Corporate Presentation

February 2024

Nasdaq ASX

IperionX Limited
NASDAQ & ASX: IPX
ABN 84 618 935 372

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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The Company does not purport to give financial or investment advice. No account has been taken of the objectives, financial situation or needs of any recipient of this presentation. Recipients of this presentation should carefully consider whether the securities issued by the Company are an appropriate investment for them in light of their personal circumstances, including their financial and taxation position.

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.

IPERIONX LIMITED
ABN 84 618 935 372

What do we do?

We produce high-performance, sustainable, low-cost titanium metal products in the U.S. using proprietary technologies

Panerai Submersible S BRABUS eTitanio

Made with IperionX 100% recycled titanium using Direct Metal Laser Sintering (DMLS)

What is our plan?

Build low-cost, sustainable metal production today, and integrate with minerals production tomorrow, entirely within the U.S.

1

Scale metal production capacity via revolutionary patented titanium metal technologies using titanium scrap as a raw material

- 100% recycled titanium products - fully circular, a world first
- Zero scope 1 & 2 greenhouse gas emissions
- Significant reductions to the cost of titanium

2

Backward integrate our titanium metal production with titanium minerals from our Titan Project in the medium term

- One of the largest JORC & SK-1300 titanium mineral resources in U.S.
- Fully permitted for Phase 1 development and operations
- Highly valuable co-products of rare earth minerals and zircon

Why do we focus on titanium?

Titanium has superior material properties that are prized across industries from defense to consumer electronics

High strength-to-weight ratio
(Titanium alloys can have a far higher strength-to-weight ratio than aluminum & magnesium alloys)

45% lighter than steel
(Titanium alloys can be 3-5x stronger than stainless steel)

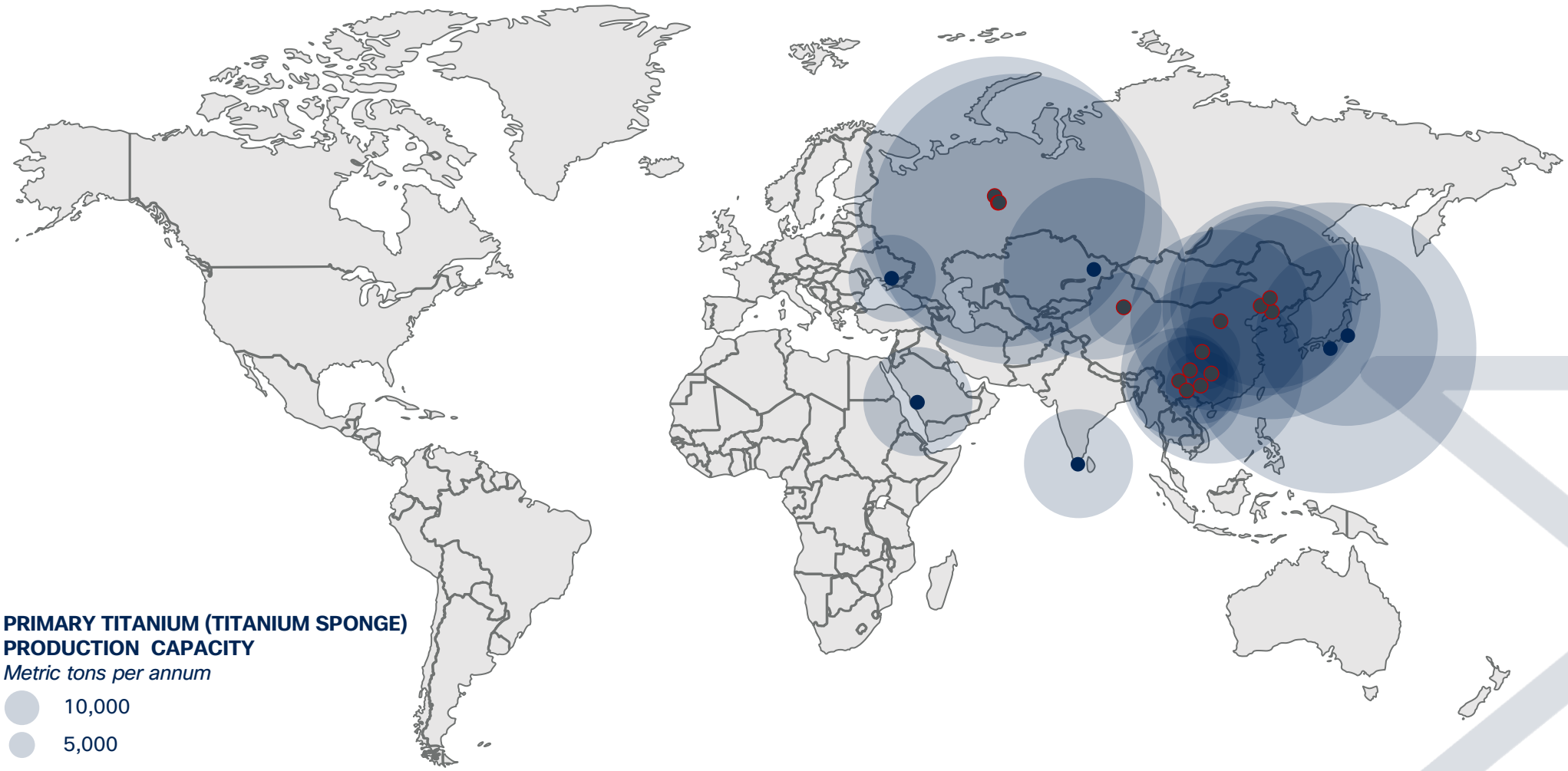
Superior corrosion resistance
(Durable, long-life products that don't need paint)

Lockheed Martin F-35 Lightning II
~20% titanium by weight

Consumer Electronics
Titanium used in frames and enclosures

Why do we focus on titanium?

The current global titanium supply chain has become +70% reliant on China & Russia

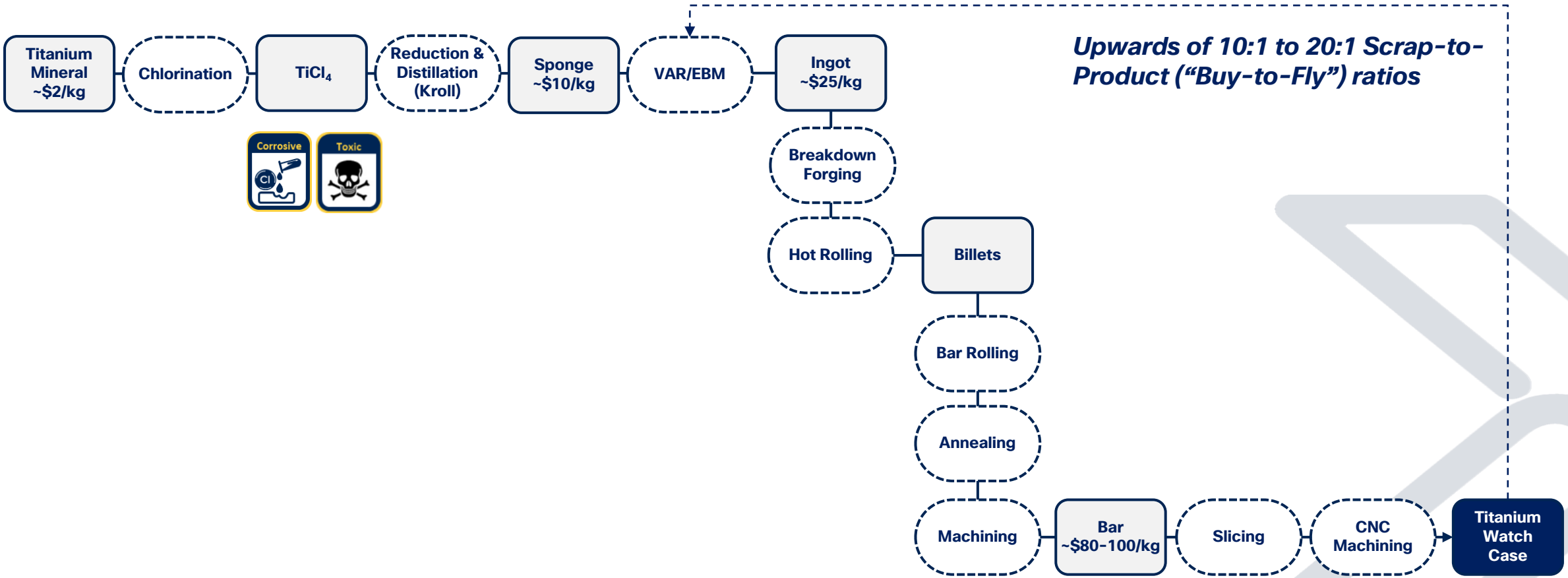


Source: U.S. Geological Survey. Locations shown are approximate.

Why do we focus on titanium?

The current titanium supply chain is complex, expensive, and generates large volumes of scrap

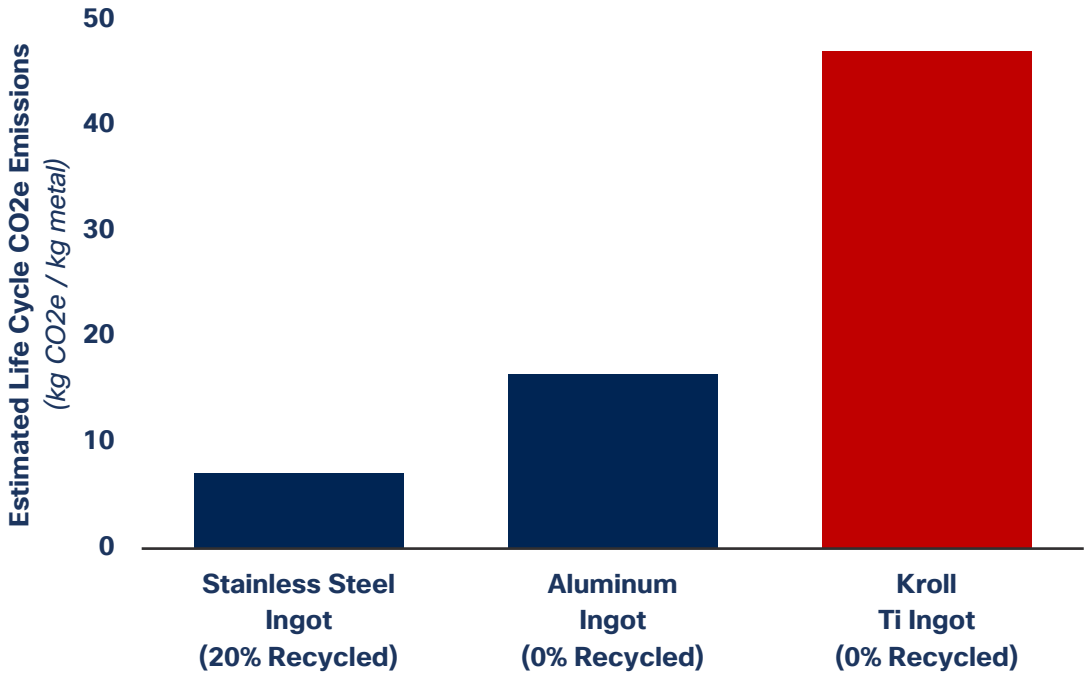
The Current Titanium Supply Chain – Mineral to Final Part



Why do we focus on titanium?

The current titanium supply is unsustainable, with high carbon emissions and cannot achieve full circularity

Carbon emission estimates of stainless steel, aluminum, and titanium ingot (via Kroll)

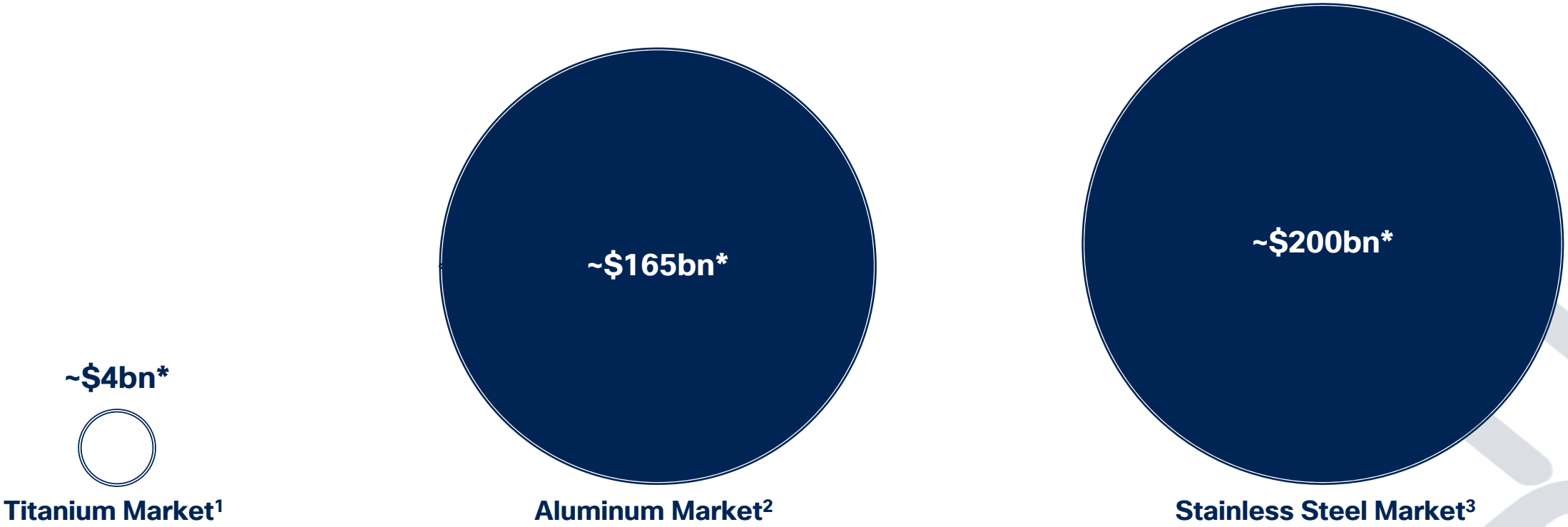


Source for Stainless Steel Ingot figures: International Stainless Steel Forum
Source for Aluminum Ingot figures: International Journal of Life Cycle Assessment
Source for Titanium Ingot figures: EcoInvent Database 3.8

Current supply chain is non-circular and high waste

Why do we focus on titanium?

Low-cost, sustainable titanium has a large-scale opportunity to disrupt lightweight structural materials markets



* Estimated Global Market Summary in USD. TAM market sizes are built up using 2022 material pricing
1. Sources: Roskill, Argus Metals. 2019 titanium melt products production of ~283kt at Q4-2022 Rotterdam Ti64 pricing of ~$16/kg. Note: Titanium market size uses 2019 volumes as base year, due to the Ukraine-Russia conflict.
2. Sources: Jefferies Equity Research, LME. Harbor Aluminum. 2021 global aluminum demand of ~67Mt at Q4-2022 pricing of ~$2.4/kg.
3. Sources: International Stainless Steel Forum, MEPS, 2021 global stainless steel melt shop production of ~56Mt at Q4-2022 304 Coil pricing of ~$3.6/kg.

What is our solution?

Our award-winning titanium metal production can convert titanium minerals or scrap into high-performance titanium metal products

THE UNIVERSITY OF UTAH

arpa·e

ENERGY.GOV
Office of
ENERGY EFFICIENCY & RENEWABLE ENERGY

2023 R&D 100 WINNER

AFRL
METALLIC SCRAP AND WASTE POWDERS
GRAND CHALLENGE

TECH

What is our solution?

Our technologies provide a low-cost, sustainable solution to the refining and forging of titanium metal

Titanium Refining Technologies

High-performance titanium powders

Hydrogen Assisted Metallothermic Reduction (*HAMR*)*

- Titanium deoxygenation technology; far more efficient than industry standard Kroll process
- A direct replacement to the high-cost Kroll and Ingot manufacturing process
- Titanium minerals or scrap can be manufactured directly into titanium metal powders and products

Titanium 'Forging' Technologies

'Forged' near-net shape titanium products

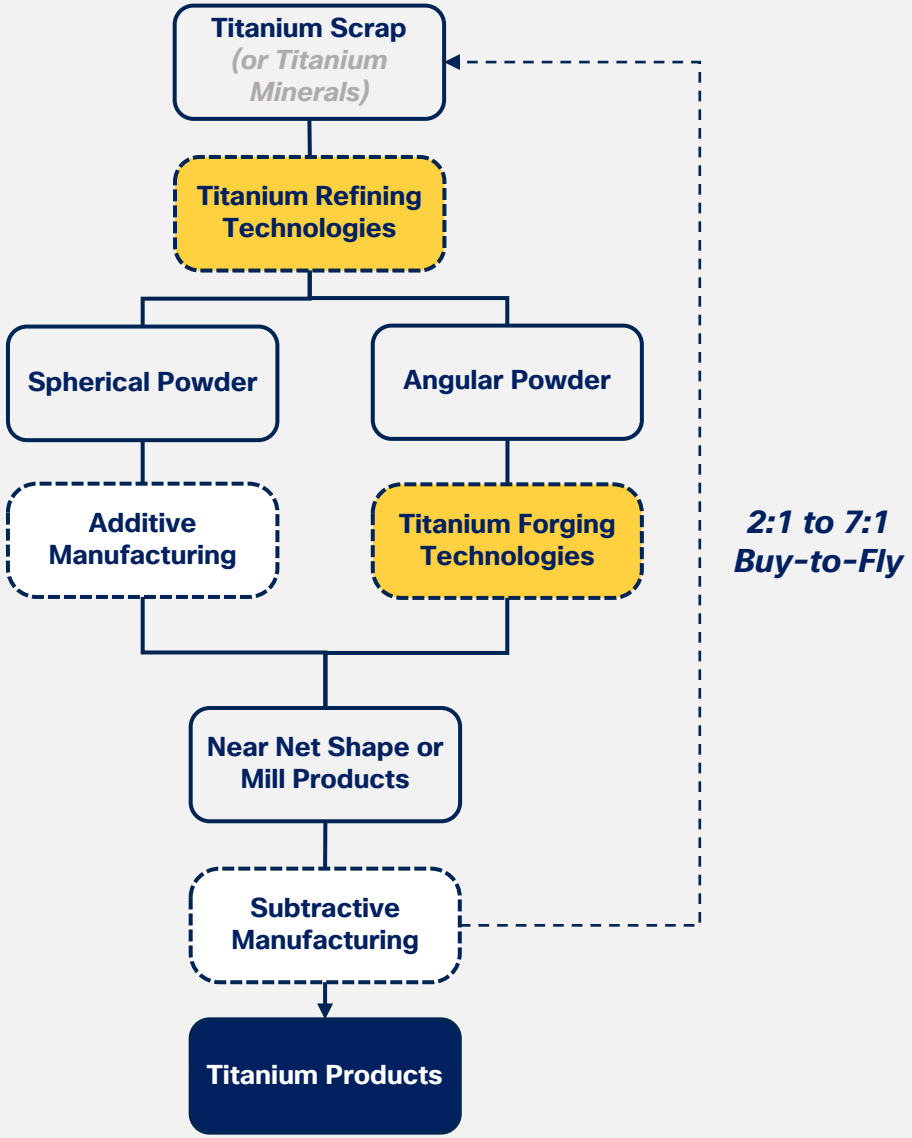
Hydrogen Sintering & Phase Transformation (*HSPT*)*

- Technology refines the microstructure of titanium to give it wrought-quality (forged) properties
- Solves the current high-cost and complex titanium manufacturing process
- Significant cost savings by reducing total part weight for subtractive manufacturing OEMs

*IperionX holds exclusive rights over the HAMR and HSPT technologies.

What is our solution?

Our technologies[1] disrupt the titanium supply chain to deliver a low-cost, sustainable solution, with no sacrifice on performance

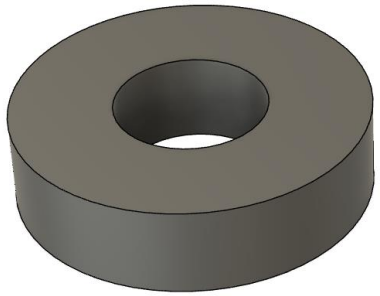
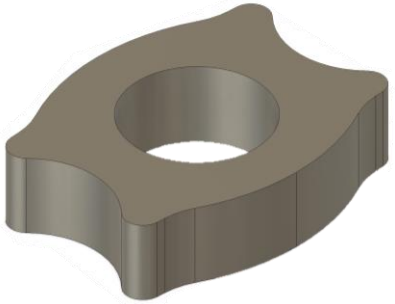


1. IperionX has exclusive rights over a suite of titanium metal technologies. Refer to ASX announcement dated December 8 2022 for further details.

What is our solution?

Our technologies deliver high-performance products to our customers, providing significant cost and waste reductions

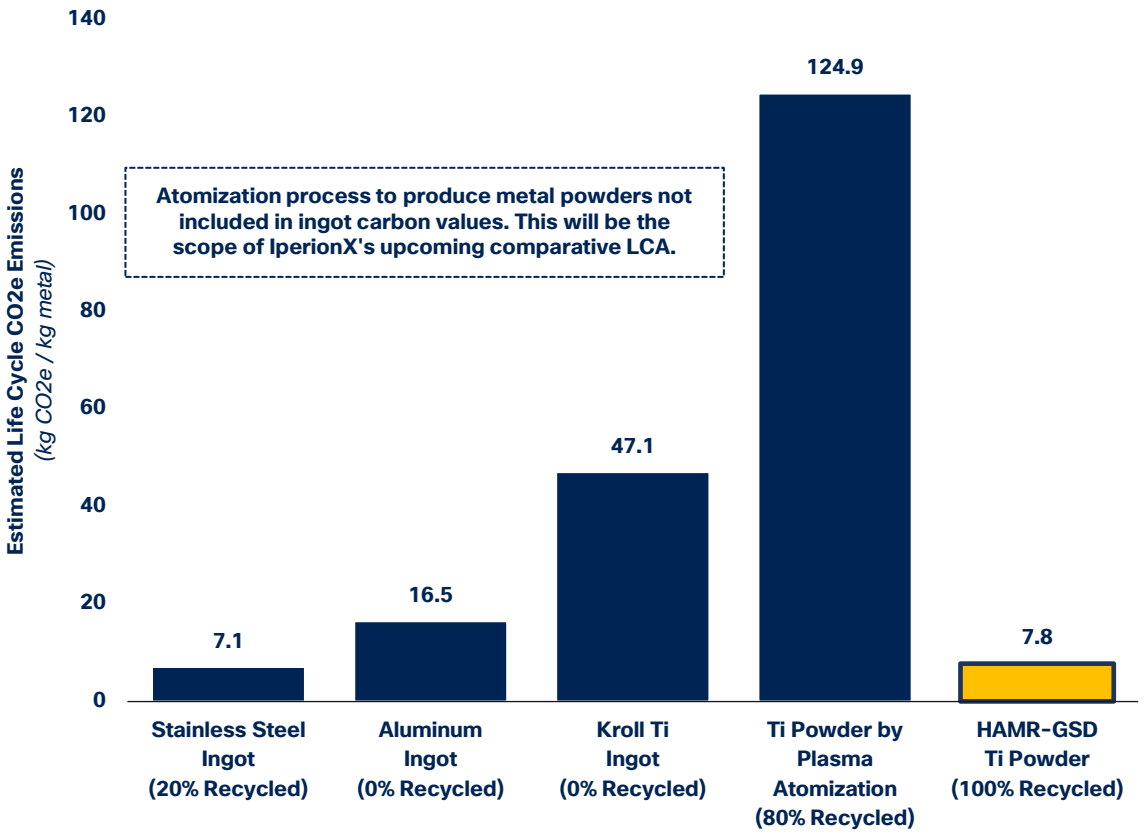
IperionX near-net shape titanium products – for higher CNC productivity, lower cost, and improved sustainability

Traditional Puck	IPX Donut Puck	IPX "Forged" Ovoid Puck	IPX 3D Printed Blank	Final CNC Machined Watch Case
				
Traditional Bar Feedstock	Powder Metallurgy Bar Feedstock	IPX Proprietary Near-Net Shape Feedstock	Additively Manufactured Product	Final Part
Weight: >300g Buy-to-fly: >13:1	Weight: <250g Buy-to-Fly: >11:1	Weight: <150g Buy-to-Fly: <7:1	Weight: ~50g Buy-to-fly: <3:1	Weight: <30g

* IperionX has exclusive rights over HAMR, HSPT, and range of other award-winning titanium technologies.

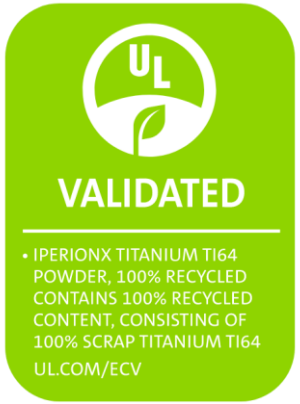
What is our solution?

We can provide a sustainable, fully circular U.S. titanium supply chain with zero scope 1 & 2 carbon emissions



See ASX Announcement dated April 26 2023 for details
Atomization process to produce metal powders not included in ingot carbon values. This will be the scope of IperionX's upcoming comparative LCA.
Source for Stainless Steel ingot emissions, assuming 20% recycled content: https://www.worldstainless.org/files/issf/non-image-files/PDF/ISSF_Stainless_Steel_and_CO2.pdf
Source for Aluminum ingot emissions: https://link.springer.com/article/10.1007/s11367-015-1003-7
Source for Kroll ingot emissions: Gao, F., Nie, Z., Yang, D., Sun, B., Liu, Y., Gong, X., & Wang, Z. (2018). Environmental impacts analysis of titanium sponge production using Kroll process in China. Journal of Cleaner Production, 174, 771-779. doi: https://doi.org/10.1016/j.jclepro.2017.09.240. and https://ecoinvent.org/the-ecoinvent-database/data-releases/ecoinvent-3-8/

First UL Validated 100% Recycled Titanium Metal Powders

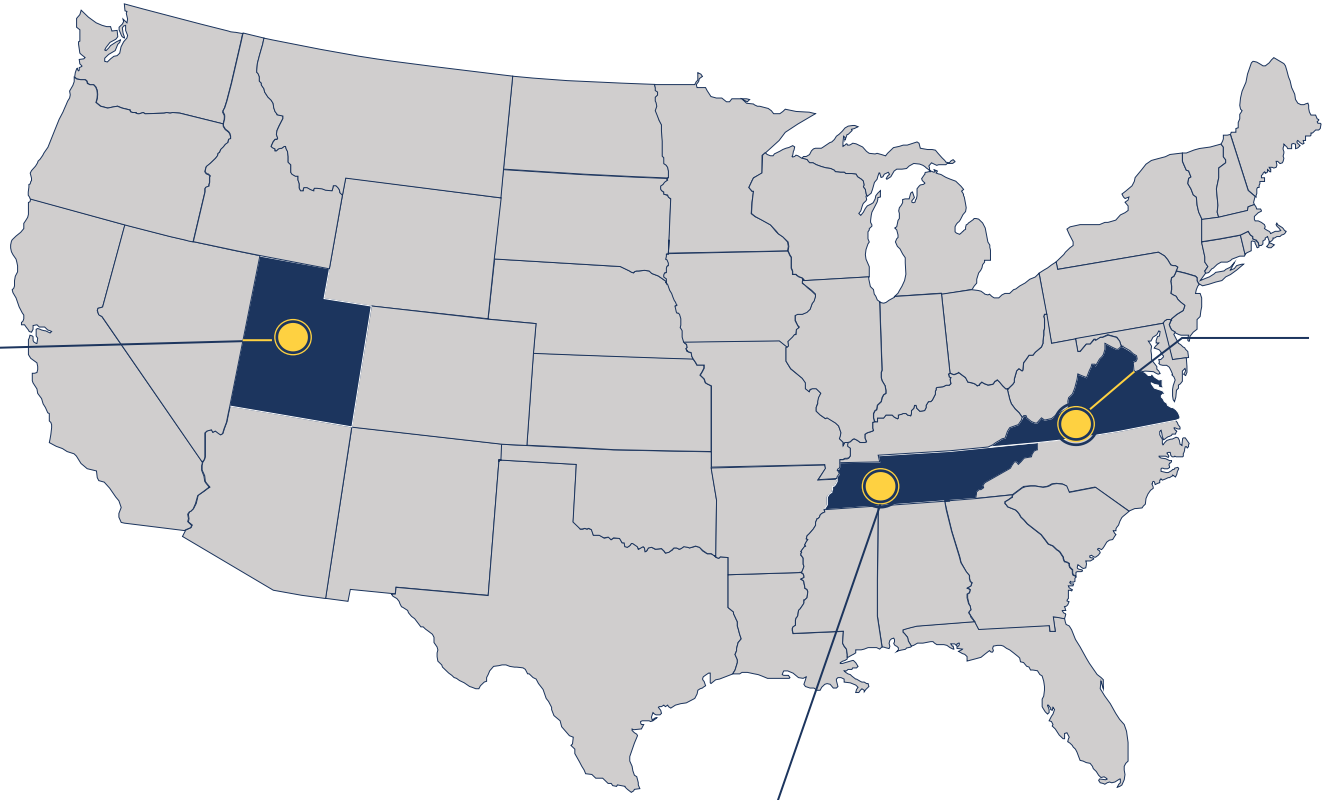


See ASX Announcement dated June 15 2023 for details

What are we doing today?

We produce high-performance titanium at our industrial pilot facility in Utah, and plan to scale production in Virginia

Industrial Pilot Facility
Titanium production + R&D facilities
Salt Lake City, UT



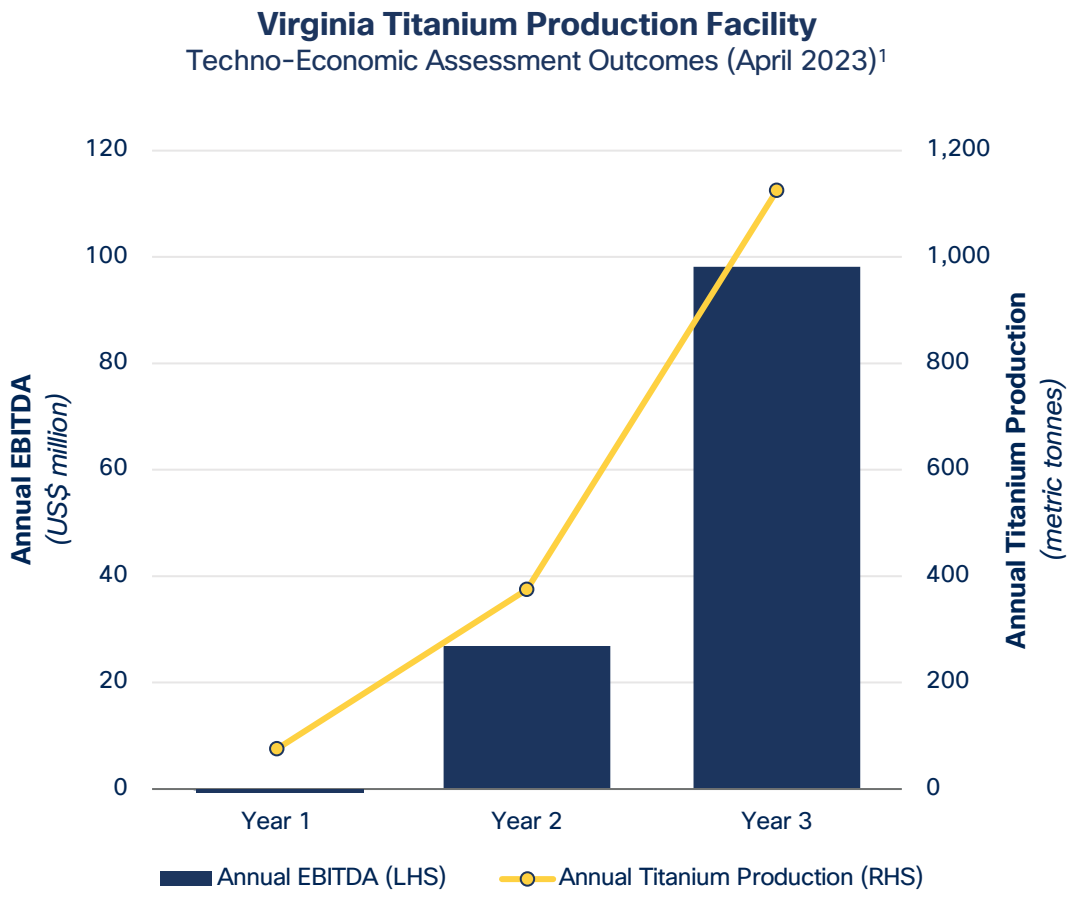
Commercial Titanium Production
Titanium production + advanced manufacturing
1,125tpa by Q4-2025[1]
Halifax County, VA

Titan Critical Minerals Project
Fully permitted, largest known JORC/SK-1300 titanium and rare earth mineral resource in America
Camden, TN

1. See ASX Announcement dated April 27 2023 for details

Where are we going tomorrow?

By scaling production at our Virginia facility, we begin to re-shore a fully integrated U.S. titanium supply chain



1. See ASX Announcement dated April 27 2023 for details. Based on key operating assumptions as outlined in announcement.

Who are our partners?

Our plans have already led to strong collaborations across industries, and we expect this to only grow as we scale

Current Industries[1]

U.S. Defense	Additive Manufacturing	Luxury Goods	Bikes & Micromobility	Automotive
				

Target Industries

Green Hydrogen	Consumer Electronics	Industrial Applications
		

RICHEMONT

CANYON

LOCKHEED MARTIN

Ford

SLM SOLUTIONS

CARVER PUMP™

GKN AEROSPACE

1. Richemont: See ASX announcements dated August 20, 2022 and November 17, 2022 for details; AFRL: See ASX announcement dated January 18, 2023 for details; Carver Pump and NAVSEA (US Navy):See ASX announcement dated February 6, 2023 for details; U.S. Navy's Naval Air Systems Command: See ASX announcement dated February 3, 2022 for details; SLM: See ASX announcement dated March 14, 2023 for details; Canyon: See ASX announcement dated March 29, 2023 for details; Ford: See ASX Announcement dated June 13 2023 for details; Lockheed Martin: See ASX Announcement dated July 18 2023 for details; GKN Aerospace: See ASX announcement dated October 2, 2023

Supporting Information

High value, near-term catalysts

- ☑ **Secure strategic partners for our titanium metal products**
  - ☑ Test powders and/or prototype parts with prospective customers
  - ☑ Secured customer & government validation
  - ☐ Secure additional customers across core industry sectors
- ☐ **Scale up production of titanium powder and products**
  - ☑ Scale up of titanium pilot plant production
  - ☑ Secured Virginia site for Titanium Production Facility
  - ☑ Announce facility expansion to 1,000+tpa CAPEX & OPEX
  - ☑ Large scale furnace hot test & powder production run
  - ☐ Complete final engineering for facility
  - ☐ Commence equipment installation at facility
- ☐ **Progress Titan Project to be construction ready**
  - ☑ Definition of largest known titanium mineral resource in U.S.[1]
  - ☑ Scoping study defining highly economic, low-cost operation
  - ☑ Feasibility Study level metallurgical report completion
  - ☑ State Mine & NPDES permit
  - ☐ Feasibility Study, Critical Minerals sales contracts and FID

1. JORC and SK-1300 code compliant

Corporate Overview (NASDAQ / ASX Ticker Symbol: IPX)

Common Shares / ADR's (1:10) Outstanding	**224.3 million / 22.4 million**
Last 10 Days - Avg. Daily Volume (ASX / NASDAQ)	**A$517k / US$960k**
Market Capitalization (2-Feb-2024)	**~US$270 million**
Cash (31-Dec-2023)	**~US$17 million**
Fidelity Management & Research (FMR)	**~10%**
Fidelity International (FIL)	**~10%**
Insider Ownership	**~30%**

Senior leadership team

Anastasios "Taso" Arima
Co-founder, MD & CEO
Successful founder of multiple billion-dollar companies, including most recently Piedmont Lithium (Nasdaq: PLL)

Todd Hannigan
Executive Chairman
25+ years of global experience in natural resources as company founder, CEO, private capital investor, and non-executive director

Toby Symonds
President, Chief Strategy Officer
30+ years in capital markets, founder of two asset management firms

Scott Sparks
Chief Operating Officer
30+ years in engineering, construction and management

Jeanne McMullin
Chief Legal Officer
25+ years in corporate law, previously CLO of start-up tech PE firm

Marcela Castro
Chief Accounting Officer
25+ years of financial leadership experience across multiple industries

Dominic Allen
Chief Commercial Officer
15+ years commercial experience across the metals and minerals sector

Independent Board Members

Lorraine Martin
Audit Committee Member
ESG Committee Member

35+yrs senior aerospace exec. at Lockheed Martin, CEO National Safety Council, Board Member; Kennametal

Beverly Wyse
Audit Committee Member
Rem. Committee Member
ESG Committee Member

30+yrs senior aerospace exec. at Boeing, Board Member; Heroux-Devtek

Melissa Waller
ESG Committee Chair
Rem. Committee Member

30+yrs senior finance exec. President of the AIF Institute

Vaughn Taylor
Audit Committee Chair
Rem. Committee Chair

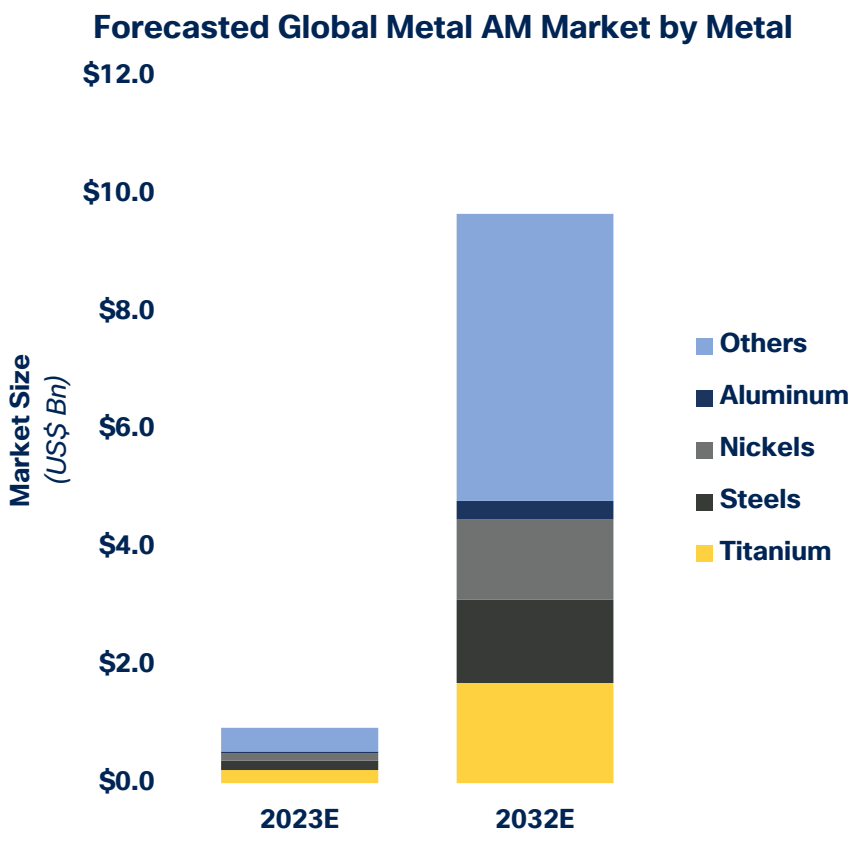
20+yrs senior investment executive, Ex CIO of AMB Capital Partners, Board member global organizations

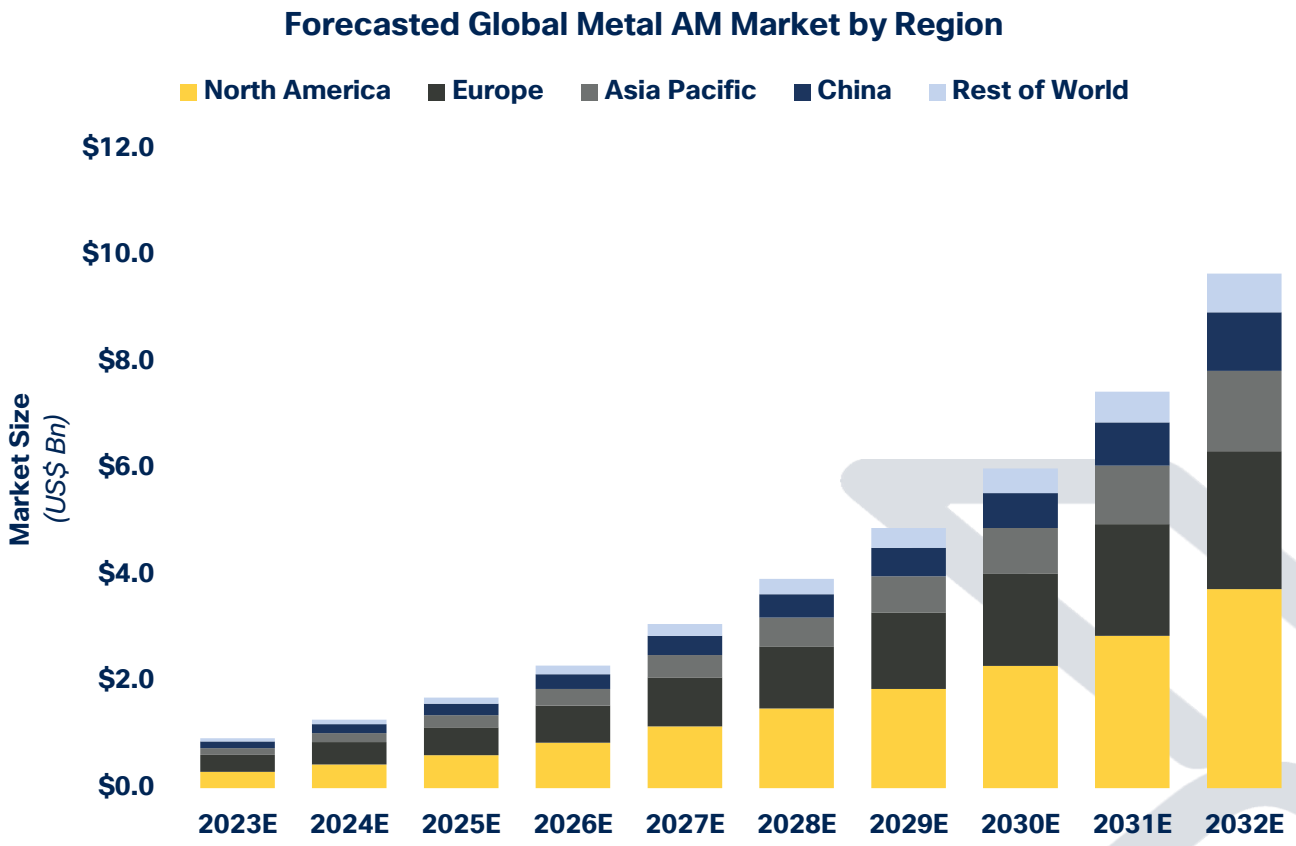
We are an industrial technology company that can disrupt the metals sector, with our sights on stainless steel & aluminum

	Metal & Global Market Size[1]	Consumer Metal Products	Automotive & Transportation	Construction Materials	Machinery, Equipment, & Electronics	Other
~$200bn	**Stainless Steel Market[2]** 2021 global stainless steel melt shop production: 56Mtpa	~$76bn 21.1Mtpa	~$27bn 7.7Mtpa	~$25bn 6.9Mtpa	~$16bn 4.4Mtpa	~$58bn 16.2Mtpa
~$165bn	**Aluminum Market[3]** 2021 global aluminum demand: 67Mtpa	~$38bn 15.4Mtpa	~$41bn 15.4Mtpa	~$41bn 16.8Mtpa	~$38bn 15.4Mtpa	~$10bn 4Mtpa

* Estimated Global Market Summary in USD. TAM market sizes are built up using 2022 material pricing, which differs from spot prices shown. Numbers may not sum due to rounding.
1. Sources: Roskill, Argus Metals. 2019 titanium melt products production of ~283kt at Q4-2022 Rotterdam Ti64 pricing of ~$16/kg. Note: Titanium market size uses 2019 volumes as base year, due to the sustained impact on aerospace demand (as the primary driver of the titanium metal market) since COVID-19 and the Ukraine-Russia conflict.
2. Sources: Jefferies Equity Research, LME. Harbor Aluminum. 2021 global aluminum demand of ~67Mt at Q4-2022 pricing of ~$2.4/kg.
3. Sources:, International Stainless Steel Forum, MEPS, 2021 global stainless steel melt shop production of ~56Mt at Q4-2022 304 Coil pricing of ~$3.6/kg.

We are leveraged to the growth of the Additive Manufacturing industry – we are the titanium 'ink' for 3D printers





Source: SmarTech Analysis.

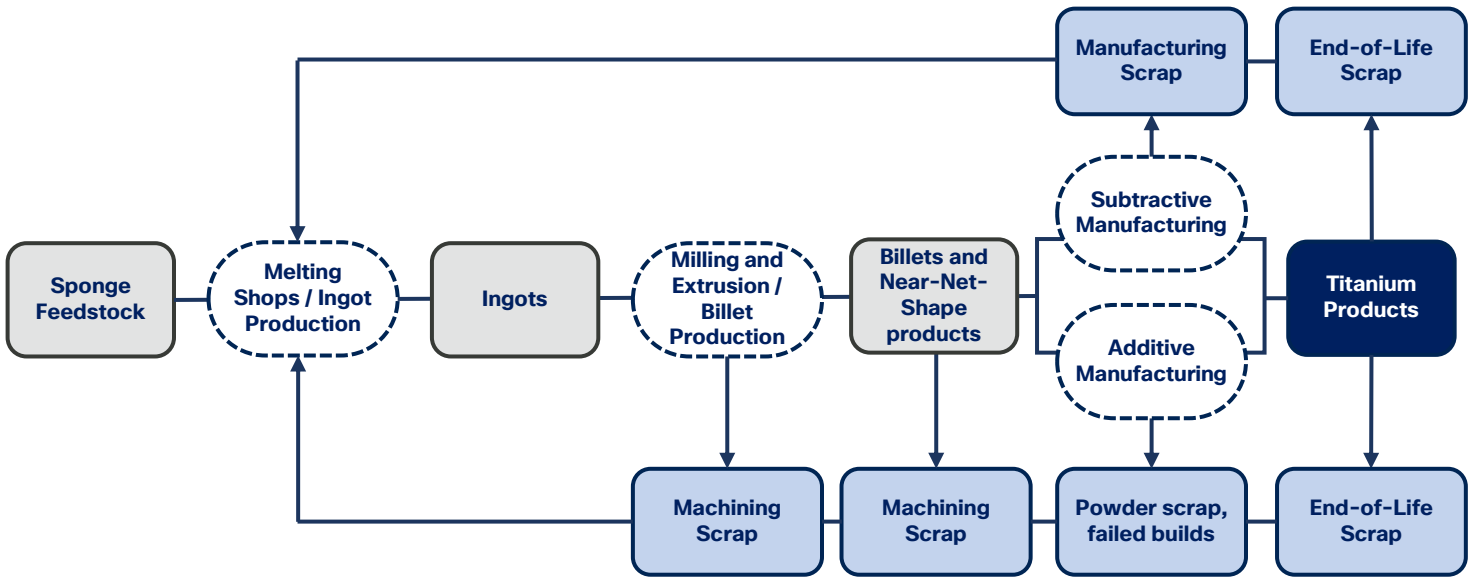
We can offer unique titanium alloys that were not commercially available for customers

Alloy	Composition	Current Applications	YS (MPa)	UTS (MPa)	Elongation (%)	E Modulus (GPa)
Aluminum 6061	99% Al - <1% Fe - <1% Si	Broad / Bike Frames	276	310	12 -17	69
Stainless Steel 316L	65% Fe – 17% Cr – 12% Ni - 2.5% Mo – 2% Mn – 1% Si	Broad / Springs	205	515	60	193
IperionX Ti 6-4	6% Al - 4% V	Aerospace & Medical	1,100	1,160	15	114
Ti-3-2.5	3% Al – 2.5% V	Bicycle Tubes	483	620	12	95 - 103
Ti-5-5-5-3	5% Al - 5% V - 5% Mo - 3% Cr - 0.4% Fe	Aircraft Landing Gear	1,288	1,364	6	112
Ti 10-2-3	10% V - 2% Fe - 3% Al	Aircraft Landing Gear	1,198	1,274	7	110
Ti-Beta-C	3% Al - 8% V - 6% Cr - 4% Mo - 4% Zr	Springs	1,120	1,240	8	99 -124
Ti-1-8-5	1% Al - 8% V - 5% Fe	Armor Plate	1,233	1,263	15	114

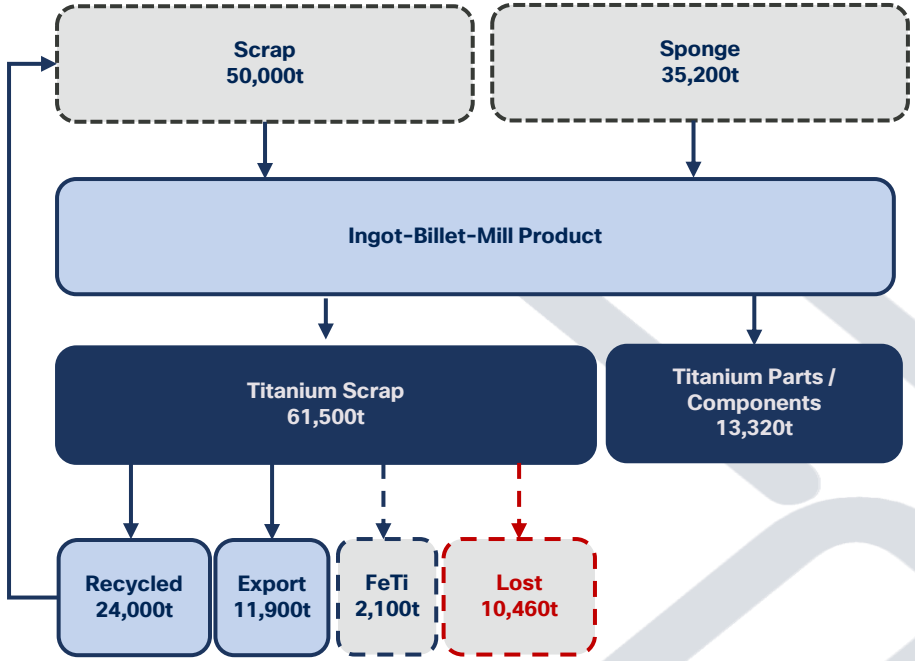
We take titanium scrap from the supply chain and recycle it into high-performance titanium metal powders and products

- Significant quantities of titanium scrap is lost, or unusable, in the current U.S. supply chain
- IperionX technologies[1] can sustainably recycle this scrap to produce high-performance titanium products

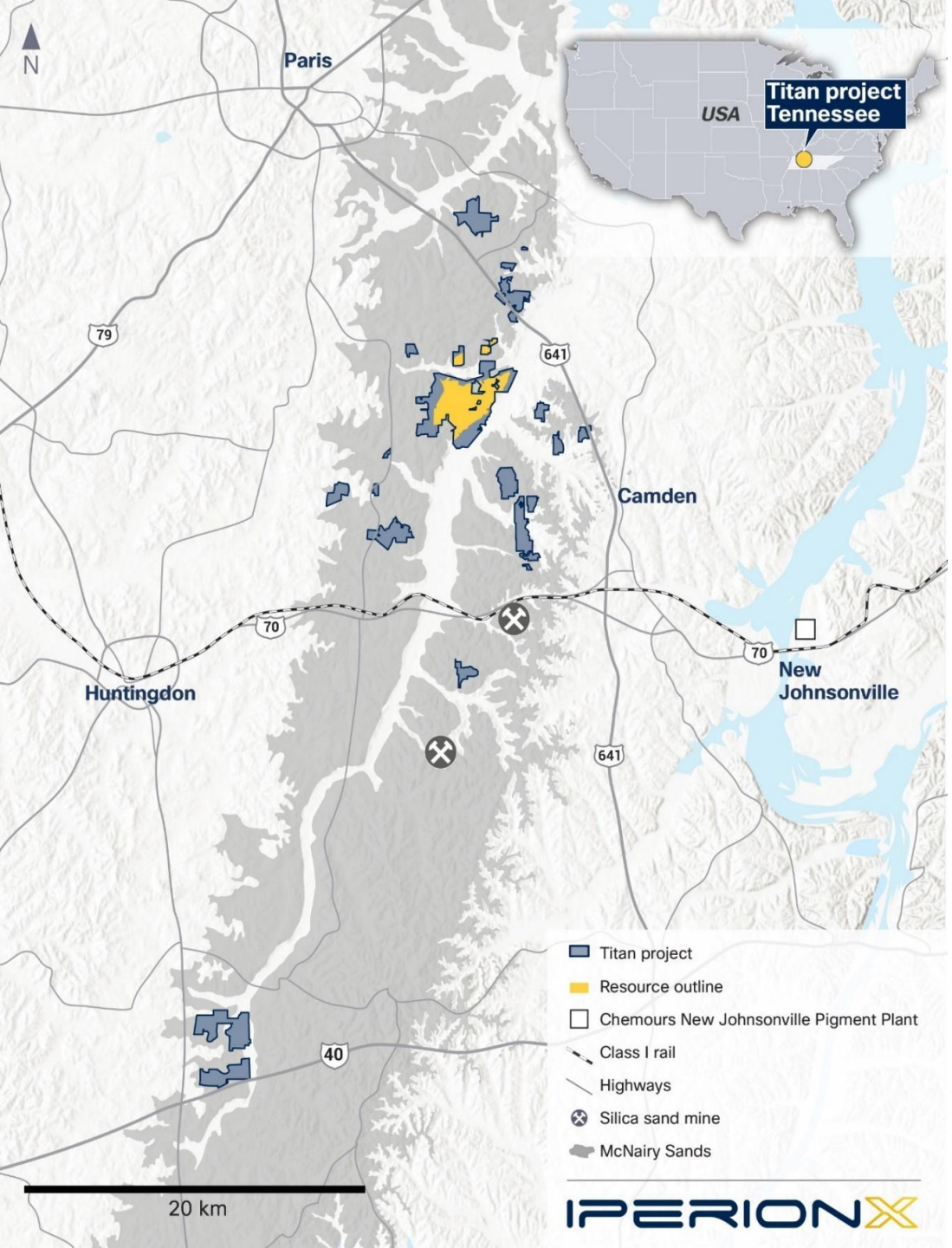
Titanium supply chain – scrap generation



U.S. titanium scrap supply chain



Source: U.S. Geological Survey, 2018 data shown.
1. IperionX has exclusive rights over a suite of titanium metal technologies. Refer to ASX announcement dated December 8 2022 for further details.



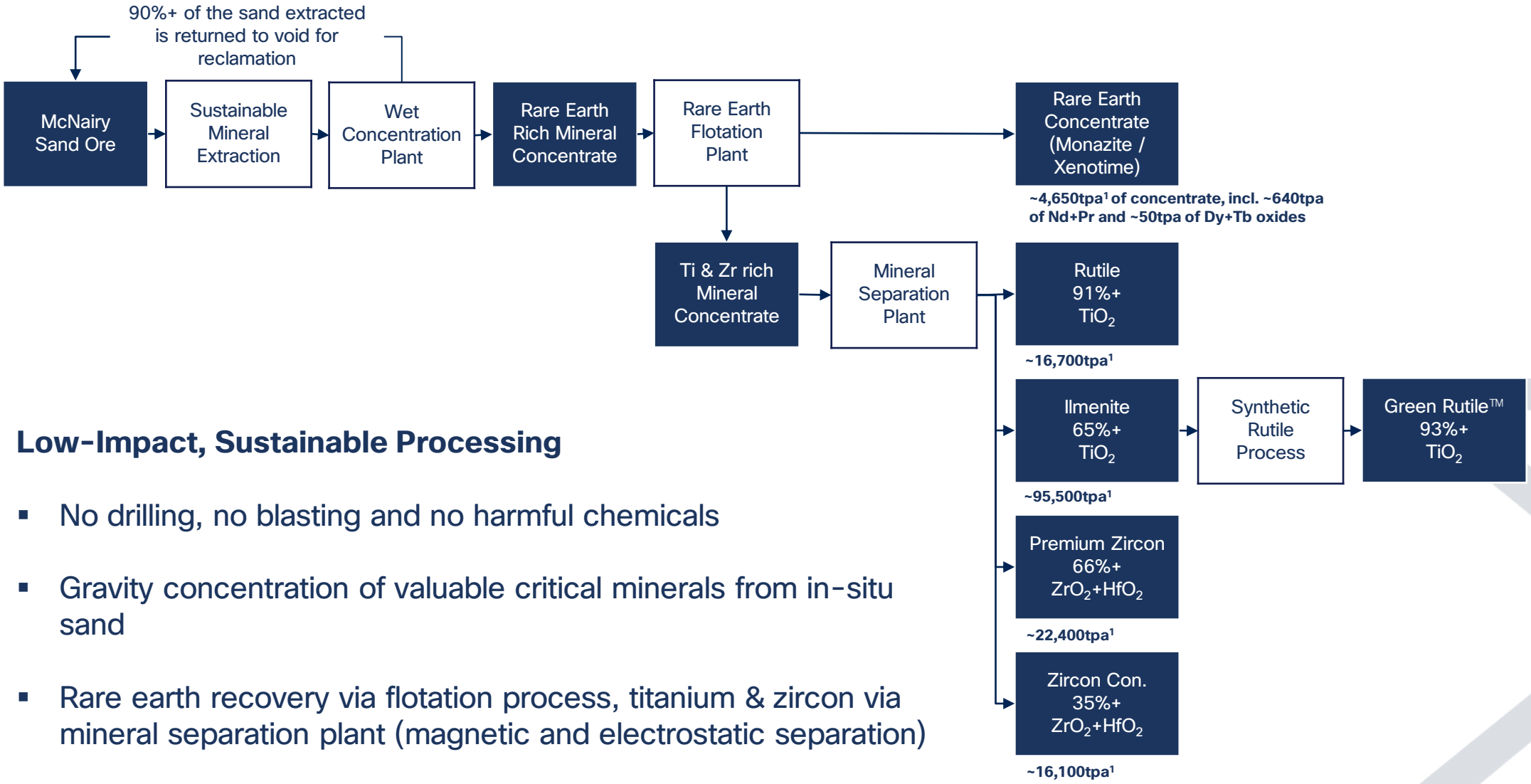
The Titan Project is a future multi-decade source of U.S. titanium, with significant rare earth product

- 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
- Significant potential for additional land acquisition could add to resource base
- 2022 Scoping Study showed potential operation generating US$117 million of average annual EBITDA, with a US$692 million NPV and 40% IRR[1]

JORC Mineral Resource[2]					Total Critical Mineral Assemblage			
Titan Project	**Cut-off**	**Tonnes**	**TCM %**	**TCM**	**Zircon**	**Rutile**	**Ilmenite**	**REE**
	(TCM %)	*(Mt)*	*(%)*	*(Mt)*	*(%)*	*(%)*	*(%)*	*(%)*
Indicated	0.4	241	2.2	5.3	11.3	9.3	39.7	2.1
Inferred	0.4	190	2.2	4.2	11.7	9.7	41.2	2.2
Total Mineral Resource	**0.4**	**431**	**2.2**	**9.5**	**11.5**	**9.5**	**40.3**	**2.1**
Including High Grade Core	***2.0***	***195***	***3.7***	***7.1***	***12.1***	***9.9***	***42***	***2.3***

1. Based on June 2022 Scoping Study. 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. See ASX announcement dated October 6 2021 for details

Simple, proven extraction and processing to produce multiple high-value product streams including rare earths



Low-Impact, Sustainable Processing

- No drilling, no blasting and no harmful chemicals
- Gravity concentration of valuable critical minerals from in-situ sand
- Rare earth recovery via flotation process, titanium & zircon via mineral separation plant (magnetic and electrostatic separation)

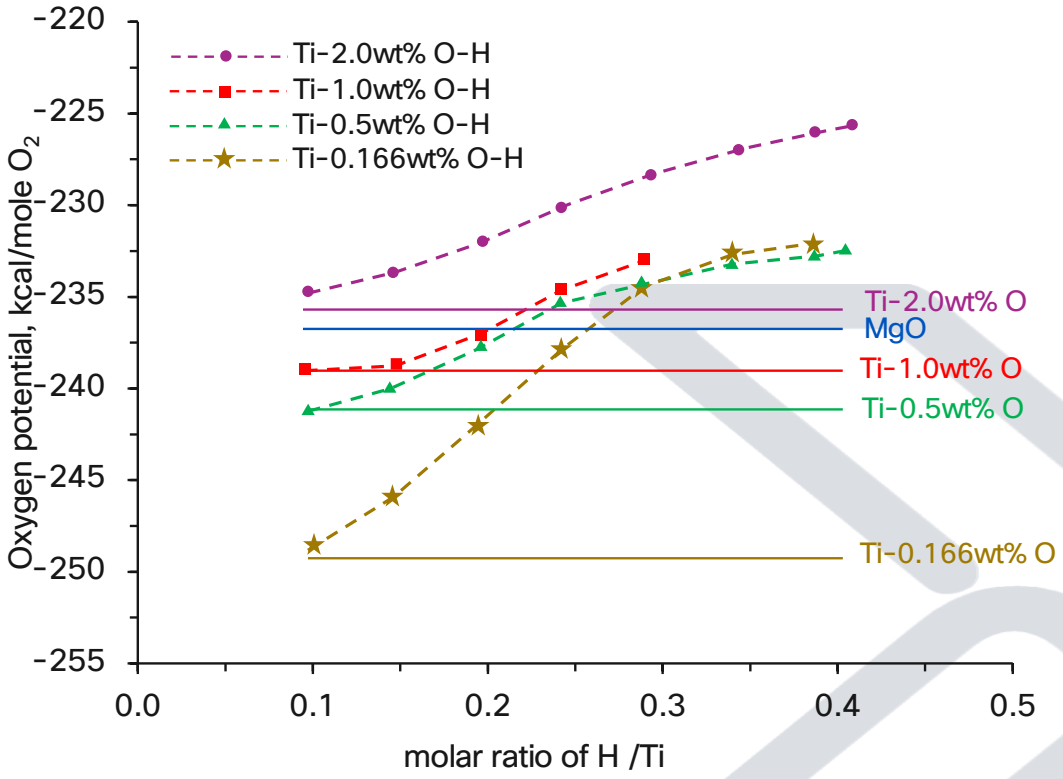
1. LOM annual average production based on the results of 2022 Scoping Study. See ASX Announcement dated June 30, 2022 for detail on volumes. Grades and specifications adjusted for Feasibility Study metallurgical testwork. See ASX Announcement dated August 28, 2023 for details.

HAMR – the breakthrough science behind the revolutionary process

- Most common metals can be reduced to metal from oxides by carbon (or hydrogen) – this is not the case for Titanium Dioxide ("TiO_2") because of the stability of the Ti-O bonds
- In 1940, William Kroll invented a process to overcome this challenge and it relies on chlorination of TiO_2 in a carbothermal reaction to create $TiCl_4$, which is then reduced by molten magnesium in a vacuum and distilled to produce Titanium sponge (primary metal)
- This sponge is then vacuum melted multiple times to create a titanium ingot which can then be hot worked into mill products
- Dr Zak Fang discovered in 2016 that TiO_2 can be reduced by solid magnesium under a hydrogen atmosphere because Hydrogen destabilizes the Ti-O bonds – Hydrogen Assisted Metallothermic Reduction ("HAMR")
- This principle also applies to deoxygenation of recycled titanium scrap as the most difficult impurity to "clean" is the pickup of oxygen on the surfaces – especially prevalent with machining scrap
- **HAMR revolutionizes the ability to manufacture titanium metal from mineral or scrap that was previously not thought possible**

Hydrogen's effect on the Ti-O bonds

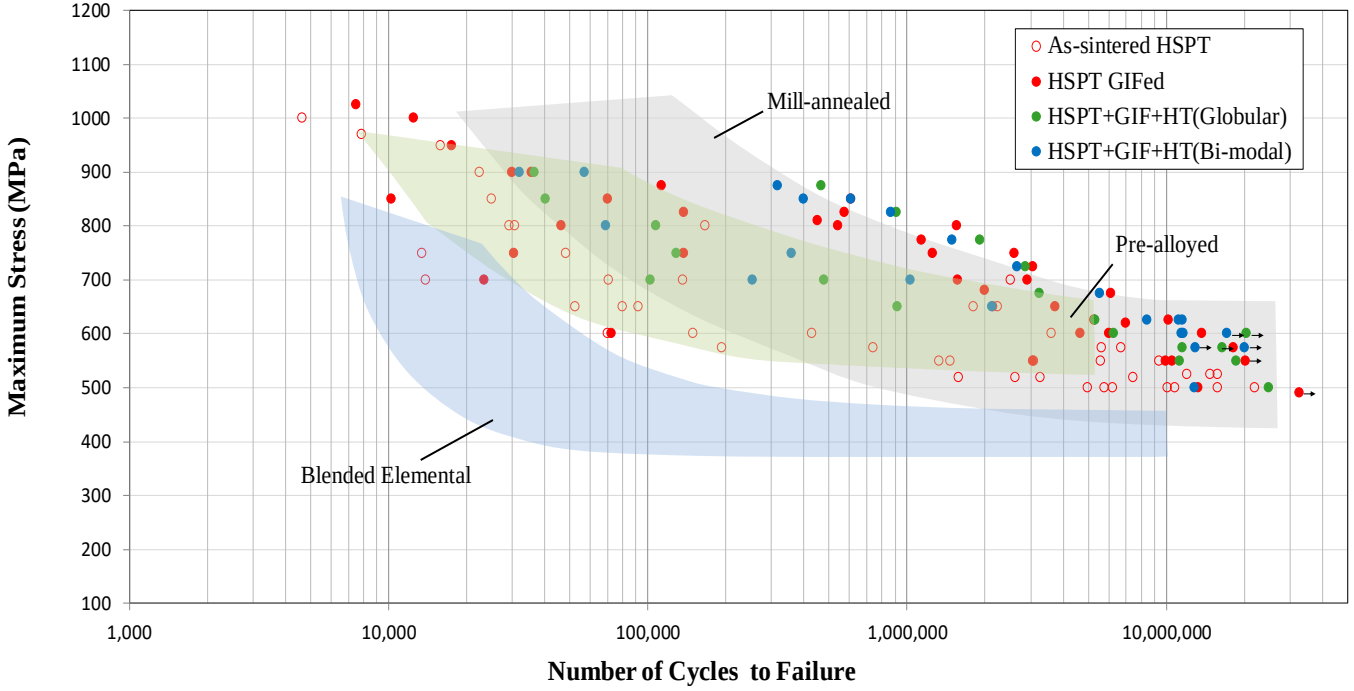
Ti-O bonds at various weight percent (solid lines) vs. Ti-O-H bonds destabilized at various weight percent (dashed lines) @ 700 C°



* IperionX holds an exclusive option to acquire the HAMR technology and other associated technologies
1. Dr Fang's history: https://powder.metallurgy.utah.edu/research/hamr.php
2. Original HAMR discovery article "*A novel chemical pathway for energy efficient production of Ti metal from upgraded titanium slag*": https://www.sciencedirect.com/science/article/abs/pii/S1385894715015016

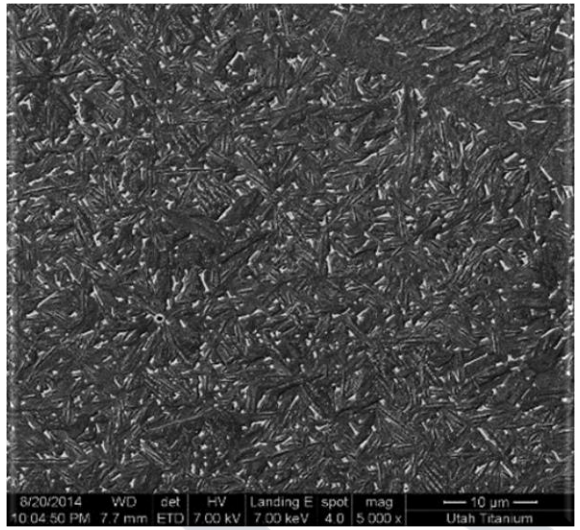
HSPT – Forged quality titanium, without the forging process

- The proprietary Hydrogen Sintering and Phase Transformation ("HSPT") technology is a powder metallurgy pathway to produce forged quality titanium near-net shape parts and components
- HSPT delivers mechanical properties that can compete with wrought processes, but avoids the high-cost and high-emissions associated with them
- The process accepts angular powders produced via HAMR as feedstock
- **HSPT technology combined with HAMR provides a clear pathway to low-cost and sustainable production of high-quality titanium parts for the most challenging applications**



HSPT = Hydrogen sintering and Phase Transformation; GIF = Gaseous Isostatic Forging; HT = Heat Treatment

HSPT as-sintered microstructure



Vacuum as-sintered microstructure