



Titan DFS

Building a U.S. Supply Chain for Heavy Rare Earths, Titanium, Zirconium and Hafnium

A U.S. critical mineral-to-metals platform for defense, aerospace, nuclear, semiconductors, robotics and advanced manufacturing supply chains

June 2026



IperionX Limited
NASDAQ and ASX: IPX



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Compliance Statement

The information in this presentation that relates to the Ore Reserve estimate at the Titan Project is extracted from the Company's announcement titled "IperionX Titan DFS Confirms High-Return U.S. Rare Earths and Critical Minerals Project" released to ASX on 4 June 2026 and which is available at www.asx.com.au. The Company confirms that it is not aware of any new information or data that materially affects the Ore Reserve estimate information included in that original market announcement and confirms that all material assumptions and technical parameters underpinning the Ore Reserve estimate in that announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the findings of the Competent Person are presented have not been materially modified from the original market announcement. The Competent Person for the Ore Reserve estimate in that announcement was Mr. Justin Douhat.

The information in this presentation that relates to the Mineral Resource estimates at the Titan Project is extracted from the Company's announcement titled "IperionX Titan DFS Confirms High-Return U.S. Rare Earths and Critical Minerals Project" released to ASX on 4 June 2026 and which is available at www.asx.com.au. The Company confirms that it is not aware of any new information or data that materially affects the Mineral Resource estimates information included in that original market announcement and confirms that all material assumptions and technical parameters underpinning the Mineral Resource estimates in that announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the findings of the Competent Person are presented have not been materially modified from the original market announcement. The Competent Person for the Mineral Resources in that announcement was Mr. John Eckman.

The information in this Presentation that relates to the Company's production targets and financial forecasts for the Titan Project is extracted from the Company's ASX announcement titled "IperionX Titan DFS Confirms High-Return U.S. Rare Earths and Critical Minerals Project" released to ASX on 4 June 2026 and which is available at www.asx.com.au. The Company confirms that all the material assumptions underpinning the production targets, and the forecast financial information derived from the production targets, in that announcement continue to apply and have not materially changed.

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This presentation has been authorized for release by the CEO and Managing Director.



Why Titan Matters

Strategic Minerals, Strong Economics, Shovel Ready

A vertically integrated minerals-to-metals platform in the U.S.

Proprietary titanium manufacturing technologies, underpinned with secure Tennessee critical minerals reserves

TITANIUM METAL OPERATIONS

Titanium manufacturing • powder • parts



Re-shoring end-to-end titanium metal production to the U.S.

- Scaling U.S. titanium powder and advanced manufacturing in Virginia
- HAMR™ process: Titanium from mineral or scrap feedstocks
- HSPT™ process for 'forged' near-net-shape titanium parts
- Focused on defense, aerospace & advanced manufacturing industries

TITAN CRITICAL MINERAL DEVELOPMENT

Titanium • zircon + hafnium • rare earths



'Shovel-ready' critical mineral project with key permits in place

- 100%-owned U.S. Critical Minerals Project in Tennessee
- High-value titanium, zircon & heavy rare earth critical mineral reserves in a premier U.S. jurisdiction
- Shovel-ready with established infrastructure, DFS defined and key permits in place
- Strategic focus: Long-term domestic critical minerals feedstock for defense, aerospace, robotics supply chains

Titan DFS: strong economics, strategic products and shovel-ready

Leading U.S. rare earth and critical minerals project with strong economics and near-term development pathway

AFTER-TAX NPV

US\$813M

39.4% IRR

LIFE OF MINE EBITDA AND FCF

US\$2.8B

US\$1.9B FCF

DEVELOPMENT CAPEX

US\$381M

Phase 1: US\$228M
Phase 2: US\$153M

HEAVY RARE EARTH CONCENTRATE¹

~5,300 tpa

Heavy rare earth concentrate

TITANIUM MINERALS¹

~143,300 tpa



Rutile: ~24,700 tpa
Ilmenite: ~118,700 tpa

ZIRCON CONCENTRATE¹






~65,700 tpa

Zircon concentrate






37,000
BOEING 787s²

13,000,000
Electric Vehicles²

5,700,000
Humanoid Robots²

Refer to ASX Announcement dated June 4 2026 for details.

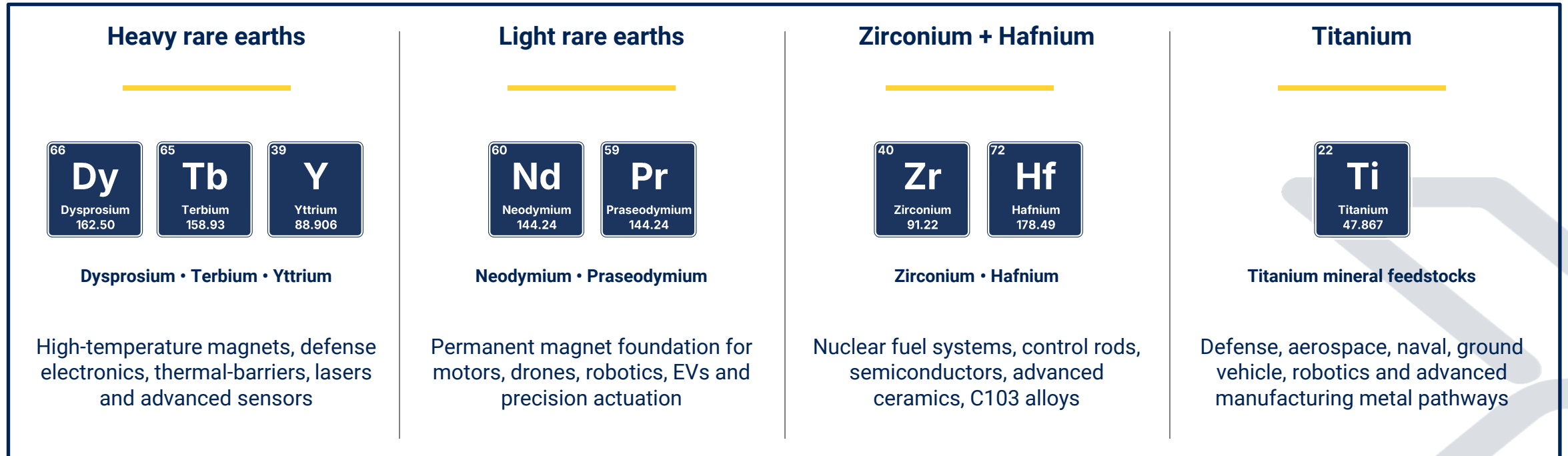
1. Phase 2 production rates shown, rounded. All production values stated in metric tons throughout presentation.

2. Equivalent product figures shown are rounded. Based on Titan's LOM projected production of titanium in ilmenite and rutile, and NdPr in HREE oxides. IPX estimates for material intensities for various end-use applications. Sources: Adamas Intelligence; Benchmark Minerals; ORNL; DoE; MDPI Minerals 2023, 13, 1274; Resources, Conservation & Recycling (2025) 107966

Four strategic material streams, one U.S. supply-chain platform

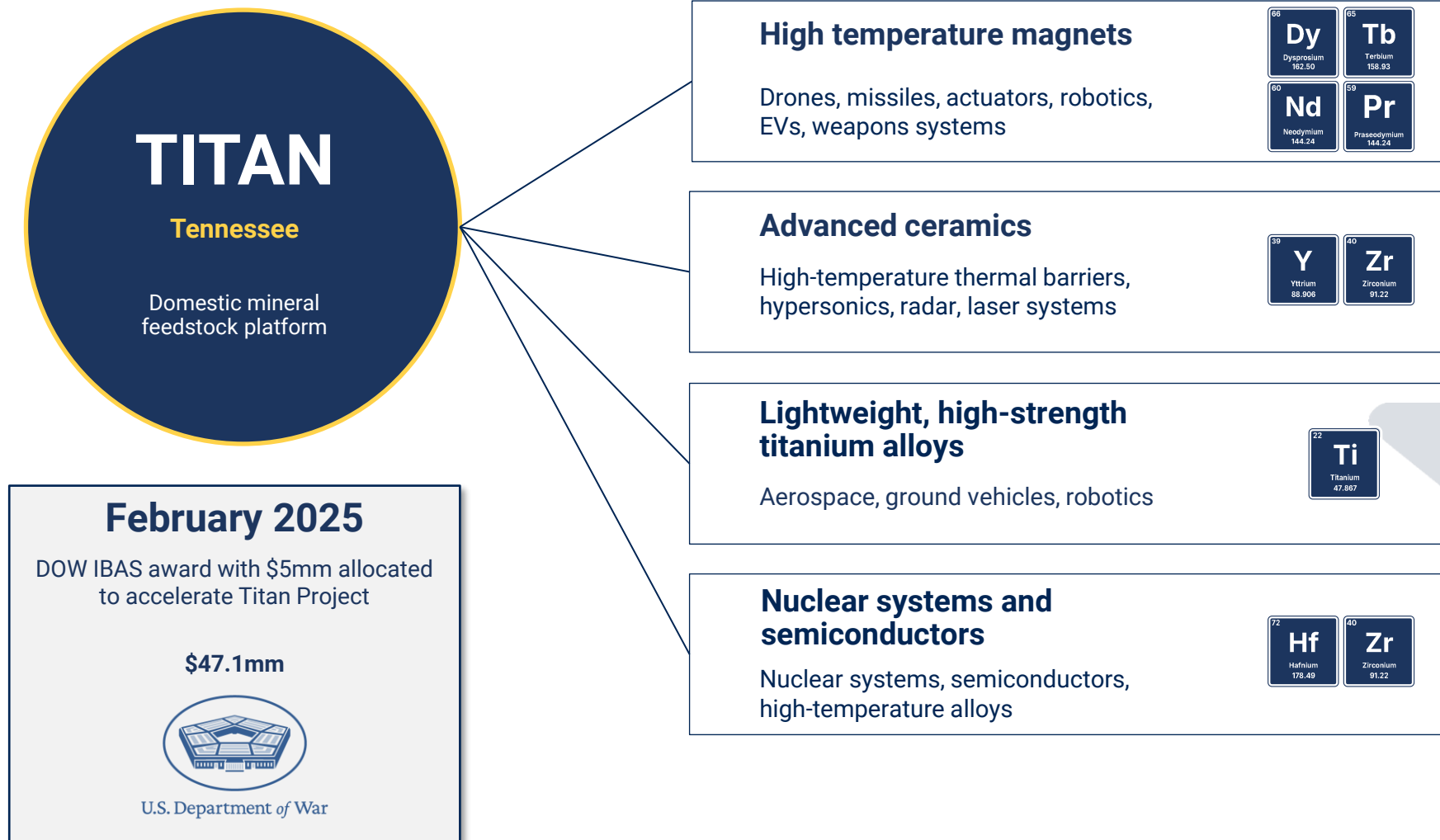
Titan is a rare U.S. critical minerals platform that can solve multiple supply chain chokepoints across defense, nuclear, semiconductors, AI infrastructure, robotics and advanced manufacturing

CORNERSTONE PROJECT • FOUR STRATEGIC MATERIAL STREAMS



Titan addresses multiple defense-critical material chokepoints

Titan secures four key defense-critical material families, from leading U.S. critical mineral reserve



Titan is a cornerstone for U.S. critical-mineral supply chain security

Shovel ready U.S. critical mineral platform with key permits in place

1

Robust economics

US\$813M NPV8 // 39.4% IRR // US\$381M total capex

2

High-value, critical products

HREC for Dy + Tb + Y + NdPr, titanium minerals, and zircon/Zr-Hf

3

Key permits + execution path in place

State Surface Mining and NPDES permits granted

4

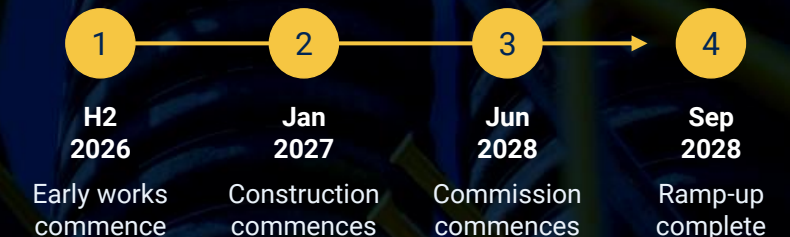
“Shovel-ready” path to 2028 production

Potential for production ramp-up complete in September 2028

With a suitable funding pathway,
potential for a U.S. supply-chain
solution in

2028

Potential for Phase 1 production ramp-up
to be complete by September 2028



America's strategic mineral stronghold: Titan + Big Sandy

Titan is a leading U.S. rare earth and critical mineral reserve with heavy rare earths, zirconium-hafnium and titanium can support defense, nuclear, semiconductors, aerospace and robotics

CHINA STRATEGIC WEAKNESS

HREEs
China dominates separation / magnets but lacks domestic HREE feedstocks

Zr / ZOC
China dominates ZOC midstream - but lacks domestic zircon resources

Hafnium
China's position depends on zirconium refining and imported zircon.

Titanium
China has scale but remains dependent on the high-cost Kroll-process

U.S. SUPPLY CHAIN GAPS

HREE feedstock shortage
Insufficient DyTb to scale high-temperature magnet capacity

Limited ZOC / chemicals
Thin domestic zirconium chemical capacity

Limited Zr/Hf separation
Limited U.S. hafnium recovery and separation

High Import reliance
Limited fully integrated domestic titanium metal capacity

TITAN / BIG SANDY SOLUTION

Dy/Tb/Y-rich HREC
Large-scale domestic feedstock to anchor heavy rare earth supply chains

Zircon feedstock
Foundation for a vital U.S. Zr/Hf and zirconium chemicals supply chain

Hafnium optionality
Hafnium-bearing zircon stream for strategic products

Mineral-to-metal Titanium
Titan + IperionX technologies underpin U.S. titanium scale-up and supply chains

WHY THIS MATTERS

National defense

Nuclear power

Advanced-semiconductors

Aerospace + space

Robotics + Drones

China's upstream weakness

Titan + U.S. minerals = Opportunity for U.S. leadership

The slide features a dark blue background with a faint, glowing map of the United States. The state of Tennessee is highlighted with a bright orange outline. In the bottom right corner, there is a close-up photograph of dark, jagged mineral fragments. A yellow horizontal bar is positioned on the left side of the slide, containing the title and subtitle in bold black text. The overall aesthetic is professional and industrial.

Titan Products

Critical Minerals for Key U.S. Supply Chains

Titan targets the heavy rare earth bottleneck

Titan's heavy rare earth concentrate is rich in Dy + Tb + Y — the heavy rare earths essential for high-temperature magnets and thermal-barrier ceramics

ANNUAL PROJECTED DY + TB AND Y MINED OUTPUT – TITAN vs. MP MATERIALS¹

YTTRIUM OXIDE

MP Materials



IperionX



Titan is materially greater than MP for Y output

DYSPROSIUM + TERBIUM OXIDE

MP Materials



IperionX



Titan adds scarce Dy + Tb-rich feedstock into growing demand

TITAN ADDRESSES THE U.S. HEAVY RARE EARTH SUPPLY CHAIN GAP

UPSTREAM FEED

Titan heavy rare earth concentrate, incl. Dy, Tb and Y

Heavy rare earth rich feedstock is a key U.S. supply chain bottleneck

CRACKING & SEPARATION

Oxides cracked and separated

Domestic capacity needs reliable sources in order to scale

METALLIZATION & MAGNETS

Metallization and production of NdFeB magnets (incl. Dy + Tb for performance)

Magnet production takes place today – largely reliant on Chinese supply chains

END USERS (INCL. DEFENSE)

Missiles, aircraft, drones, robotics, semiconductors and energy

Demand growth adds urgency to U.S. supply chain resilience

Importance to U.S. supply chains



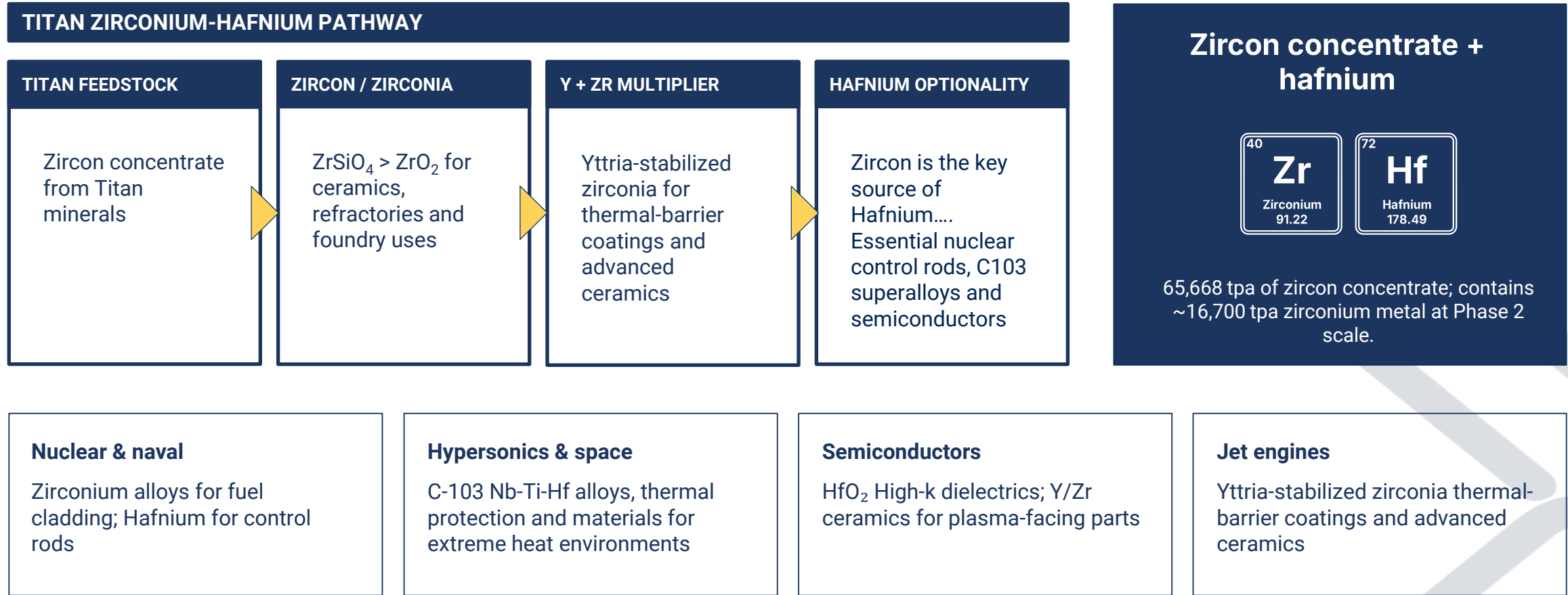
Phase 2 Heavy Rare Earth Concentrate (HREC) contains approx. 48 tpa Dy₂O₃, 11 tpa Tb₄O₇ and 232 tpa Y₂O₃

- Permanent magnets for missiles, drones, actuators and radar systems
- High-temperature magnet performance via Dy + Tb additions
- Yttrium for thermal-barrier coatings, ceramics and semiconductor equipment

1. Refer to Endnote.

Zircon + Hafnium: critical supply for semiconductors, nuclear and defense

Titan has the potential to be a key U.S. feedstock source for zirconium, hafnium and advanced material supply chains



Surging AI memory growth pulling hafnium into large structural deficit

Surging demand for memory, including DRAM and HBM, is moving hafnium towards a semiconductor scaling bottleneck

Demand Pull

~20% PROJECTED CAGR¹

- Physical limitations of semiconductor materials forcing new atomic structures
- AI accelerators, HBM, DRAM scaling and advanced logic nodes increase demand for high-purity hafnium precursors
- Semiconductor demand can rise exponentially faster than nuclear-grade zirconium production

Zirconium / Hafnium supply

- Hafnium is typically recovered as a byproduct of zirconium refining
- Supply expansion therefore depends on additional zircon feedstock, chemical processing, Zr/Hf separation and downstream precursor capacity
- If demand accelerates faster than byproduct supply, hafnium may transition from byproduct into a strategic high-valued co-product
- Zircon + Hafnium prices will likely rise to a level that subsidizes new market supply

Titan Project

- Titan has potential to supply Hafnium and Zirconium feedstocks for a range of U.S. industries, including nuclear and semiconductors

~16,700 TONS
CONTAINED ZIRCONIUM PER YEAR

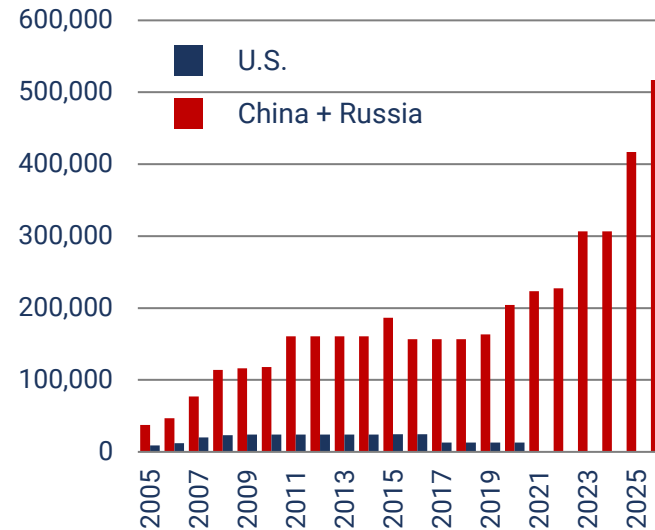
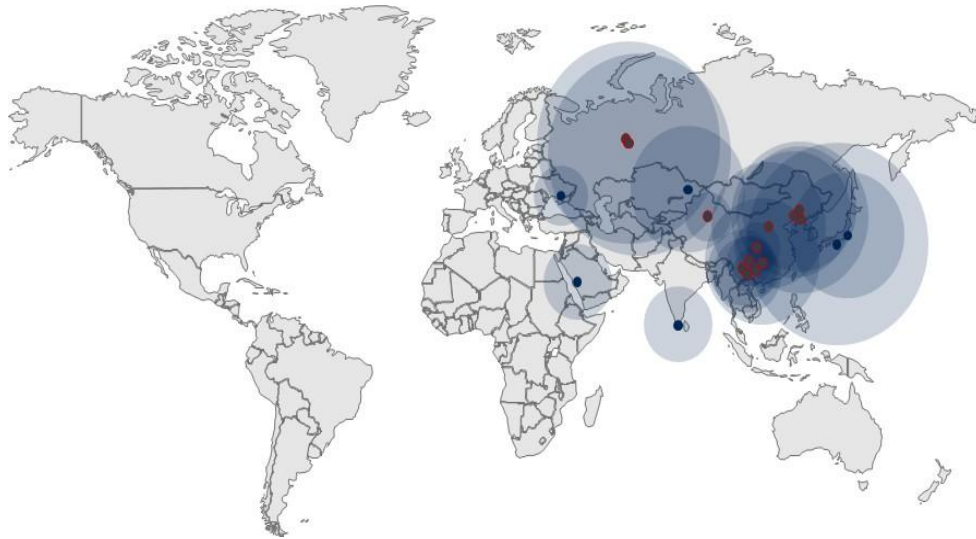
50 : 1
NATURALLY OCCURRING
ZIRCONIUM : HAFNIUM RATIO

84 TONS
2025 U.S. HAFNIUM IMPORTS
(WROUGHT + UNWROUGHT)²

Titan underpins the scale-up of a U.S. titanium mineral-to-metal supply chain

IperionX is re-shoring an end-to-end U.S. titanium supply chain, using patented technologies and Titan minerals feedstock

PRIMARY TITANIUM PRODUCTION CAPACITY (METRIC TONS PER YEAR)¹



TITAN ENABLES THE MASS SCALE UP OF U.S. TITANIUM METAL PRODUCTION

2026 NAMEPLATE CAPACITY

200 tpa

Titanium scrap based feedstock



2027 IBAS EXPANSION CAPACITY

1,400 tpa

Titanium scrap based feedstock



2030+ TARGET CAPACITY

>10,000 tpa

Titanium scrap based feedstock +
Titan Project mineral feedstock

Secure, U.S. mineral to metal titanium supply chain



Phase 2 contained titanium metal of
~58,000 tpa²

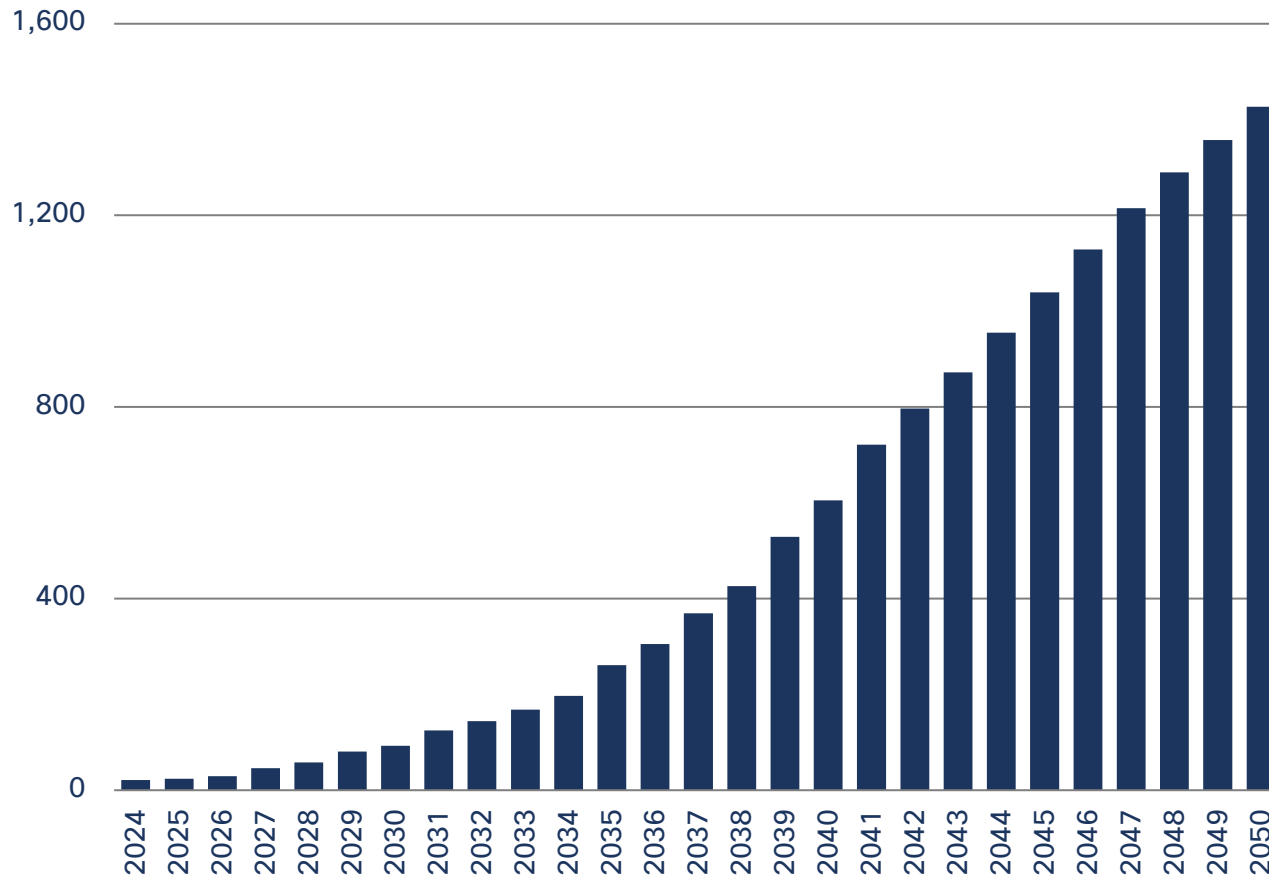
- IperionX technologies + Titan provide a fully U.S. mineral to metal pathway
- Potential for U.S. production of titanium powders, parts and mill-products

² Phase 2 run-rate forecast to produce ~118,658 tpa of ilmenite and 24,656 tpa of rutile. Using DFS product spec. of 62.5% TiO₂ for ilmenite / 91.1% TiO₂ for rutile, is ~58,000 tpa of contained metal before upgrading, recovery, & processing assumptions.

Robotics needs Titan's titanium and rare earth product streams for long-duration hyper-growth

Robotics growth could multiply demand for high-strength lightweight structures, precision actuators, high-performance magnets, bearings, spacers and thermal materials

Case study: Total robot sales forecast (million units)¹



Case study: Content needed to support 1.4b robots in 2050¹



- Current market: 0.2b units
- 2050 est.: 41b units

Bearings **200x increase**



- Current market: 0.03b units
- 2050 est.: 14b units

Spacers **467x increase**



- Current market: 0.004m tons
- 2050 est.: 1.7m tons

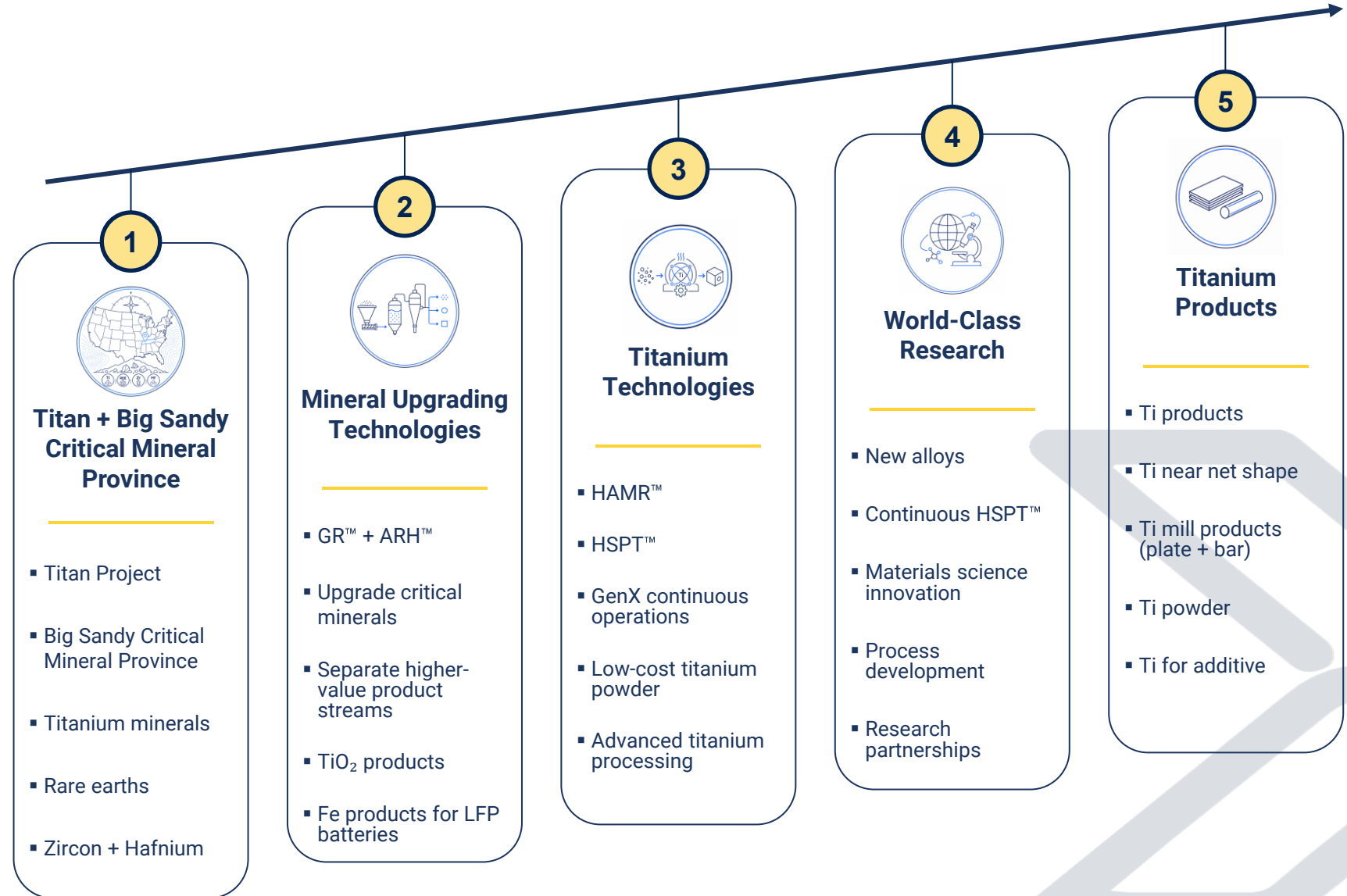
REE magnets **425x increase**

IperionX is scaling a technology-led, vertically-integrated U.S. titanium platform

A vertically integrated U.S. titanium technology platform developed over 15 years

AN INTEGRATED TITANIUM PLATFORM

From critical minerals and patented processing technologies, to production of advanced titanium products





Appendix

Reserve-backed, conventional and infrastructure advantaged project with key permits in place

117.0 Mt Ore Reserve at 3.17% THM

No inferred resources included in the production target

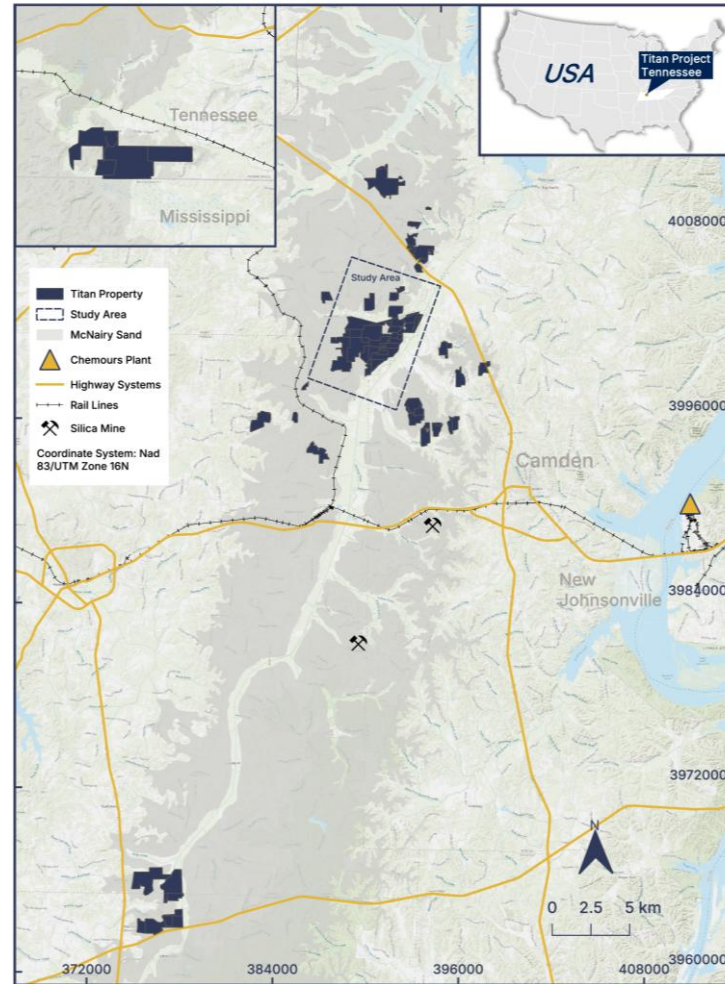
Ore Reserve confidence

80% Proved

20% Probable

Mineral Resource Estimate	In situ tons	THM Assemblage					
		THM (%)	THM (t)	Zircon (%)	Rutile (%)	Ilmenite (%)	REE (%)
Measured (M)	217,285,000	2.1	4,548,000	10.8	9.4	40.6	1.4
Indicated (I)	130,578,000	2.2	2,841,000	10.4	9.9	42.7	1.5
Total M+I	347,863,000	2.1	7,389,000	10.6	9.6	41.4	1.4
Inferred (Inf)	97,832,000	1.8	1,774,000	9.3	9.6	38.0	1.2
Total M+I+Inf	445,695,000	2.1	9,163,000	10.4	9.6	40.8	1.4

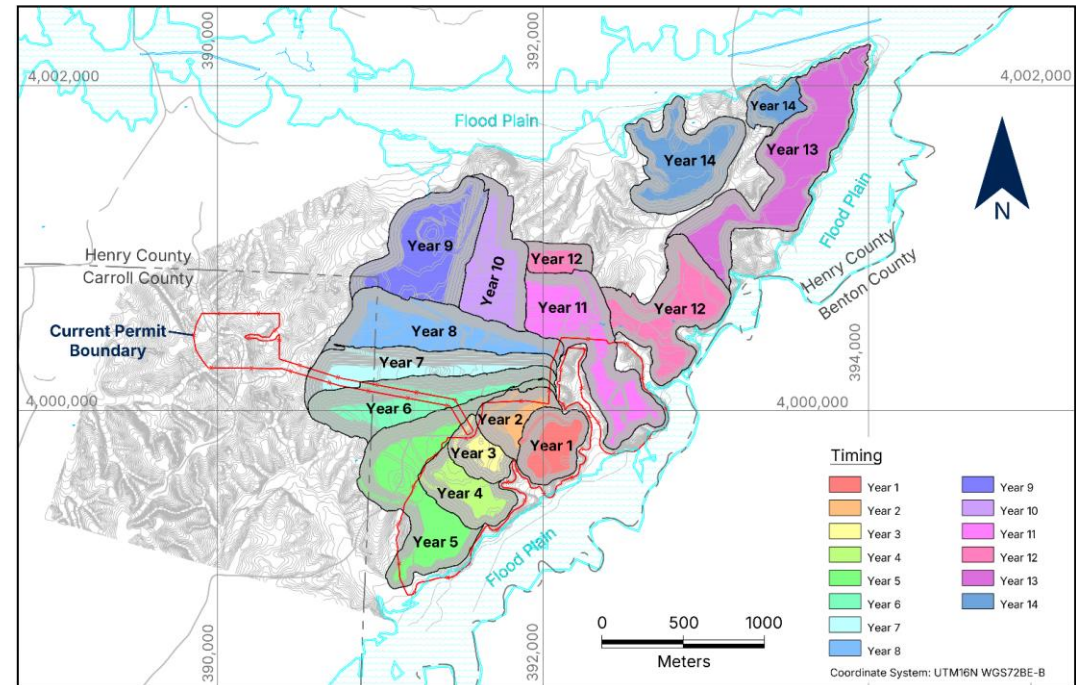
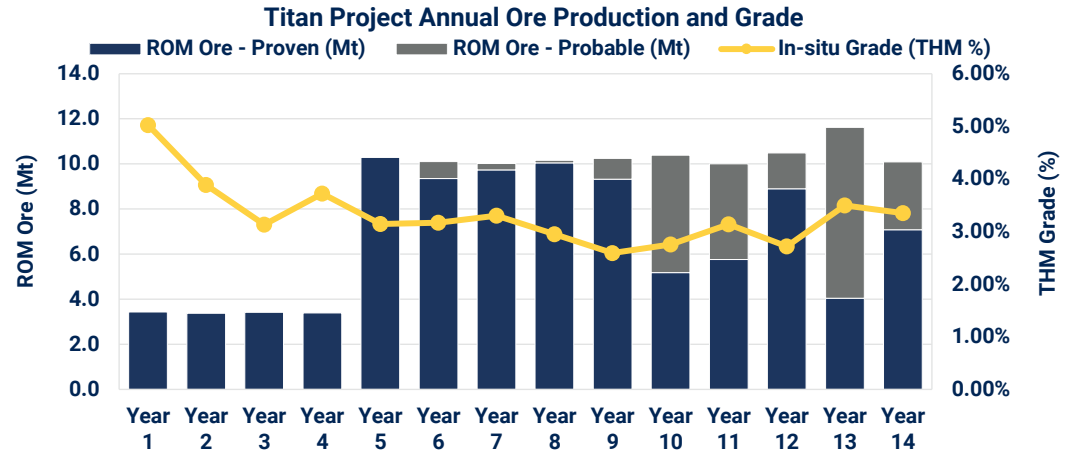
Ore Reserve Estimate	ROM tons		THM Assemblage						
	Unit	Proved	Probable	THM (%)	THM (t)	Zircon (%)	Rutile (%)	Ilmenite (%)	REE (%)
Upper McNairy		24,565,000	2,415,000	2.30	620,000	6.2	6.2	23.6	0.2
Lower McNairy		68,740,000	21,307,000	3.43	3,086,000	12.7	10.5	48.3	1.9
Total		93,306,000	23,722,000	3.17	3,706,000	11.6	9.8	44.2	1.6



- Open-pit, excavator-and-truck mineral sands mining
- No drilling/blasting or hard-rock crushing
- Wet concentration, rare earth flotation and dry separation
- Progressive backfill reduces tailings footprint
- Road, rail, barge, power, water and gas infrastructure nearby

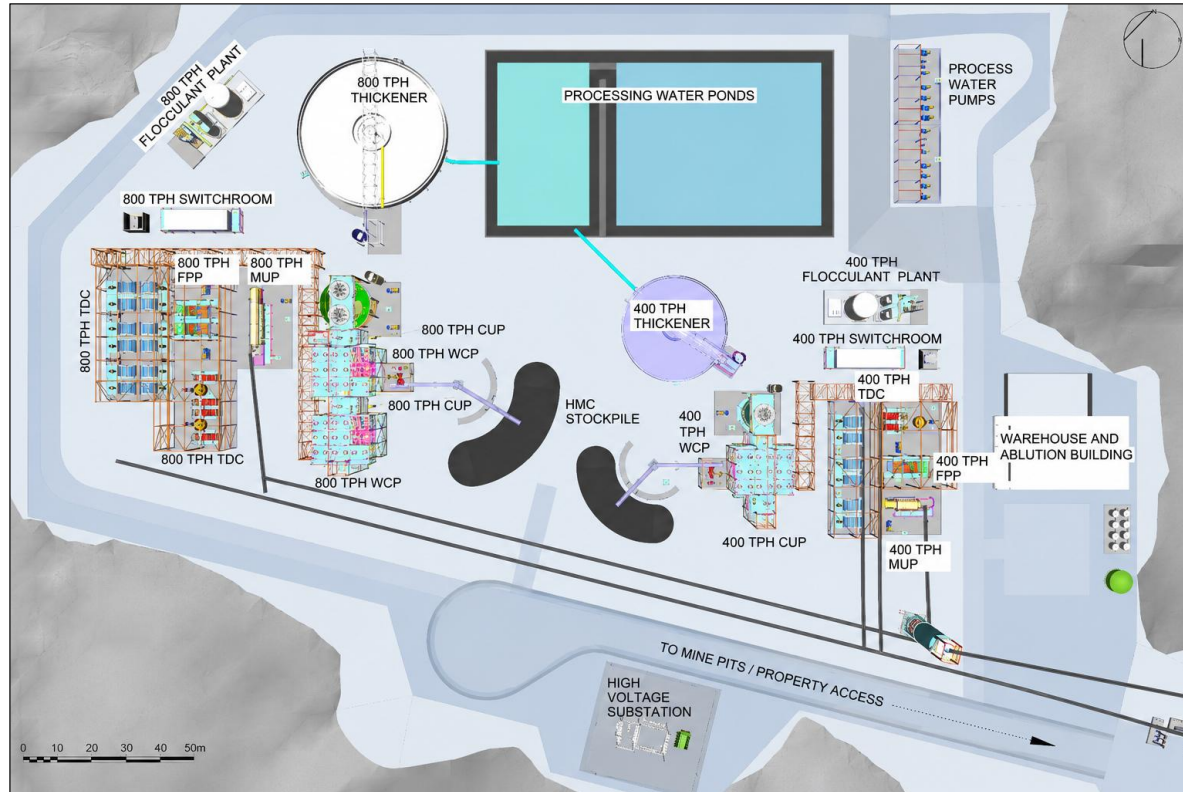
A low-risk, staged development approach

METRIC	UNIT	PHASE 1	PHASE 2
Mine life	Years	1-4	5-14
Annual ore feed	Mt pa	3.5	10
Ore and waste	Mt	117.0 Mt ore; 95.6 Mt waste (strip ratio: 0.82)	
Total development capital	US\$	\$228.1M	\$153.2M
Operating costs	US\$/t ore	\$13.31	\$10.57
Total LOM EBITDA	US\$	\$2.8B	
Total after-tax free cash flow	US\$	\$1.9B	
Phase 2 avg. annual EBITDA	US\$ pa	\$226M	
Phase 2 avg. annual after-tax FCF	US\$ pa	\$172M	
After-tax NPV ₈	US\$	\$813M	
After-tax IRR	%	39.4%	
After-tax payback period	Years	3.6	
Phase 2 annual production	tpa	HREC: 5,287	
		Ilmenite: 118,658	
		Rutile: 24,656	
		Zircon concentrate.: 65,668	

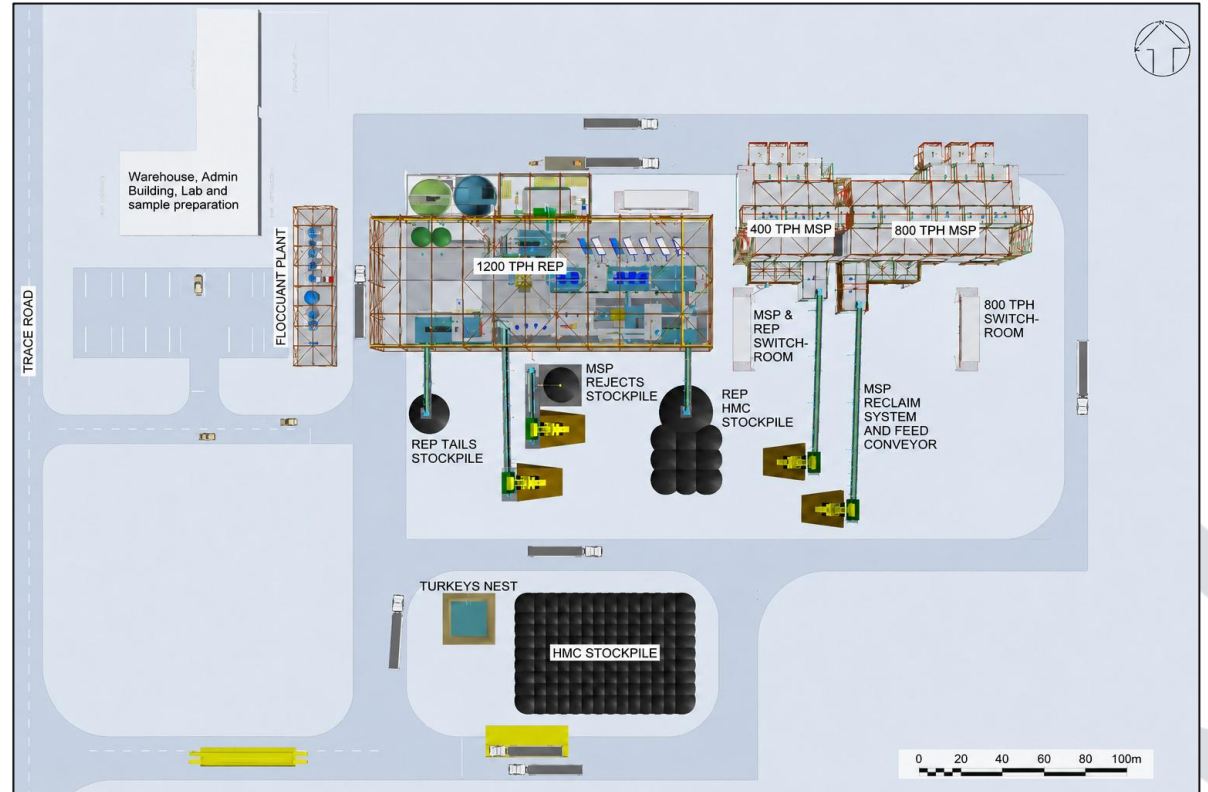


Industry standard flowsheet: wet concentration followed by mineral separation

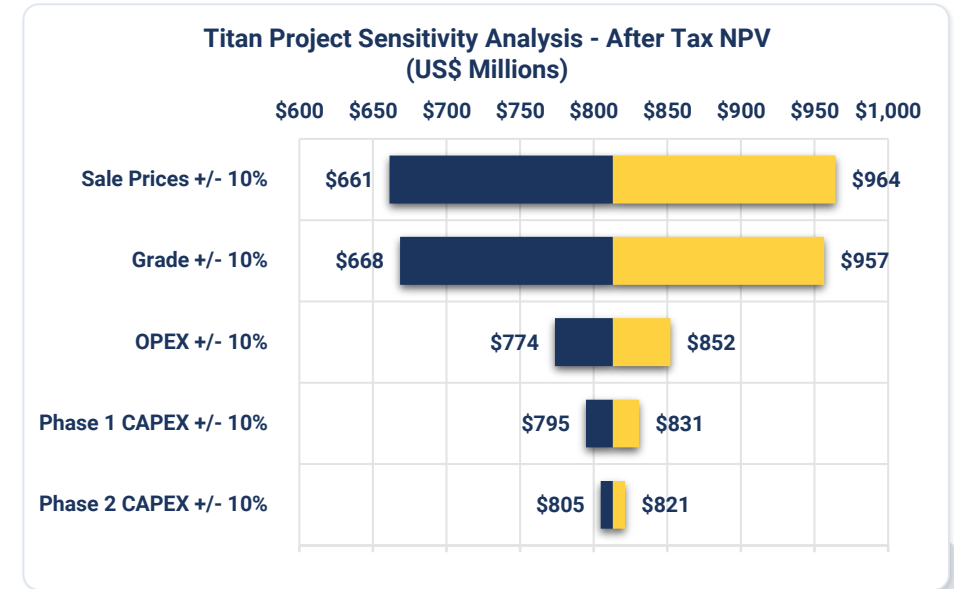
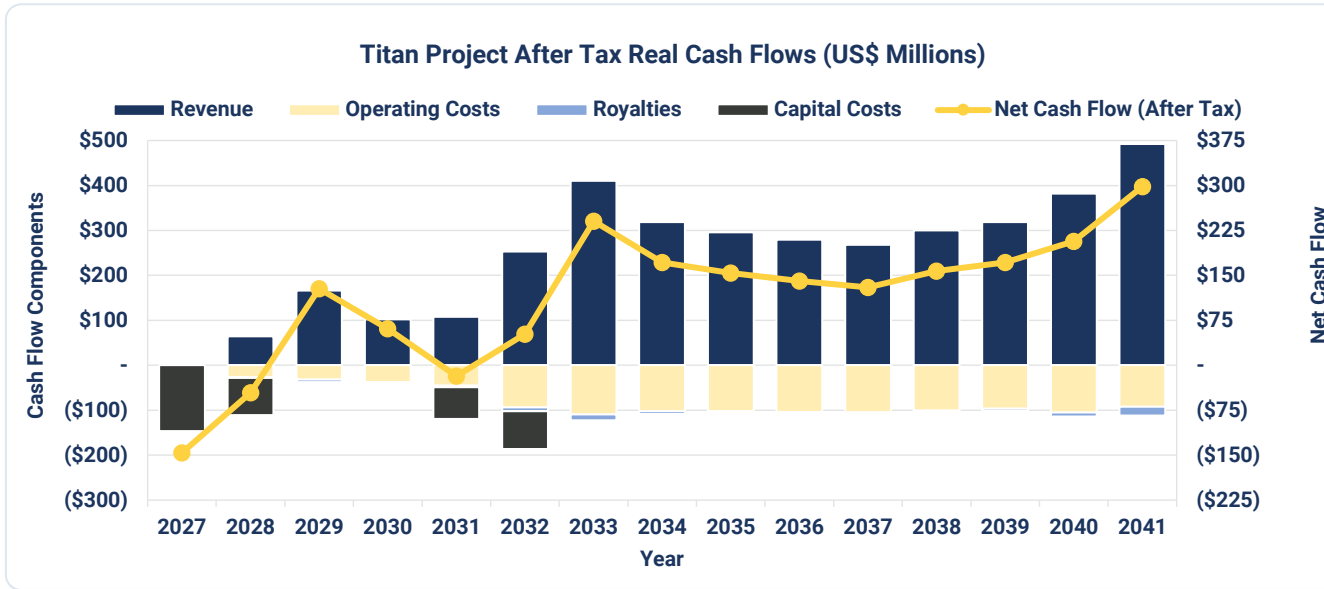
Wet Concentrator plant site layout



Mineral separation plant site layout



Compelling economics: returns, cash flow and resilience



AFTER-TAX NPV8
US\$813M
 NPV/initial capex: 3.6x

AFTER-TAX IRR
39.4%
 payback: 3.6 years

LOM EBITDA
US\$2.8B
 after-tax FCF: US\$1.9B

TOTAL CAPEX
US\$381M
 Phase 1 US\$228M

PHASE 2 FCF
US\$172M/yr
 avg. after tax

Endnote: peer comparison and material assumptions

Company / project	Status	Proved reserves	Probable reserves	Total reserves	Grade
IperionX / Titan	DFS	93.3 Mt	23.7 Mt	117.0	3.2% THM
MP Materials / Mountain Pass	Producer	1.0 Mt	27.9 Mt	29.0	5.9% TREO

Source: IperionX – Titan Project Definitive Feasibility Study, June 4, 2026 ([link](#)), MP Materials – Form 10K Annual Report, February 26, 2026 ([link](#))

Notes: Values subject to rounding. Titan reserve grade presented in Total Heavy Mineral (THM). Mountain Pass reserve grade presented in Total Rare Earth Oxide (TREO). The Mountain Pass reserve is reported pursuant to the requirements of Regulation S-K Subpart 1300 (“S-K 1300”), and the Titan reserve is reported under the JORC Code (2012). The Competent Person has not undertaken sufficient work to classify the S-K 1300 estimates as JORC Compliant Mineral Resources or Ore Reserves, meaning that following further evaluation the estimate may change or not achieve JORC status. Nonetheless, the comparison is reasonable because:

- The comparator projects are disclosed under alternative recognized reporting standards (i.e. S-K 1300), with broadly equivalent scale, grade ranges and development status.
- All data inputs are sourced from public filings (e.g. public reports and investor presentations) and referenced to the original source and date.
- The comparative metrics are clearly contextual – intended as industry benchmarks for scale and stage, rather than definitive reserve/resource values.