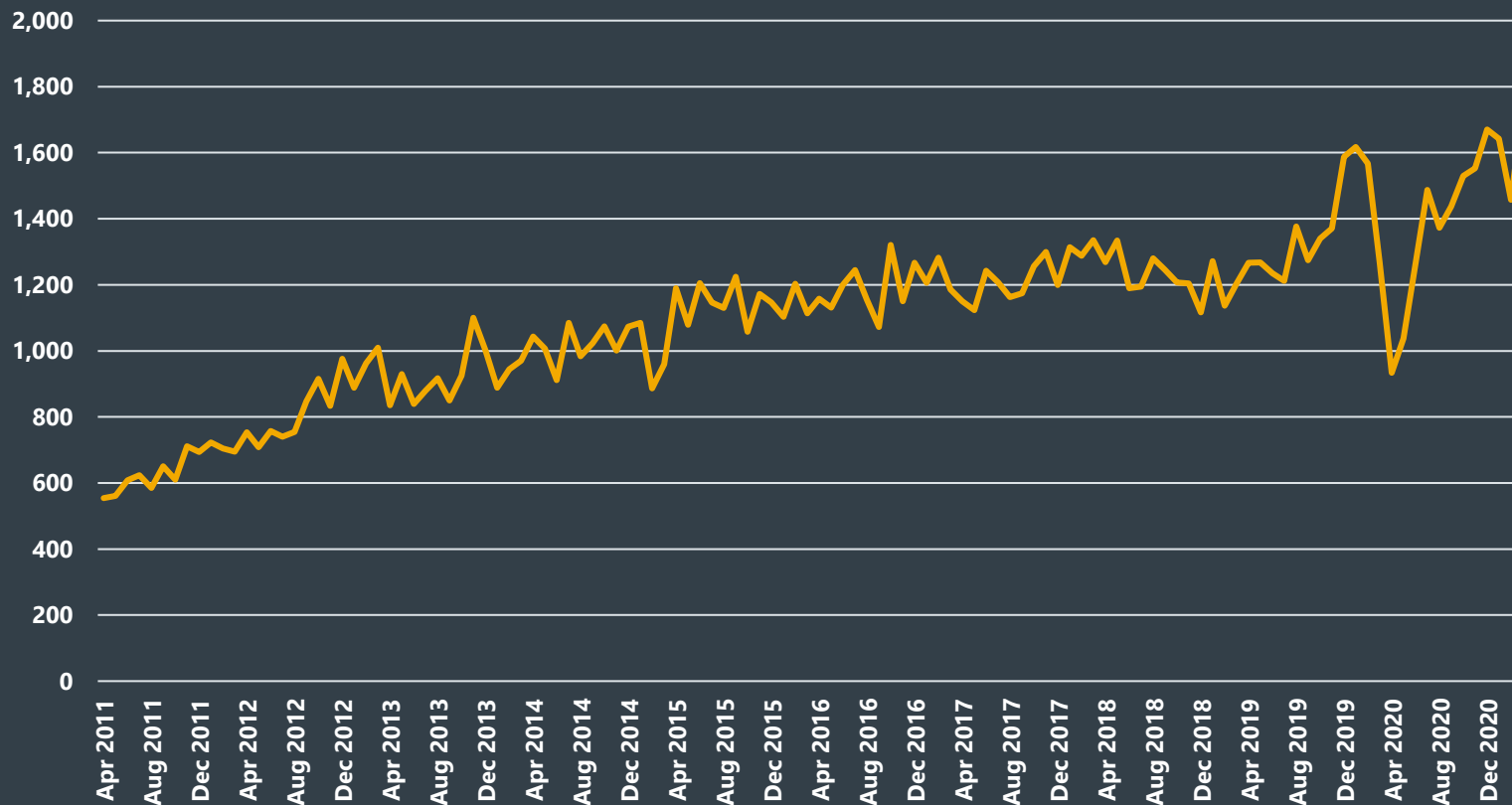




**Titanium & Zircon** minerals are critical to the production of our paints, pigments and ceramics and are used in everything from automotive sector to high value consumer products.

# U.S. HOUSING STARTS ARE THE HIGHEST IN 14 YEARS

10 YEAR U.S. NEW PRIVATELY OWNED HOUSING UNITS STARTED



**~90%**

Global  $\text{TiO}_2$  demand is from the pigment market (including paint), driven by construction growth

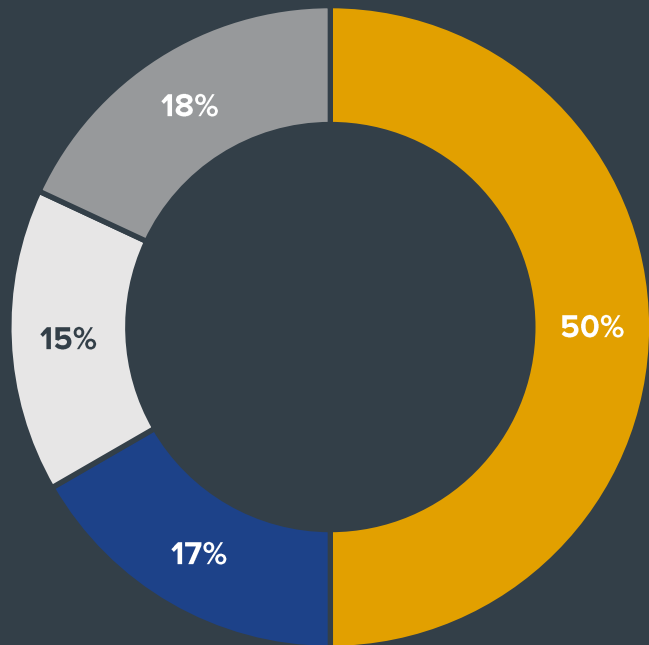
**~50%**

Global zircon demand is from ceramics – including tiles & sanitary ware linked to new construction



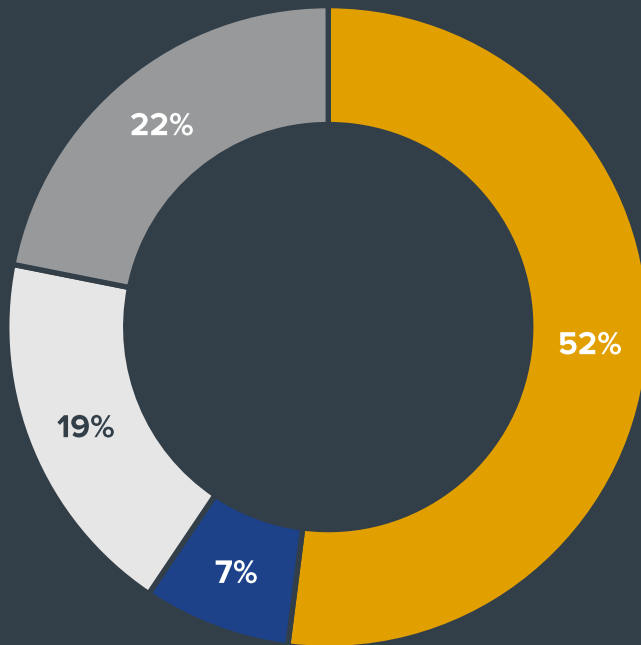
# A STRONG GLOBAL RECOVERY HAS LED TO HIGHER DEMAND AND PRICES

GLOBAL 2020E TITANIUM FEEDSTOCK DEMAND



■ China ■ North America ■ Europe ■ Other

GLOBAL 2020E ZIRCON DEMAND

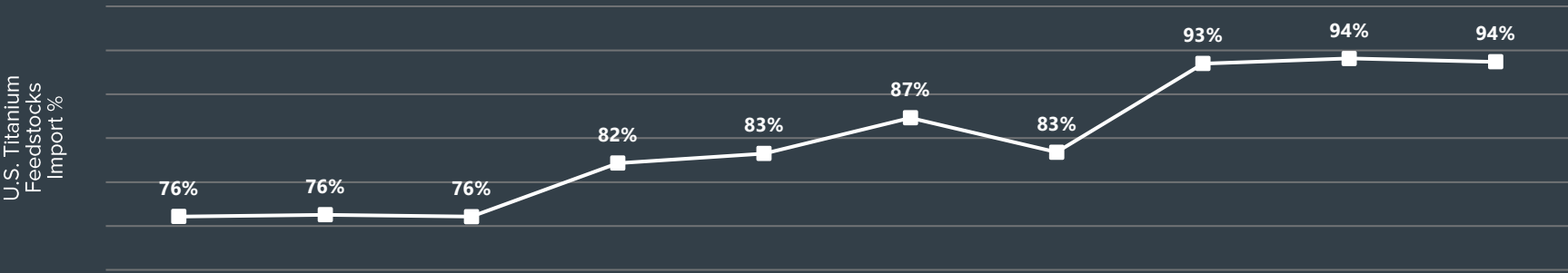


■ China ■ North America ■ Europe ■ Other

- Titanium & zircon prices have risen in 2021 on the back of the economic recovery in China and North America.
- Demand growth in China may lead to supply and price challenges for other major consumers, including the U.S.

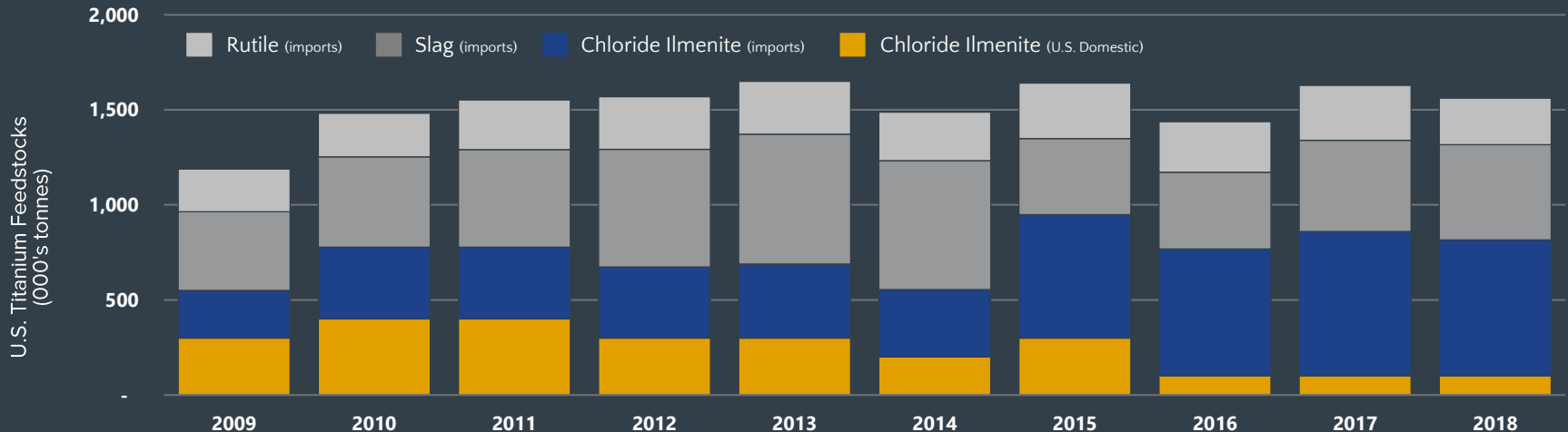
# U.S. TITANIUM FEEDSTOCKS ARE IMPORT DEPENDENT

U.S. TITANIUM FEEDSTOCK: IMPORT % OF REQUIREMENTS & VALUE BREAKDOWN



**94%**

U.S. import dependence  
on titanium feedstock

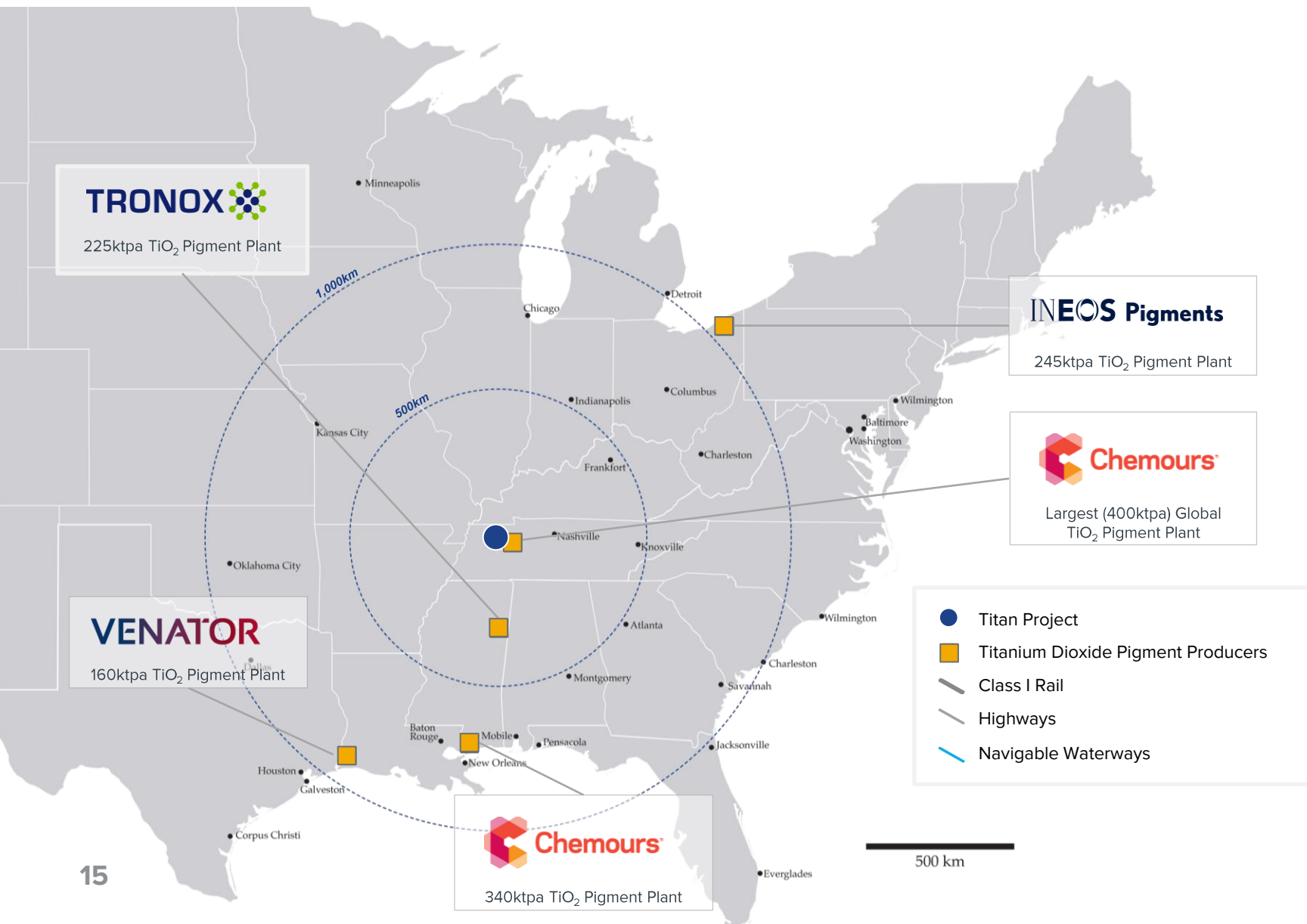


**A\$1.2B**

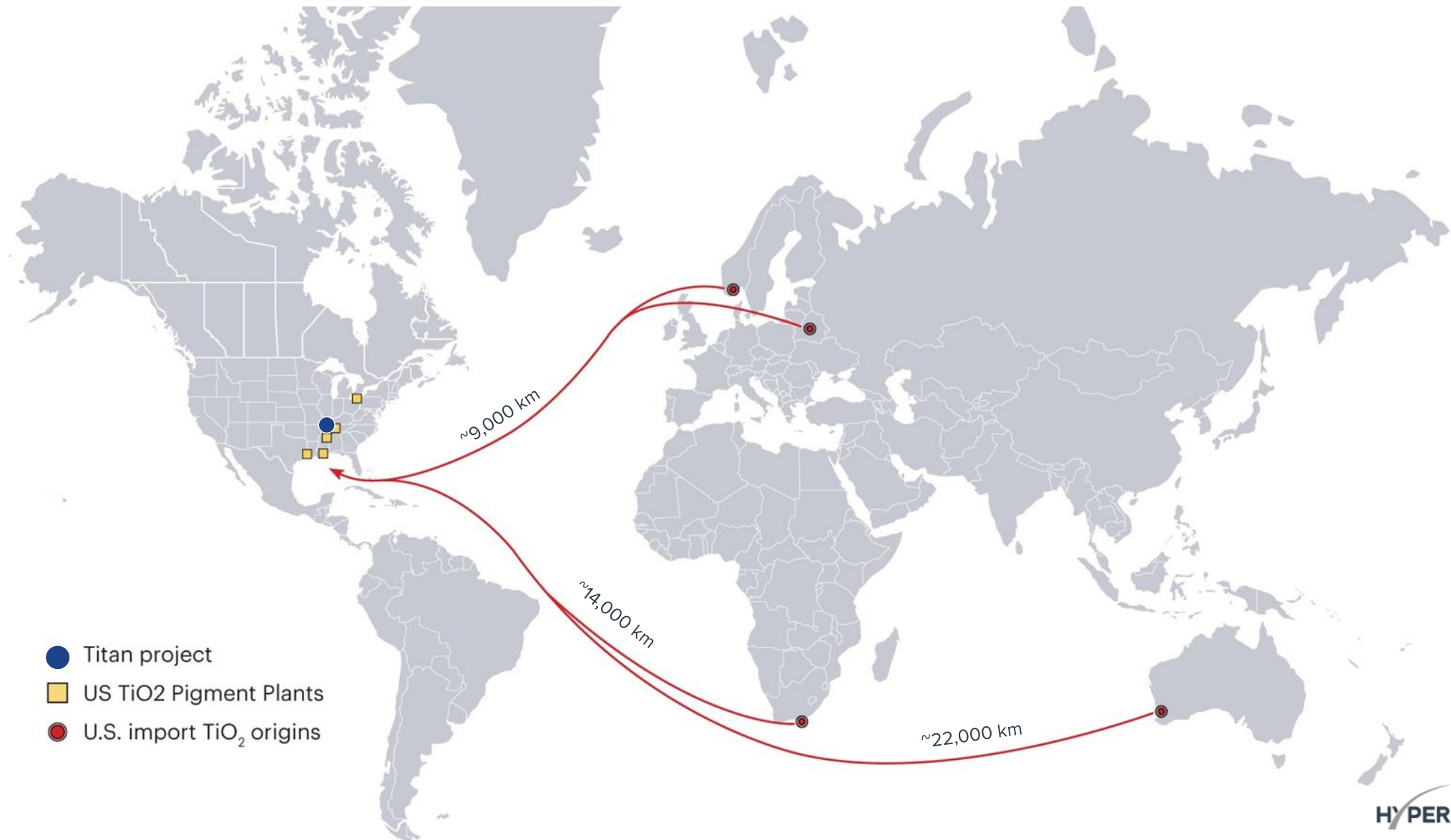
U.S. titanium feedstock value  
breakdown  
(1.5mtpa in 2019)



# TITAN PROJECT IS ADJACENT TO THE U.S. PIGMENT INDUSTRY



# SUPERIOR LOGISTICAL ADVANTAGES TO IMPORTED MINERAL SANDS







**Rare earth elements** are critical to the U.S. transition to a cleaner future and power our electric vehicles and renewable energy sources.

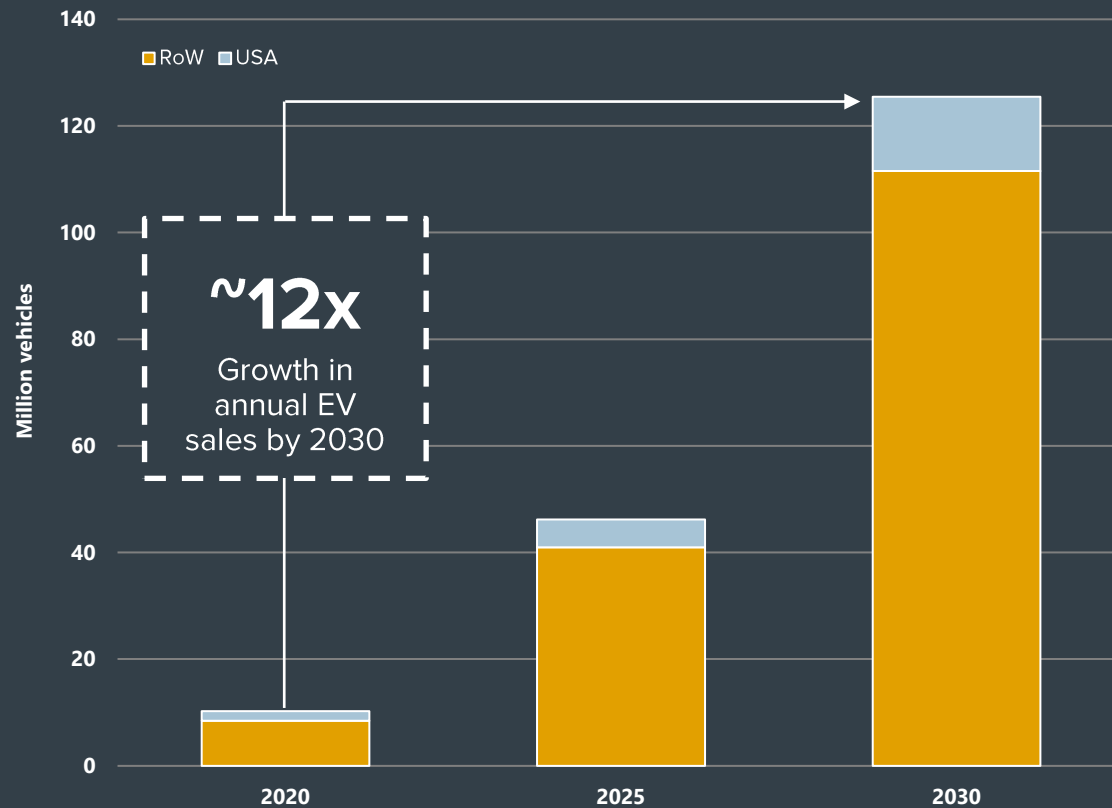




# RAPID RENEWABLE AND EV GROWTH IS FORECAST GLOBALLY

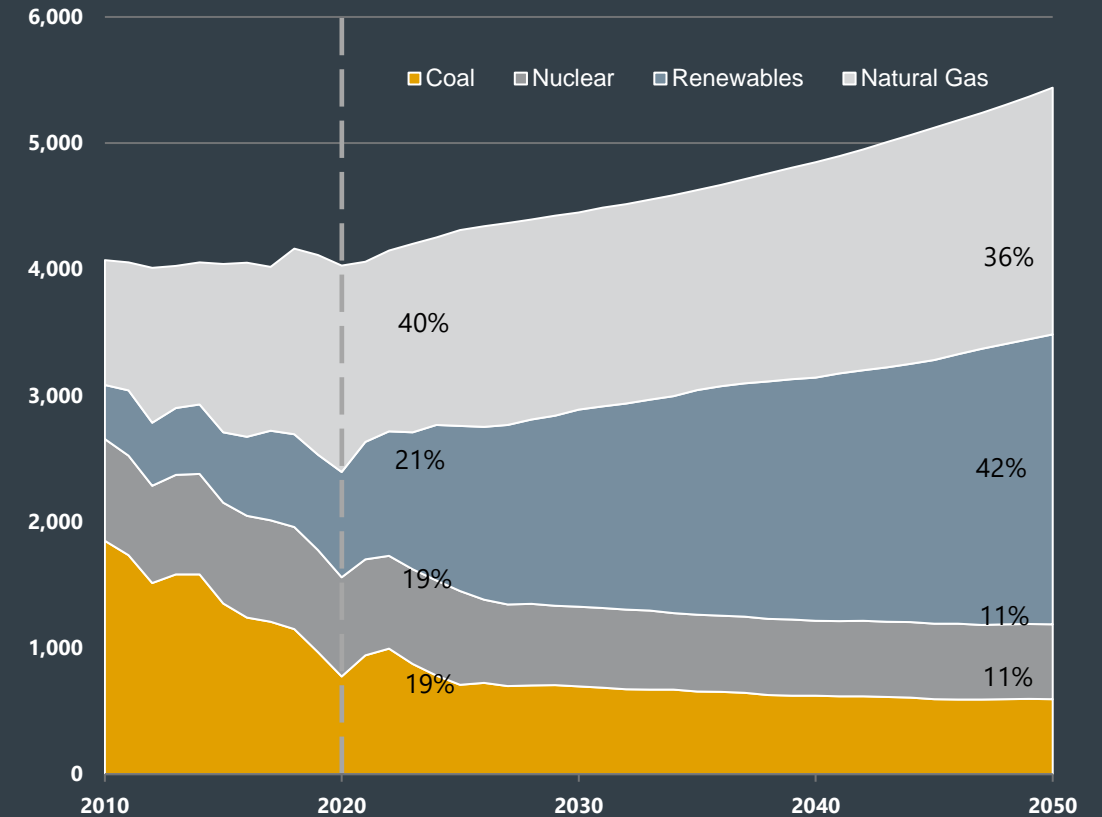
## WORLD AND U.S. EV SALES FORECAST

# vehicles



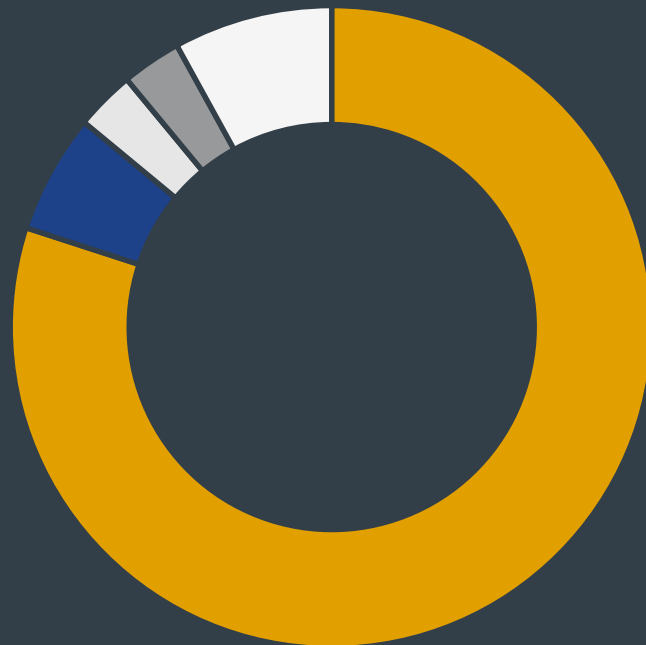
## U.S. ELECTRICITY GENERATION FUEL SOURCE

Billion KWh



# THE U.S. IS HIGHLY DEPENDENT ON IMPORTED RARE EARTHS

U.S. REE Imports



■ China ■ Estonia ■ Japan ■ Malaysia ■ Other

Source: USGS

China Power Source

67%

Coal Fired Power Generation

Source: International Energy Agency

Customer Commitments



*"Apple plans to become carbon neutral across its entire business, manufacturing supply chain, and product life cycle by 2030."*



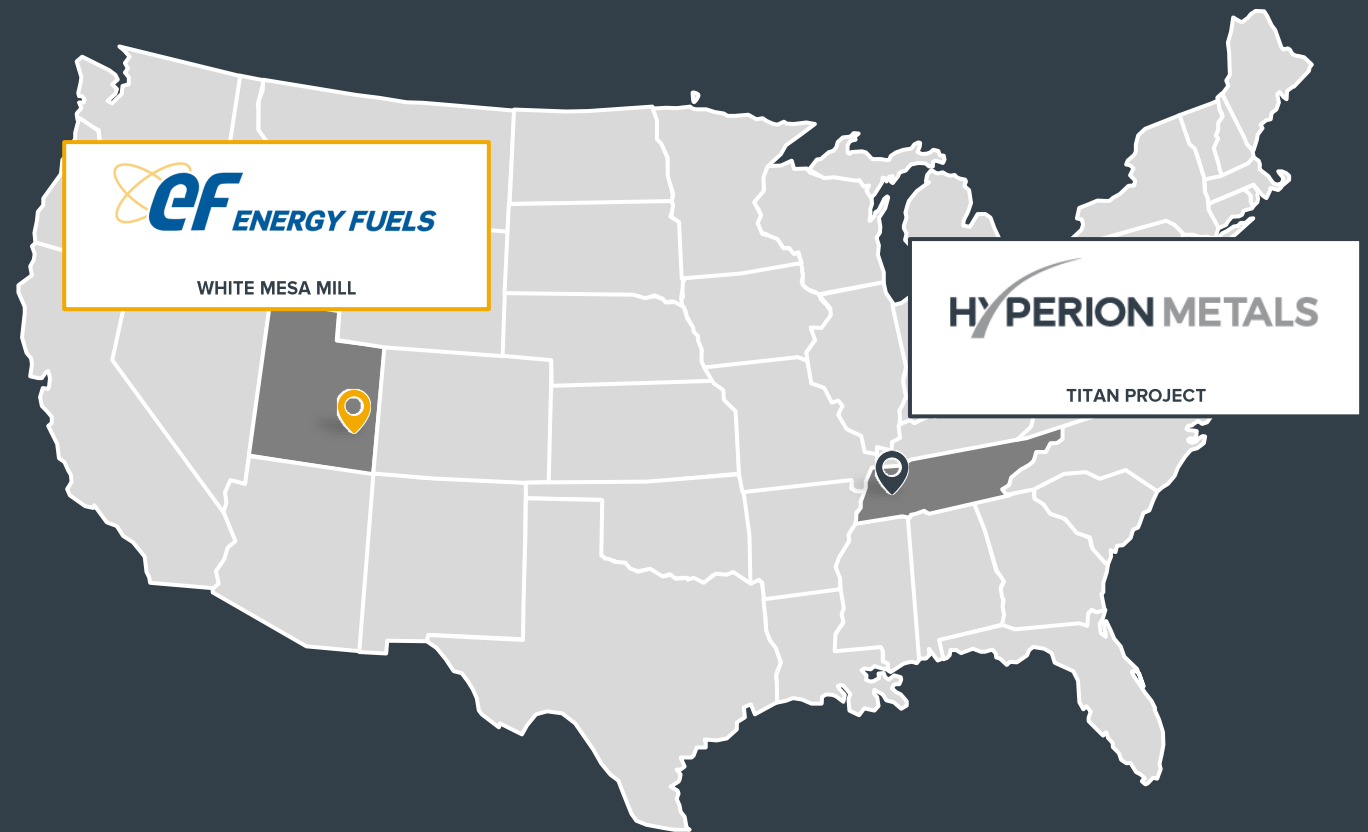
*"By 2030 Microsoft will be carbon negative, and by 2050 Microsoft will remove from the environment all the carbon the company has emitted either directly or by electrical consumption since it was founded in 1975."*



*"We are committed to ensuring that partners around the world in our supply chain are treated with fundamental dignity and respect."*

# HYPERION PLANS TO DEVELOP AN INTEGRATED U.S. RARE EARTHS SUPPLY CHAIN

- MoU to evaluate supply of monazite to **Energy Fuels** (NYSE: UUUU)<sup>1</sup>
- Energy Fuels operates one of the only processing facilities outside of China capable of processing monazite
- Collaboration in the potential development of an integrated U.S. rare earths supply chain



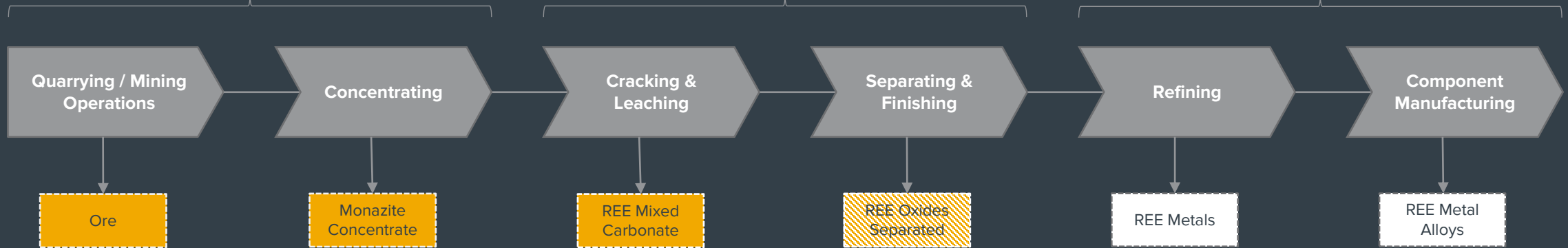
# ENERGY FUELS & HYPERION METALS CAN DEVELOP AN ALL AMERICAN “MINE TO MARKET” SUPPLY CHAIN



MoU with Energy Fuels to evaluate the supply of a sustainable and low carbon U.S. source of monazite as feed to Energy Fuels' facility

Energy Fuels to undertake monazite cracking and waste disposal (use) which is in operation now and eventual rare earth oxide separation

Potential future downstream metal production to allow component manufacturing in the U.S.







**Titanium metal** is one of the most important critical supply chains in the U.S.A of national security importance and is currently 100% import dependent. Hyperion aims to create a domestic supply of **zero carbon titanium metal** for the defense, aerospace and other high tech sectors.



# THE U.S. IS THE LARGEST CONSUMER OF TITANIUM METAL FOR THE AEROSPACE, SPACE AND DEFENSE SECTORS

## Large & Established Titanium Consumers

### 2019 Consumption Statistics

Titanium melt products: 82 ktpa

Titanium mill products: 44 ktpa

Source: Roskill

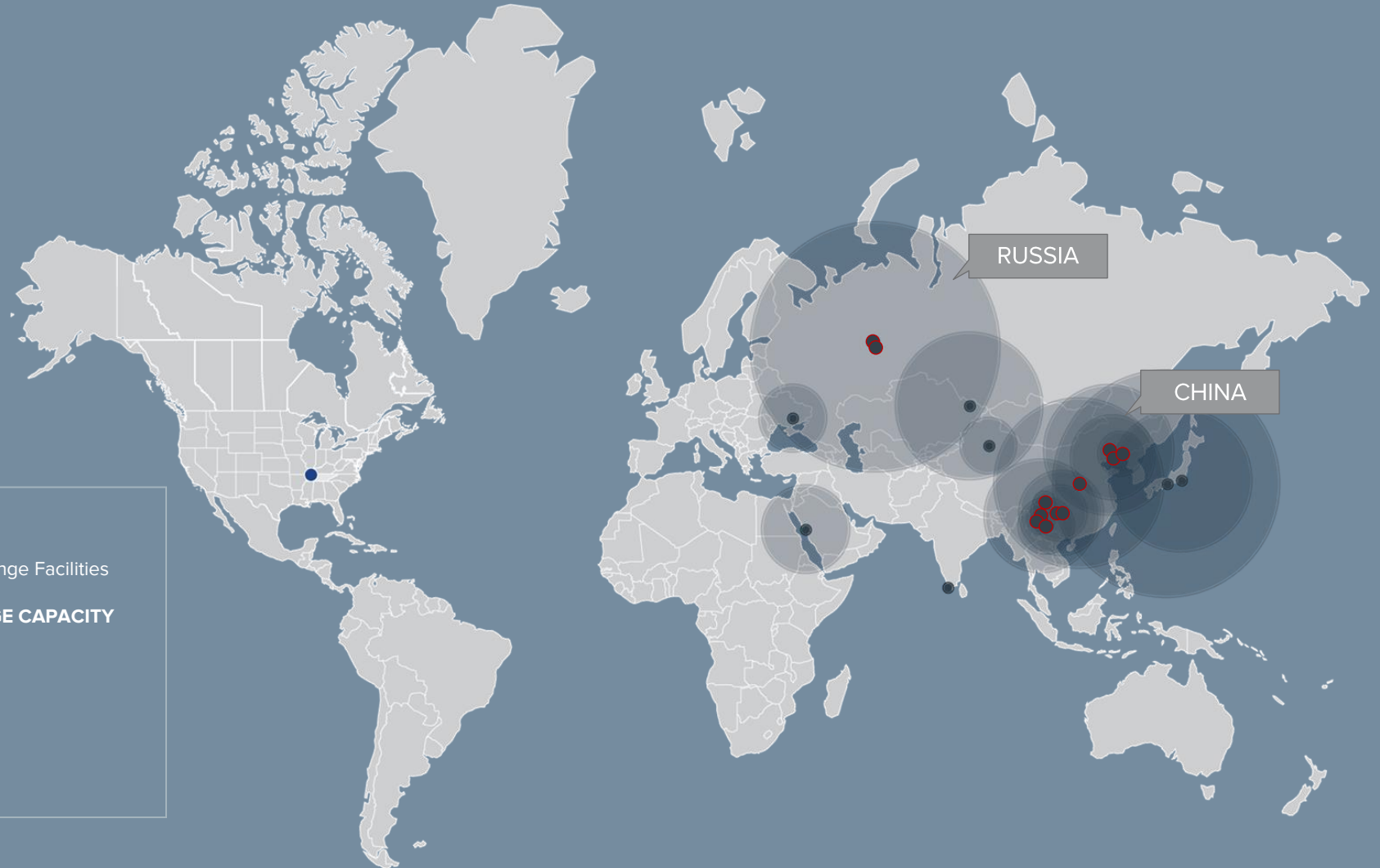


# THE U.S. IS 100% RELIANT ON TITANIUM SPONGE IMPORTS

## 22x Growth in Chinese Titanium Sponge Capacity

### Chinese Ti Sponge Capacity Statistics

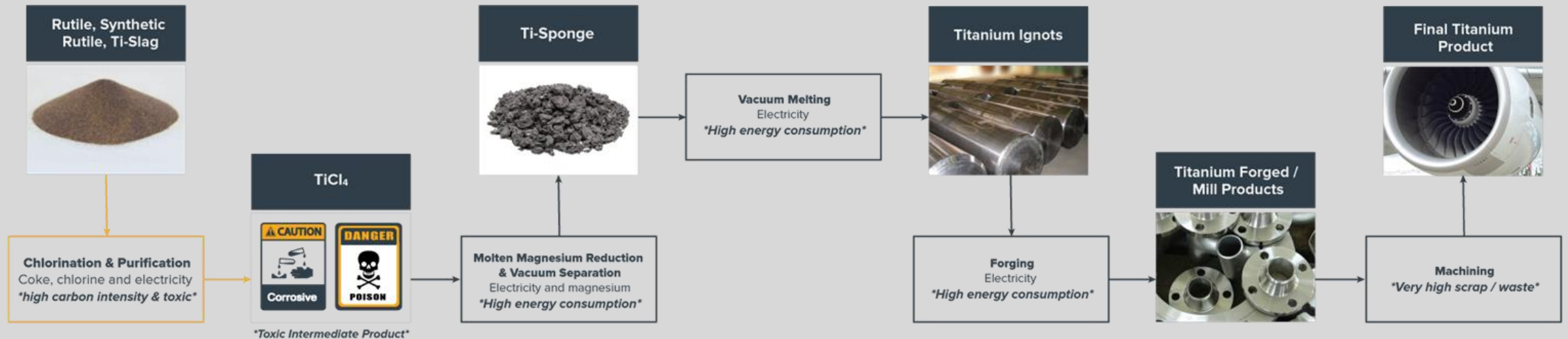
- 2000: 7,000 tpa
- 2020: 158,000 tpa



# PRODUCTION OF TITANIUM METAL UTILIZES A HIGH COST, CARBON INTENSIVE PROCESS

## Existing Kroll Process

*Titanium mineral to titanium metal part flowsheet*





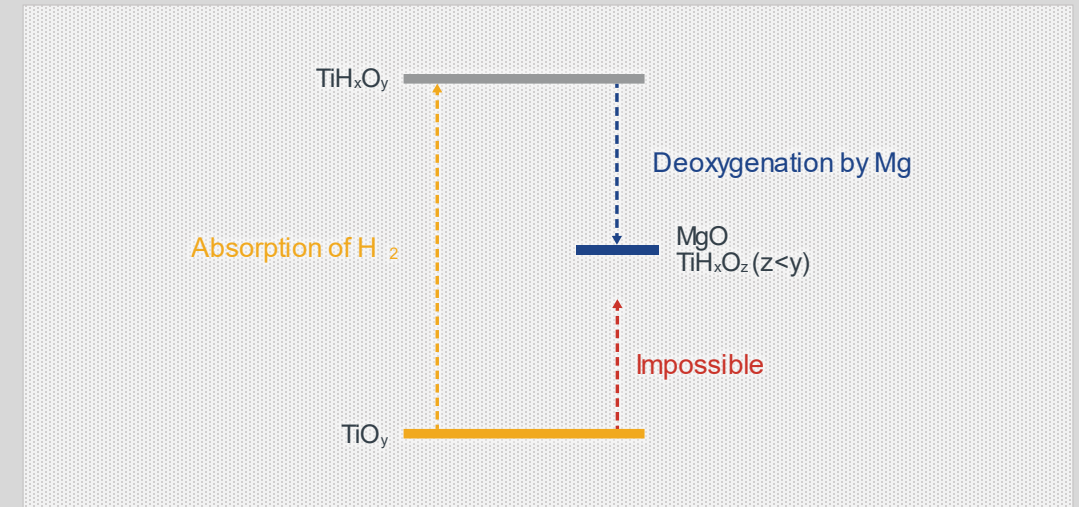
# THE HAMR<sup>1</sup> PROCESS IS A POTENTIAL ZERO CARBON, LOW COST ALTERNATIVE FOR TITANIUM METAL PRODUCTION

## Challenge of Titanium Ore - Metal Production

- $\text{TiO}_2$  is chemically extremely stable
- Kroll Process uses brute force with lots of carbon, chlorine and energy to break the  $\text{TiO}_2$  bonds
- Other processes proposed cannot produce Titanium metal with low enough oxygen content
- $\text{H}_2$  cannot reduce  $\text{TiO}_2$
- Mg cannot reduce  $\text{TiO}_2$  to less than 2<sub>wt</sub>% Oxygen

## HAMR - Dr. Fang's Scientific Breakthrough

- Hydrogen destabilizes Ti-O, making the reaction of Mg with Ti-O from being thermodynamically unfavorable to being favorable



- Hyperion has an option to secure the exclusive license to produce low-carbon titanium metal using the HAMR process<sup>2</sup>

# THE HAMR PROCESS HAS THE POTENTIAL TO CREATE SIGNIFICANT CHANGE IN THE TITANIUM INDUSTRY, OPENING NEW & LARGER MARKETS



*Invented by*  
**Dr. Zak Fang**



Funded By ARPA-E, a DOE Agency



Industrial Partners



Zero Carbon  
Operations



53% Lower Energy  
Consumption



Reduced  
Cost

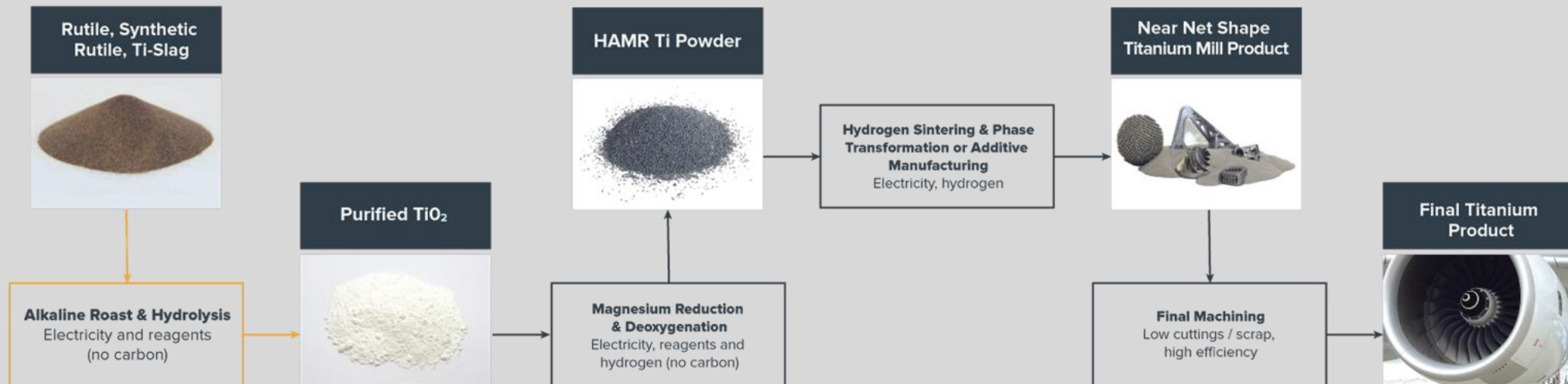


3D Printing  
Powder

# HYPERION PLANS TO DEVELOP AN INTEGRATED “ORE TO METAL” SUPPLY CHAIN USING THE HAMR PROCESS

## Hydrogen Assisted Magnesiothermic Reduction (HAMR) Process

*Titanium mineral to titanium metal part flowsheet*





# DEVELOPING ZERO CARBON, LOW COST TITANIUM METAL WILL HAVE A PROFOUND GLOBAL IMPACT

Decarbonizing and enabling our aerospace sector



Light weighting and decarbonizing EV's



Reshoring and advancing a U.S. military advantage



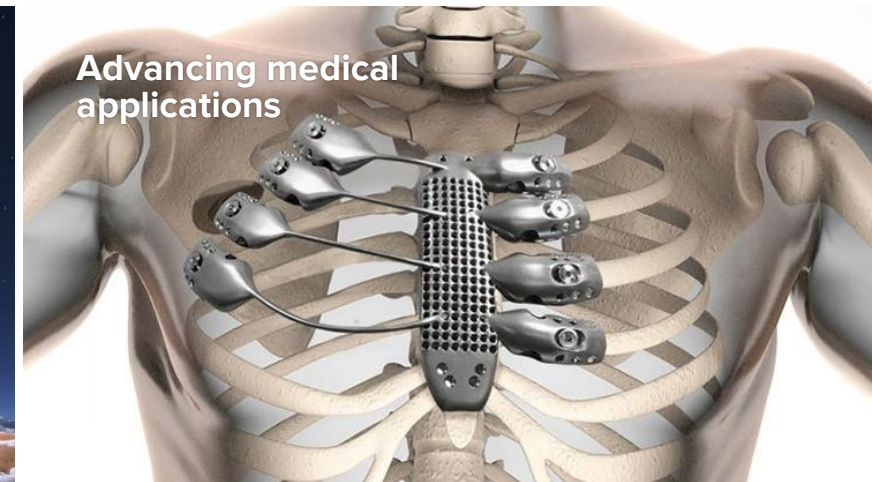
Strengthening and Decarbonizing our modern consumer products



Enabling space exploration



Advancing medical applications





# WE HAVE THE TEAM WITH THE EXPERIENCE AND TRACK RECORD TO ACHIEVE OUR VISION

## Management Team

**ANASTASIOS ARIMA**

*Managing Director*

**DOMINIC ALLEN**

*Corporate Development*

**STEPHANIE HARCLEROAD**

*Community Relations*

**LAMONT LEATHERMAN**

*Chief Geologist*

**GREG SWAN**

*Company Secretary*

**VAUGHN TAYLOR**

*Director*

**ADAM KARST**

*Geologist / Competent Person*

**DELING XIAN**

*Senior Project Manager*

**TODD HANNIGAN**

*Chairman*

**JONATHAN LORD**

*Senior Project Geologist*

**KAYLA LUTHER**

*Financial Controller*

## Advisory Board

**TODD RUPPERT**

*Capital Markets Advisory Board*

**ANDY STEWART**

*Capital Markets Advisory Board*

**DR. ZAK FANG**

*Scientific & Technology Advisory Board*

**MELISSA WALLER**

*Capital Markets Advisory Board*

**TOBY SYMONDS**

*Capital Markets Advisory Board*

**DR. KESH KESHAVAN**

*Scientific & Technology Advisory Board*

**HYPERION METALS**

**PIEDMONT**  
LITHIUM

NASDAQ / ASX: PLL

**APOLLO GROUP**

Portfolio Company

# TARGET MILESTONES TO EXECUTE THE COMPANY'S STRATEGY

<input checked="" type="checkbox"/> Secure Opportunity in USA critical mineral supply chain & build core team	✓ 4 <sup>th</sup> Quarter 2020
<input checked="" type="checkbox"/> 1st phase drill program results	✓ 1 <sup>st</sup> Quarter 2021
<input checked="" type="checkbox"/> Secure HAMR technology for zero carbon titanium metal production	✓ 1 <sup>st</sup> Quarter 2021
<input checked="" type="checkbox"/> 2nd phase drill program results	✓ 1 <sup>st</sup> Quarter 2021
<input checked="" type="checkbox"/> Produce mineral product samples from bulk test work program	✓ 1 <sup>st</sup> Quarter 2021
<input checked="" type="checkbox"/> MoU with Energy Fuels to develop integrated U.S. rare earths supply chain	✓ 2 <sup>nd</sup> Quarter 2021
<input checked="" type="checkbox"/> Begin offtake discussions for mineral products (titanium minerals / zircon / monazite)	✓ 2 <sup>nd</sup> Quarter 2021
<input type="checkbox"/> 3rd phase drill program results	2 <sup>nd</sup> Quarter 2021
<input type="checkbox"/> Metallurgical test analytical data and assemblage results	2 <sup>nd</sup> Quarter 2021
<input type="checkbox"/> JORC compliant maiden resource	3 <sup>rd</sup> Quarter 2021
<input type="checkbox"/> Produce titanium metal powder samples & begin strategic customer / partner outreach	3 <sup>rd</sup> Quarter 2021
<input type="checkbox"/> Scoping study on mine and mineral process plant	3 <sup>rd</sup> Quarter 2021

# CAPITAL MARKETS FAVOUR COMPANIES ENGAGED IN THE U.S. SUPPLY CHAIN

## ASX Listed Critical Mineral Focus

## U.S. Listed Critical Supply Chain Focus

## 3D Printing Focus

(Enterprise values)



**A\$395 million**  
ASX:ABR  
American Pacific Borates Ltd  
U.S. borates



**US\$4.0 billion**  
NYSE:MP  
MP Materials Corp  
U.S. rare earths



**US\$2.5 billion**  
**20x 2025f EBITDA**  
NYSE:DM  
Desktop Metal, Inc.  
3D printing



**A\$580 million**  
ASX:INR  
ioneer Ltd  
U.S. lithium



**US\$1.1 billion**  
NYSE:LAC  
ioneer Ltd  
U.S. lithium



**US\$1.7 billion (SPAC deal)**  
**11x 2025f EBITDA**  
Markforged, Inc.  
Additive manufacturing



**A\$650 million**  
ASX:NVX  
Novonix Ltd  
U.S. battery materials



**US\$740 million**  
NASDAQ:PLL  
Piedmont Lithium Ltd  
U.S. Lithium



**US\$1.6 billion (SPAC deal)**  
**11x 2025f EBITDA**  
Velo 3D, Inc.  
Additive manufacturing



**A\$500 million**  
ASX:ASM  
Australian Strategic Materials Ltd  
Australian critical minerals



**US\$820 million**  
OTCQB:ABML  
American Battery Technology Company  
U.S. lithium recycling, exploration

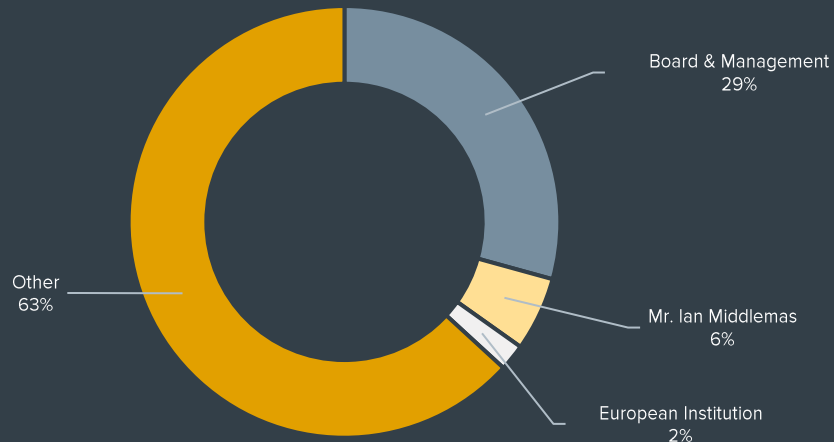


**US\$14.1 billion (SPAC deal)**  
**24x 2025f EBITDA**  
Rocket Lab USA, Inc.  
Space exploration



# CAPITAL STRUCTURE AND CORPORATE

## COMPANY OWNERSHIP



## BOARD OF DIRECTORS

Todd Hannigan	Australia	Chairman
Anastasios Arima	USA	Managing Director
Vaughn Taylor	Australia	Director

## 12 MONTH SHARE PRICE & VOLUME



## CAPITAL STRUCTURE

HYM shares on issue	104.2M
Price (17 May 2021)	A\$0.99
<b>Market capitalisation</b>	<b>A\$103.0M</b>
Cash	A\$5.0M
<b>Enterprise value</b>	<b>A\$98.0M</b>
Listed options	13.3M
Unlisted options	26.1M
Performance rights / shares	55.2M





Hyperion aims to become an important American **critical mineral supplier** via our Titan critical mineral project. Our exclusive license for the **HAMR titanium technology** has the potential to disrupt the modern metals market.