Corporate Presentation

February 2024

IperionX Limited
NASDAQ and ASX: IPX

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Competent Persons Statements

The information in this document that relates to Exploration Results and Mineral Resources is extracted from IperionX’s ASX Announcement dated October 6, 2021 (“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 Mineral Resource Estimate 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

Our plan is to re-shore a low cost, sustainable, U.S. titanium supply chain

1. *Titanium's supply chain is costly, environmentally unsustainable and dominated by China and Russia*
2. *IperionX offers an end-to-end, cheaper and cleaner solution via innovative technologies*
3. *Our technologies have been proven over 18+ months of industrialized pilot scale production in Utah*
4. *Commercial production commencing in Virginia in 2024 from 100% titanium metal scrap*
5. *Backward integration to titanium minerals via control of the largest U.S. titanium resource in Tennessee*
6. *Longer-term ambitions of disrupting the US$300+ billion stainless steel and aluminum markets*
7. *Led by an experienced management team, with strong support from Tier-1 investors*

Titanium has superior material properties that are prized across advanced industries

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

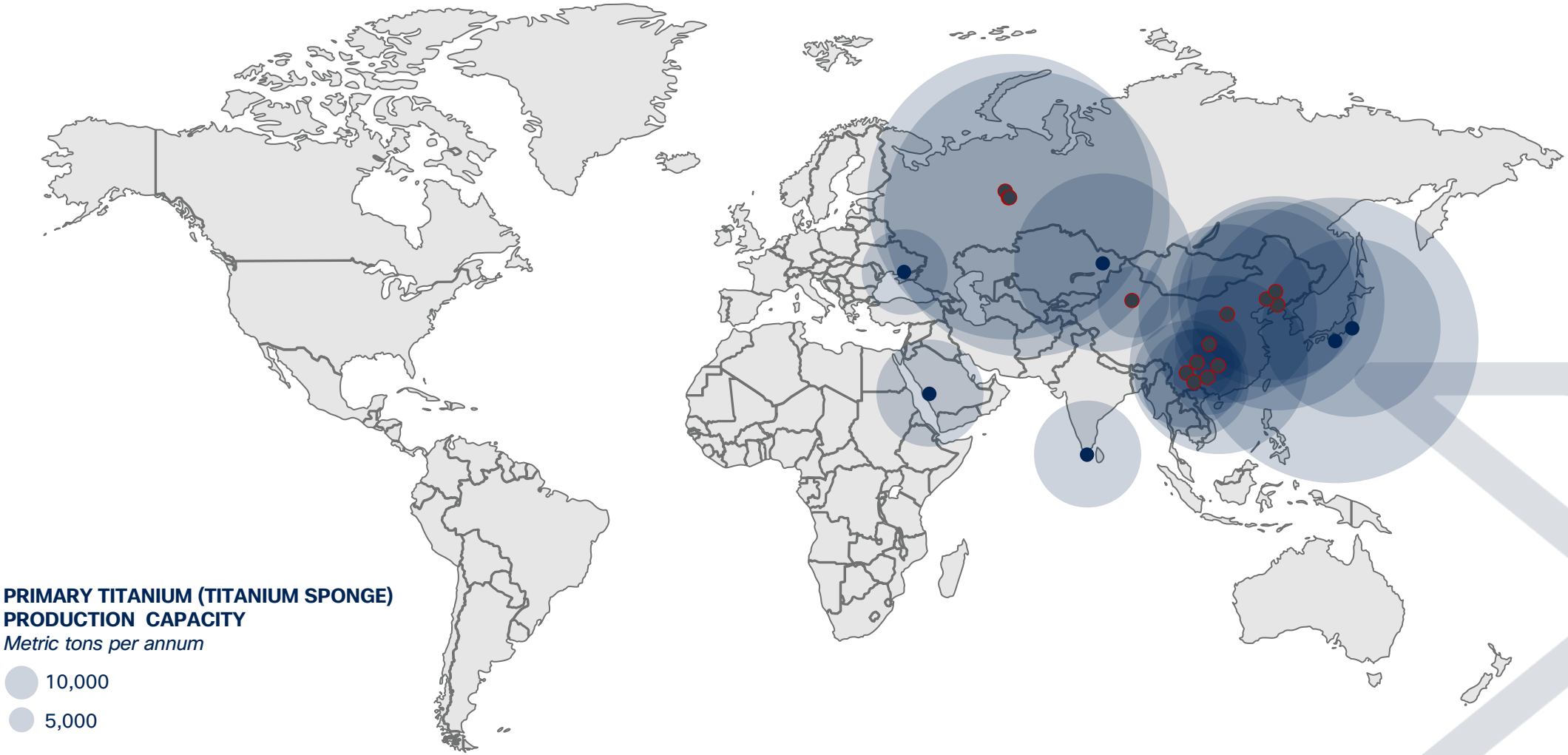
45% lighter than steel
Titanium alloys can be 3-5x stronger than stainless steel

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

China and Russia control ~70% of the global primary titanium supply chain



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

Today's titanium production is complex, high cost and unsustainable

- ***High temperature (1,300C°), highly corrosive chlorination, reduction and distillation process to form titanium metal sponge***
- ***High temperature (1,850C°) multi-vacuum melting processes to form ingots***
- ***High temperature, low yielding, forging processes to form semi-finished titanium products (plates, sheets, bar, wire, etc.)***
- ***Very low yield manufacturing process to produce final titanium parts***
- ***The ingot to final titanium metal part supply chain has less than 10-20% yield***
- ***High-energy, high-carbon, and unsustainable titanium supply chain***

IperionX's titanium technologies could revolutionize titanium production[1]

- ***Hydrogen Assisted Metallothermic Reduction (HAMR) "refining" technology***
  - Simpler, faster and lower temperature (<800C°) process
  - Energy consumption <50% vs. current industry, and zero direct carbon emissions
  - Powders are an ingot replacement product, no need for Kroll and VAR melting
- ***Hydrogen Sintering and Phase Transformation (HSPT) "forging" technology***
  - Non-melt, sintering technology delivers forged quality titanium
- ***HAMR and HSPT lower the cost, energy, and yield loss of producing titanium mill products***
- ***Patented, disruptive technologies that can produce titanium near-net shape products at lower cost***
- ***Unlocks a circular and zero direct carbon emission titanium supply chain***

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

We have successfully proven commercial scale furnace production

- ***18+ months of titanium production from our industrial pilot facility***
- ***Multiple commercial scale hot-test runs at ~60x the production capacity of our industrial pilot facility***
- ***Results exceeded industry standards***
- ***Off-the-shelf, low cost and scalable technology***

Our high-performance titanium products have secured the interest of leading potential customers

Ford

Automotive and EV

LOCKHEED MARTIN

Aerospace and Defense

CANYON

Bicycles and E-mobility

GKN AEROSPACE

Aerospace and Defense

RICHEMONT

Consumer and Luxury Goods

CARVER PUMP™

Naval and Defense

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

We are now scaling to commercial production at our Virginia Titanium Manufacturing Campus

Titanium Production Facility
"TPF / 1080 Building"

"Refining" of titanium scrap into high-quality titanium metal powders

Advanced Manufacturing Center
"AMC / 1092 Building"

"Forging" and "printing" of titanium metal powders into high-quality titanium metal products

Titanium Production Facility - commissioning in Q2 2024

- ***Increasing titanium production capacity by +60x***
  Scaling from ~2 tpa to 125+ tpa of titanium powder

- ***Phased expansion for higher production at lower costs***
  2,000+ tpa by 2026 with projected operating costs of US$30,000/t

- ***Phased production growth at lower capital intensity***
  ~2,000 tpa at estimated capital costs of ~US$70 million

- ***Multiple U.S. Government funding opportunities***
  U.S. government funding options include grants and equipment finance

Advanced Manufacturing Center - first titanium products expected in Q2 2024

Advanced manufacturing of high-strength titanium products
Semi-finished titanium products, near-net shape forged titanium components and high-value titanium products using additive manufacturing

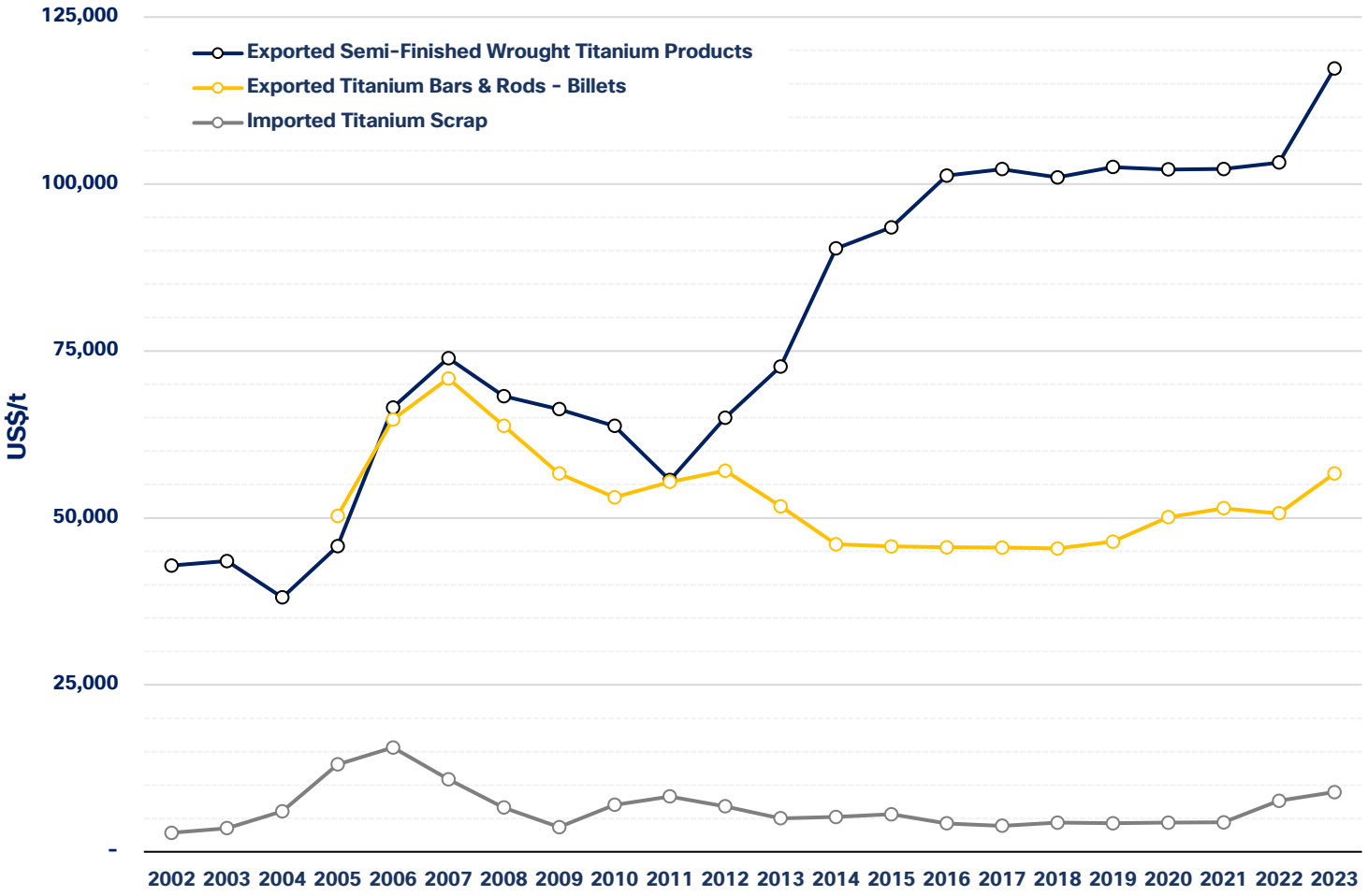
Manufacturing high-performance titanium product range
Sustainable competitive advantage capturing value from upgrading raw titanium materials into high-performance titanium products

Advanced center for titanium research and development
Commercial development of titanium alloys, powder metallurgy and manufacturing technologies

Titan Project allows an end-to-end, U.S. titanium supply chain

- ***The fully permitted Titan Project in Tennessee is one of the largest titanium mineral resources in North America***
- ***Integrating Titan Project with our titanium technologies enables an end-to-end solution to the U.S. titanium supply chain***
- ***Titan critical mineral project contains titanium, zircon and rare earth minerals***

The U.S. titanium supply chain is concentrated, high risk, and vulnerable to supply shocks



- ***~US$117,000 per metric tonne pricing on ~US$1.1b*** *of U.S. exported semi-finished titanium products in 2023*
- ***~US$57,000 per metric tonne pricing on ~US$0.5b*** *of U.S. exported bar and rod / billet titanium products in 2023*
- ***Supply constrained, rising price environment*** *with the average price of exported semi-finished titanium products rising 14% in 2023, reflecting:*
  - *Supply shocks from Russia's invasion of Ukraine*
  - *Raw material price increases*
  - *Increasing aerospace demand*

Source: USITC DataWeb

Led by a highly experienced senior leadership team

Anastasios “Taso” Arima
Co-founder, MD and 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 Financial 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

High value, near-term catalysts

- **Secure strategic partners for our titanium metal products**
  - [x] Test powders and/or prototype parts with prospective customers
  - [x] Secured prospective customer and government validation
  - [ ] Secure additional customers across core industry sectors
- **Scale up production of titanium powder and products**
  - [x] Titanium Production Facility (expansion to 1,000+tpa) CAPEX and OPEX
  - [x] Large scale furnace hot test and powder production run
  - [x] Complete final engineering for Titanium Production Facility
  - [ ] Commence equipment installation at Titanium Production Facility
  - [ ] Commission HAMR furnace at Titanium Production Facility
  - [ ] Produce titanium components at Advanced Manufacturing Center
- **Progress Titan Project to be construction ready**
  - [x] Definition of largest known titanium mineral resource in U.S.[1]
  - [x] Scoping Study / Initial Assessment completed
  - [x] State Mine and NPDES permit
  - [ ] Feasibility Study, critical minerals sales contracts and FID

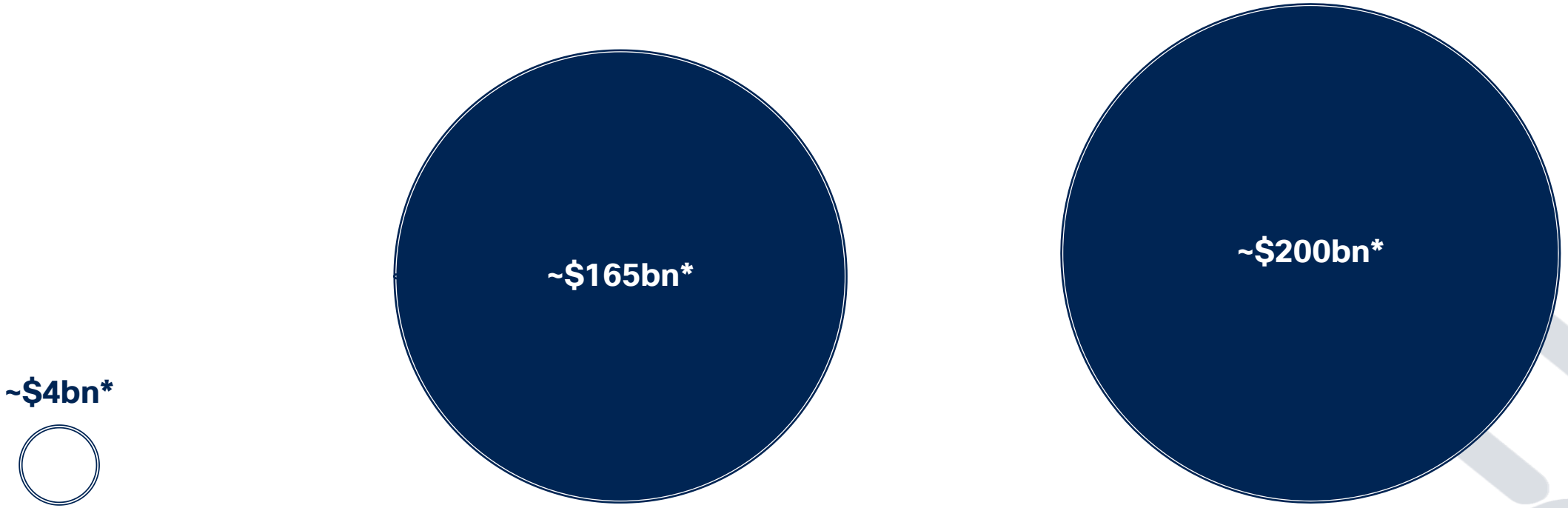
Corporate Overview (NASDAQ / ASX Ticker Symbol: IPX)

Common Shares / ADR's (1:10) Outstanding	**224.3 million / 22.4 million**
Last 10 Days - Avg. Daily Volume (ASX / NASDAQ)	**A$1.25m / US$0.7m**
Market Capitalization (19-Feb-2024)	**~US$315 million**
Cash (31-Dec-2023)	**~US$17 million**
Fidelity Management and Research (FMR)	**~10%**
Fidelity International (FIL)	**~10%**
Insider Ownership	**~30%**

1. JORC and SK-1300 code compliant

Supporting Information

In the long term, our target addressable market is the global lightweight metals market



Titanium Market[1]

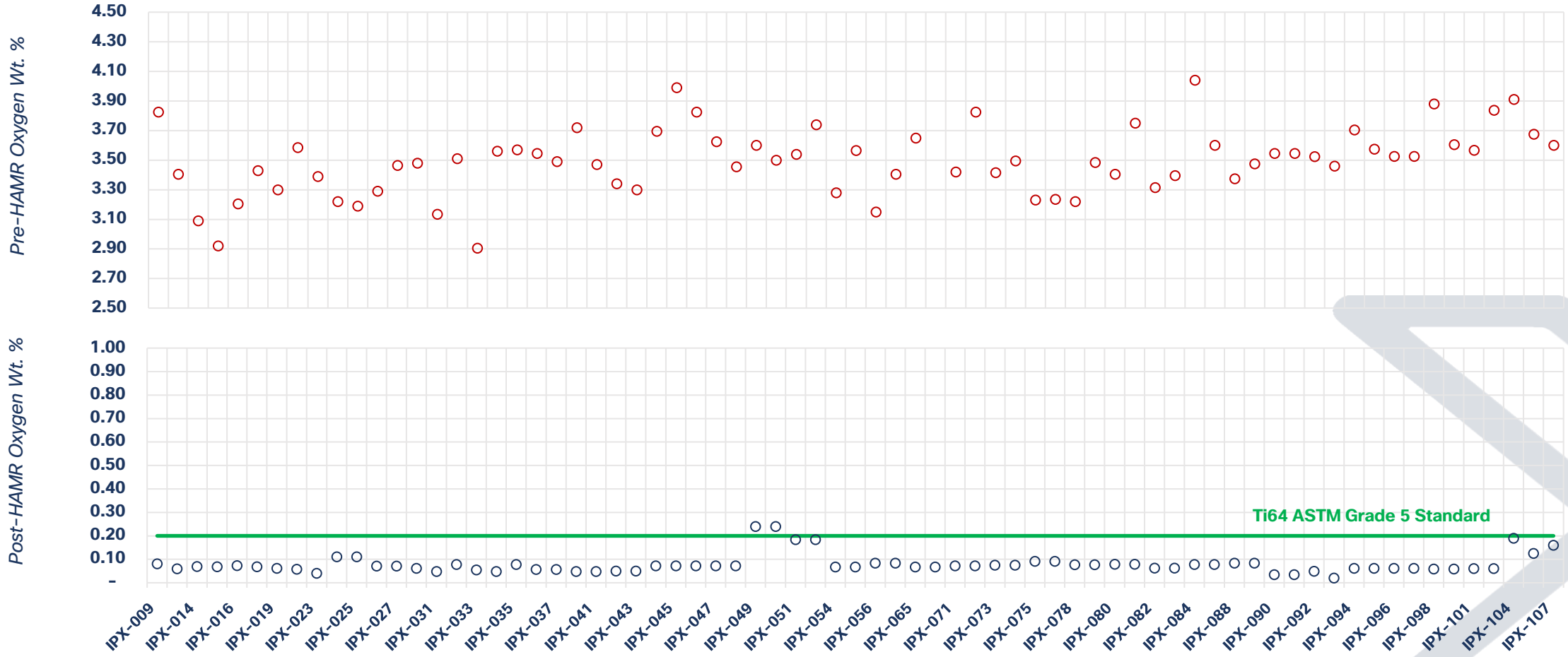
Aluminum Market[2]

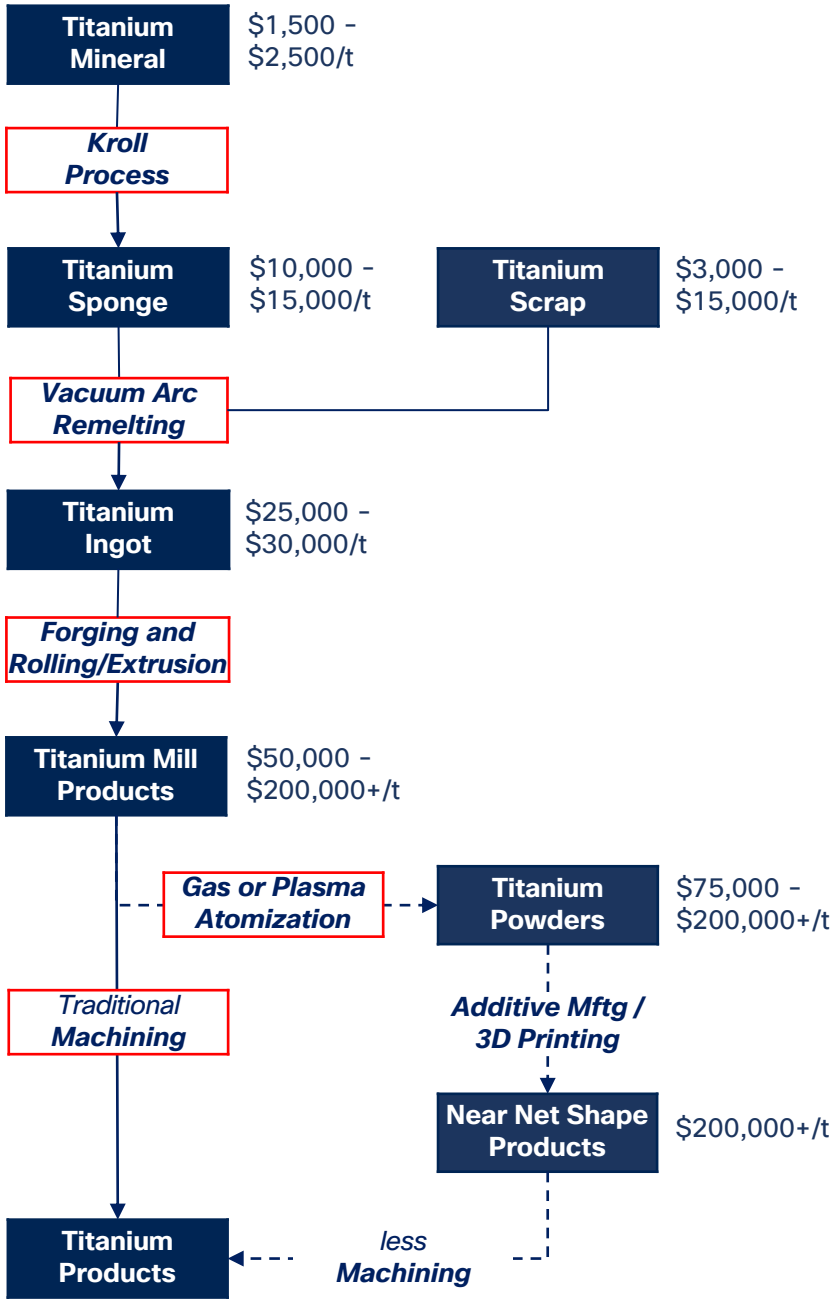
Stainless Steel Market[3]

* 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.

We have been producing high-quality titanium with our award-winning technologies for over 18 months

Consistent and repeatable process achieving high quality standard





Titanium production is complex, high cost and unsustainable

Kroll Process

- High temperature (1,300C°) slow batch process that requires high-quality titanium mineral feedstock (rutile)
- Uses chlorine gas and coke resulting in titanium tetrachloride ($TiCl_4$) and carbon emissions
- $TiCl_4$ reduced by molten magnesium metal and the resulting $MgCl_2$ is distilled under high temperature

Vacuum Arc Remelting

- High temperature process (1,850C°) where titanium sponge mixed with low oxygen titanium scrap together and alloying elements and welded into an electrode and then melted under a vacuum
- Process repeated two to three times to ensure homogenous chemical composition
- Ingot weights of 6-11 tons required for economics to work

Forging and Rolling / Extrusion

- 6 to 11 metric ton ingot is broken down into billets (or slabs) via high temperature forging
- Billets are then heated and rolled or extruded into plate, sheet, bar, wire etc.
- Multiple reheats required with each reheat step requiring grinding of the Ti-O “alpha case” layer
- Mill product yields are low e.g. **55-60% yield** from ingot to 0.2” inch plate

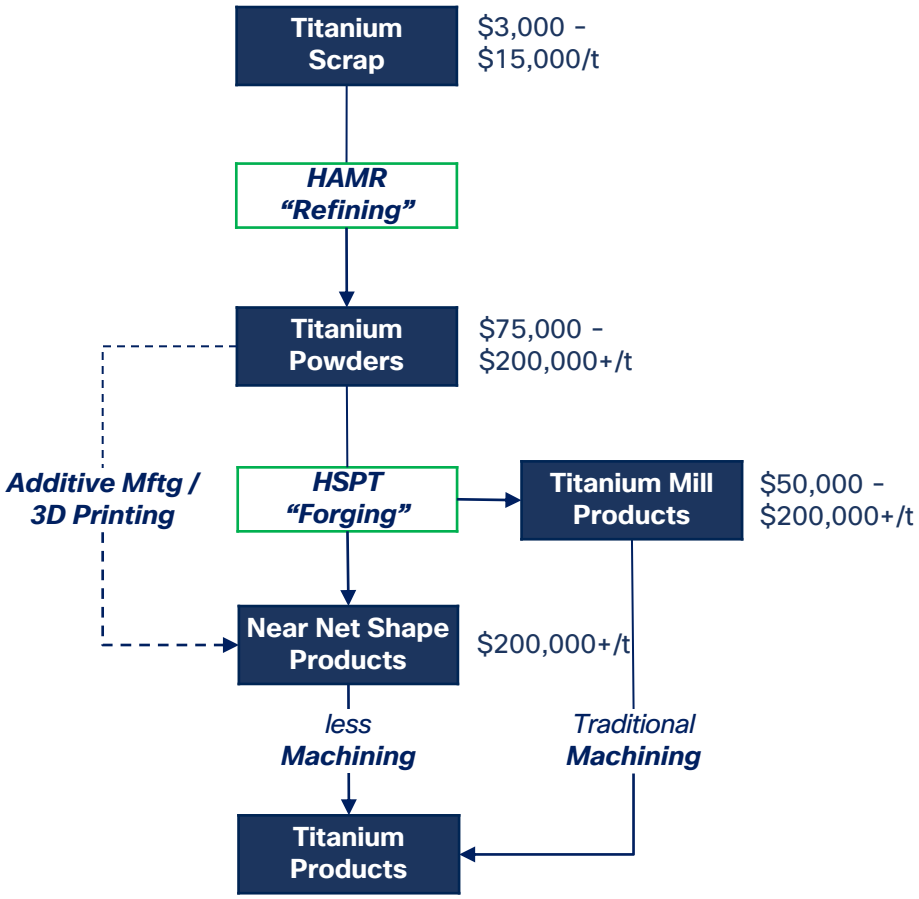
Traditional Machining

- Mill products often require machining to final titanium metal product resulting in high scrap generation vs resultant product (i.e., the “Buy-to-Fly” ratio)
- Buy-to-fly ratios can often lead to **<10% yield** - ~13:1 buy-to-fly ratio for watch cases from titanium bar are common

Gas or Plasma Atomization

- High temperature process where high quality bar or wire is atomized in an inert atmosphere into spherical powders
- Wide range of sizes produced with **<50% yields** of “in-spec” powders

Our titanium technologies can revolutionize the titanium supply chain with low-cost, sustainable titanium production



HAMR "refining" technology

- Hydrogen Assisted Metallothermic Reduction ("HAMR") process is based on a scientific breakthrough by Dr Zak Fang, Professor of Metallurgical Engineering at the University of Utah
- HAMR works by destabilizing the titanium-oxygen bonds and allowing for a simple reduction process – similar to iron ore to iron
- HAMR process is a low temperature (<800ºC) fast (<6 hours) batch process and results in high quality titanium metal powders – potential conversion to an even faster continuous process
- The result is an efficient, scalable process that avoids both Kroll and ingot melting and is <50% energy requirements of the current supply chain with zero Scope 1 and 2 carbon emissions

HSPT "forging" technology

- Hydrogen Sintering and Phase Transformation ("HSPT") is a non-melt sintering technology that results in ultrafine grain micro structured titanium metal products
- The resulting products have "forged" or wrought like characteristic typically seen only with traditional titanium mill products
- Combined with low-cost metal powders, HSPT allows for the avoidance of the multiple forging steps, and their associated yield losses, typically needed to manufacture titanium mill products
- HSPT also allows for the direct sintering of near-net shape products that can significantly reduce the machining waste of final titanium metal products

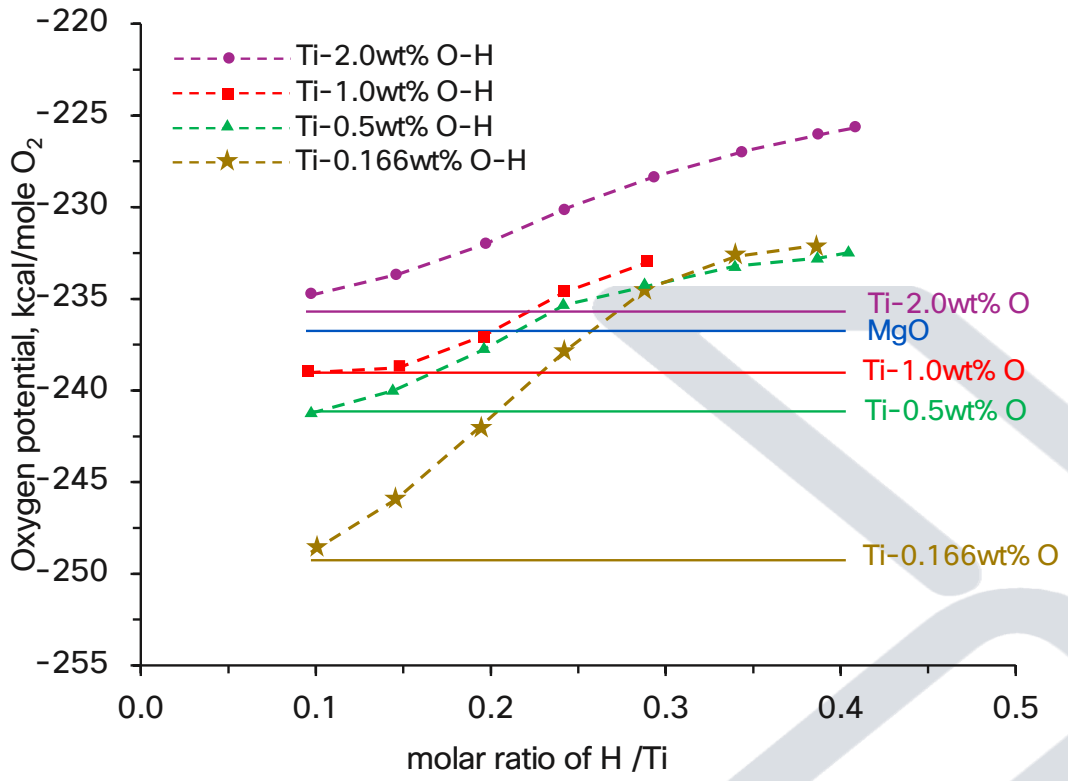
*IperionX holds exclusive rights over the HAMR and HSPT technologies.

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)
- Titanium 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°

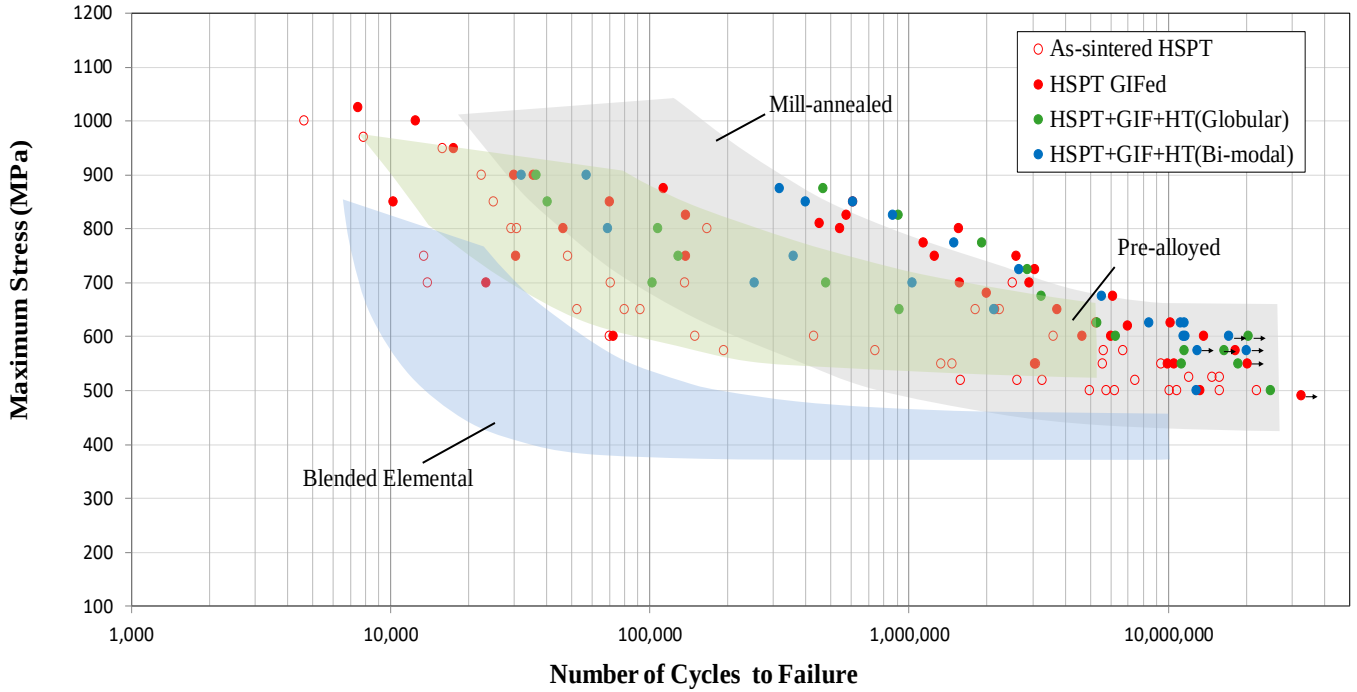


* IperionX holds an exclusive option to acquire the HAMR technology and other associated technologies

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

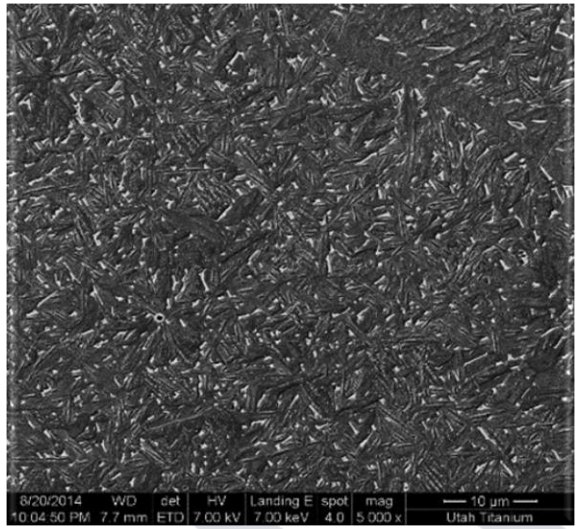
- The proprietary Hydrogen Sintering and Phase Transformation ("HSPT") technology is a powder metallurgy pathway to produce forged quality titanium near-net shape parts and components
- HSPT delivers mechanical properties that can compete with wrought processes, but avoids the high-cost and high-emissions 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

IperionX holds exclusive rights over the HSPT technology.

HSPT as-sintered microstructure



Vacuum as-sintered microstructure