
"A Critical Analysis of Commercial Viability and Valuation Concerns"

/ STRONG SELL OPINION /

IperionX Ltd. | Nasdaq/ASX: IPX

SPRUCE POINT CAPITAL MANAGEMENT

INVESTMENT RESEARCH REPORT

SPRUCE POINT CAPITAL MANAGEMENT

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# *Executive Summary*

# Repeated Calls And A Site Visit To IperionX's Corporate HQ Came Up Empty…..

After repeated attempts calling IPX's headquarters in Charlotte, NC to speak with someone (980-237-8900) and receiving an automated voice-box message, we visited the office on a recent weekday in hopes of asking questions and found no one there. Packages were piled up with no attempt to safeguard or secure the package identities. A 2023 Annual Report was visible despite the 2025 Annual Report being available as was a 2022 Sustainability Report (the 2024 report is available). **We spoke with someone at the neighboring business who said they never see anyone there and that security often puts packages piling up outside the door into the office.**



Source: Spruce Point Research
Note: We acknowledge that this may not be indicative of operational issues, as companies may utilize remote work arrangements or have personnel primarily at operational sites

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# *We Are Short IperionX Ltd. (Nasdaq/ASX: IPX) And See Potential 70% - 95% Downside Risk In Some Scenarios*

After conducting a forensic review of IperionX Ltd. (Nasdaq / ASX: IPX or "the Company") and its ambitions of becoming a vertically integrated producer (mining to production) of titanium powders and products, we believe that investor expectations are too high, and it faces significant challenges in commercial efforts that may not be fully reflected in its valuation. We also express concerns with the accuracy of its financial reporting. We applaud IPX's desire to reshore the U.S. titanium supply chain with a lower cost and more environmentally friendly production process and think management is competent and capable. However, we do not believe the end markets to be attractive or that its highly promoted HAMR™ process is likely to *"revolutionize"* the industry or displace the 70-year established Kroll process. As such, we question IPX's economic rationale for expanding capacity when it has few customer contracts and no historical revenue. Originally a penny stock named TAO Commodities, then Hyperion Metals, and now IperionX, IPX has a $1.2bn market cap and is trading at 9.7x and 24x book value and 2026E revenues vs. the specialty metal industry median of 1.4x and 1.8x, respectively. Based on our analysis, we believe investors should exercise caution because the shares may be significantly overvalued, with potential downside risk of 70% - 95% under certain scenarios outlined in this report.


**IPX management and technical advisors have significant overlap with Piedmont Lithium (Nasdaq/ASX: PLL).** Piedmont faced allegations from two short sellers that it was a stock promotion with ties to a banned Australian stockbroker and had various financial and operational shortcomings. PLL collapsed in value, merged and changed names. While we acknowledge the mining industry is fraught with risks that are not entirely under management's control, we identified other ventures where IPX management promoted large resources and clear paths to predictable, strong cash flows, but which failed to produce anything, including Paringa Resources (now Terra Metals) and Coalspur Mines. While these examples do not represent all of management's experience at public company ventures and the ones that faced difficulties do not necessarily indicate future performance issues at IPX, investors should consider their track record alongside other factors.


**Based on our research, the titanium powder market is already oversupplied.** Part of IPX's production output is titanium powders. Even if IPX can scale its operations and produce qualified Ti-6Al-4V powder at a lower cost, our research suggests it's already a highly competitive market and capacity will not be an issue even if the 3D printing Ti 6Al4V market continues to grow double digits per annum. We estimate 3.5x more capacity than shipments for this powder and that ATI, Sandvik, Oerlikon, Tekna and AP&C combined account for ~80% of the capacity. Furthermore, we estimate the U.S. market for Ti 6Al4V mill product to be 150k – 170k metric tonnes per annum with aerospace being >50%. We believe U.S. melters (Timet, Howmet, ATI) only use 20-25% sponge in new ingots, with the remainder coming from recycled or revert material. We also don't think the titanium fastener market is attractive because the industry has been consolidated by large dominant players over time. We believe IPX's story of reshoring the titanium industry from mine, scrap to product is a noble cause, but one which, under current market conditions, may not generate attractive returns on capital.

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# We Are Short IperionX Ltd. (Nasdaq/ASX: IPX) And See Potential 70% - 95% Downside Risk In Some Scenarios


**We question the scalability and likelihood of success of the *"revolutionary"* HAMR process that is promoted to displace the 70-year-old and established Kroll process.** The key to IPX's story is that it owns the IP to a *"revolutionary"* technology acquired from Dr. Zhigang Zak Fang's Blacksand Technology and developed through the University of Utah. To believe in the IPX story you must believe that a small group led by Australian mining executives discovered something that has been overlooked for years by everyone else in the global titanium industry. We estimate the IP was acquired for a modest premium above the estimated $10m invested in its research and development over a decade with Arconic (Alcoa) and Boeing as commercial testing partners who apparently passed on licensing or acquiring it first. History is littered with failures in taking promising Kroll process alternatives from lab to scale. An expert we spoke with that is familiar with HAMR warned there were many steps involved (more steps=more potential issues). An academic research paper published in Journal of The Electrochemical Society (2021) concludes for HAMR that *"the process is not energy-efficient"*. The journal also reports that the major disadvantages of HAMR are *"High temperature (700°C–800°C)"* and *"High energy consumption"*. IPX keeps changing operating cost disclosures and pictures of the HAMR furnace configuration, thereby making it difficult to evaluate progress, and has lowered the next phase capacity expansion from 2,000 to 1,400 tpa while slightly increasing capex costs. Tellingly, IPX recently promoted process improvements (despite previously touting *"Breakthrough Large Scale Commercial Test Runs of the HAMR Process"*) and made modifications to things like reagents that it previously said did not appear to need change. IPX also reported PP&E impairments and losses on disposals despite recent equipment purchases. Moreover, the IPX stock received by Dr. Fang in the deal, and by IPX's patent advisor, have already been sold, at least partially and possibly entirely, by its owners. Of course, there are many reasons why they sold stock so soon that could be unrelated to their belief in the prospects of IPX.


**We have grave concerns about titanium scrap feedstock needed to scale the HAMR process**. IPX says the process can use ore or titanium scrap. There appear to be challenges of dealing with oxygen when using titanium scrap for feedstock. We noticed the Company initially suggested that oxygen impurities were to be "cleaned" but has now changed it to "removed". The U.S. scrap market is opaque, heavily import dependent, and the U.S. Geological Survey stopped reporting figures in 2021 while IPX also stopped providing scrap operating cost assumptions after 2022. IPX provides a wide scrap price range of $3 - $15k/t which points to significant potential price variability with limited ability to hedge through long-term contracts. For IPX to achieve its stated long-term capacity goal of 10,000 tpa by 2030, we estimate that IPX scrap purchases could account for between 20%-30% of the scrap market which could make them beholden and vulnerable to sellers raising prices in anticipation of their purchasing requirements. In addition, recent reports about fake titanium in Boeing and Airbus jets could make auditing scrap supplies more challenging.

# We Are Short IperionX Ltd. (Nasdaq/ASX: IPX) And See Potential 70% - 95% Downside Risk In Some Scenarios


**We think the Titan mining project which could supply the ore feedstock for the HAMR process is also a long-shot to succeed. The asset is part of the McNairy sands which has been explored for decades.** Titanium is extracted from minerals like ilmenite and rutile which are a large portion of Titan's JORC-complaint mineral resource which also includes zircon. IPX's initial plans indicated that Chemours (NYSE: CC) would be a likely offtake partner, but that hasn't materialized. IPX touts the project's ~10,100 acres, but it is only permitted for 308 acres and assets were recently written off and acreage options extinguished. IPX promotes rare earth minerals as a potential byproduct, which is timely given investor excitement about the sector over China decoupling. The initial project said it would be *"shovel ready"* by Q4 2023 but that timeline has clearly slipped. IPX has also said that a Japanese conglomerate has been evaluating and testing samples since mid-2023 but no offtake agreements have been announced. On November 10, 2025, Japanese conglomerate Marubeni invested in RZ Resources' Australian Copi Project to advance rutile, zircon, ilmenite and rare earths which may potentially diminish its interest in the Titan Project. Also, Japan and the U.S. are teaming up to explore rare earths projects outside the U.S. but nothing announced in Tennessee. Tronox (NYSE: TROX) recently reported sustained weakness in titanium dioxide and zircon. Moreover, Tennessee has not historically been a hotbed of mining activity. According to the state's last mineral industry overview, only coal, oil, and natural gas are currently being recovered, and we find no evidence that Tennessee has ever commercially developed a zircon or titanium ore mining operation.


**Other partnership and customer announcements do not appear to have resulted in much and future revenue remains uncertain.** We've analyzed each of IPX's partner and customer announcements and spoke with experts familiar with the business. Some partnerships have expired, while others IPX no longer references. There is enthusiasm around a Ford contract estimated to generate ~$11 million starting in 2025 but no revenues have been booked and IPX listed no inventory on its balance sheet (raw materials or finished goods) at fiscal year end and no inventory purchases through September 30th, so we question if any revenues are imminent. For IPX to sell into the aerospace and defense markets, product qualification becomes a real issue and came take time. A year ago, IPX indicated it had ~100 active customer engagements but now is signaling just 22. One cause for optimism is that IPX secured a U.S. army task order for $99 million under a Small Business Innovation Research Phase III contract and received a $1.3 million order which is its obligation according to USAspending.gov. The contract is Indefinite Delivery Indefinite Quantity (IDIQ) which only obligates the government to fulfill its minimum obligation and makes future orders not guaranteed. The U.S. Department of War stated that bids were solicited via the internet and only one bid was received.

# We Are Short IperionX Ltd. (Nasdaq/ASX: IPX) And See Potential 70% - 95% Downside Risk In Some Scenarios

**Concerns given apparent financial and operational reporting discrepancies.** IPX had a material weakness of internal controls which it said was remediated in 2025. However, we have our doubts. IPX's CFO was VP of Finance at Proterra Inc. (Nasdaq: PTRA), a SPAC which went bankrupt and settled a lawsuit which alleged that its liquidity was mis-portrayed. IPX's Chief Legal Officer left with only a one sentence footnote disclosure in the 2025 Annual Report while IPX reported she received no executive compensation last year.

We've identified discrepancies in reported Titan Project acreage figures, G&A costs, total employees and capex accounts.

**Titan Acres:** IPX says it owns approximately 1,486 acres in Tennessee, but our review of county records indicates approximately 1,349.4 are owned.

**Capex:** We are concerned by the reported cash costs related to capex and amounts recorded on the balance sheet within PP&E. Through 2023, the reported amounts reconciled, but in 2024 and 2025 we find that they diverged. 2024 and 2025 quarterly capex totals do not match yearly totals. We could not confirm values for IPX's machinery, tools, or tangible property at its main manufacturing facility because Halifax County, VA said the regulatory forms did not exist. IPX claims that a furnace costs in the range of $2.7 - $5.0 million. However, IPX's import records from its Netherlands-based partner suggest a furnace system is in the $369,000 to $405,000 range. Of course, the difference may be explainable by the service costs to put the furnace into operation, or some other explanation. However, we believe the Company should clarify the discrepancy.

**G&A Costs:** By evaluating the 2025 quarterly reports, we see that the full year figures do not reconcile. The biggest difference is in administration and corporate costs which were off by $274,000.

**Employees:** There is a large difference between employees reported in the 2025 20-F and Annual report filed two weeks apart. Either IPX has 52 or 70 employees, but in March 2025 the COO told Halifax County that IPX needed ~60 to expand capacity.


There may be reasonable explanations for these discrepancies, but the Company should clarify. Lastly, PricewaterhouseCoopers' (PwC) audit engagement partner is based in Perth, Australia despite the Company having no assets in Australia and PwC having a Charlotte, NC office five minutes from IPX's U.S. headquarters. We do not allege any wrongdoing or impropriety on the part of PwC but believe that investors would be better served with an audit engagement partner based in Charlotte, NC.

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# We Are Short IperionX Ltd. (Nasdaq/ASX: IPX) And See Potential 70% - 95% Downside Risk In Some Scenarios

**IPX trades at a substantial premium to book value and expected revenues among specialty metals peers. We see 70% – 95% downside potential in some scenarios.**

**Revenue uncertainties exist:** IPX is still in the process of scaling production, and we believe revenue uncertainties from limited customers still exist. For example, we previously highlighted a Ford contract announced in late 2024 which was expected to begin in 2025, but no revenues appear imminent. Also, a $99m IDIQ contract from the U.S. government only obligates $1.3 million of revenue. In 2023, IPX suggested 2026E revenues and EBITDA were forecasted to be ~$145m and ~$100m, respectively. IPX also provided a forecast for powder production. These initial projections proved to be too optimistic. IPX is now offering less specific financial forecasts for 2026 and says revenues will *"progressively scale"* and *"with a positive EBITDA inflection point projected by year-end 2026"*. However, unlike in 2023, IPX is not providing specifics about powder production.


**CEO share pledge recently increased:** The CEO recently increased his shares pledged on margin by 5x. which amplifies risks. The notification was made with the ASX, but we find no recent notification with the SEC. IPX previously received an SEC comment letter that highlighted reports filed with the ASX were not filed with the SEC.

**A substantial valuation premium exists:** IPX trades at 9.7x and 24x book value and 2026E revenues vs. the specialty metal industry median of 1.4x and 1.9x, respectively. We believe that if revenues fail to materialize, investors may revalue IPX on a price to book value basis. In this scenario, IPX could be valued at little more than its cash and value of its property and equipment with little value ascribed to intangible assets. If losses accelerate from increasing capacity through increased capital spending with no revenues, at 0.5x to 1.0x tangible book value, IPX's share price could see 70% – 95% potential downside risk. We expect the share price to underperform the natural resource and materials industry.

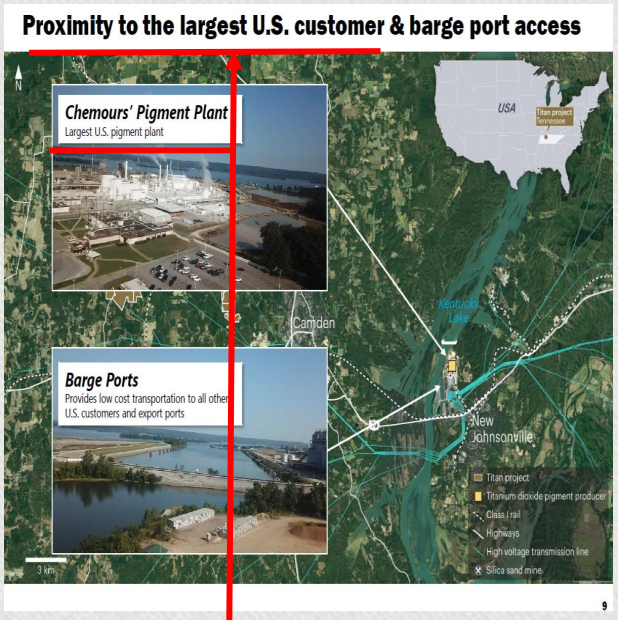
**What could go right for IPX:** Our view of IPX's share price differs from the consensus sell-side analyst view. The average price target is $62.00 which we note is a large discount to the current price. This could suggest market skepticism with projections being attained. On the other hand, we acknowledge that there are factors that could work in IPX's favor such as a faster ramp in capacity, more customer commitments, a positive Definitive Feasibility Study (DFS) for the Titan Project that makes potential Japanese customers convert into off take agreements and improved demand for titanium products.

# Three Corporate Identities Already In Its Short Life As A Public Company

IPX started as TAO Commodities with a focus on its Tennessee resource. It now positions itself as an investment opportunity in reshoring the titanium supply chain with a *"revolutionary"* technology that can convert ore or scrap into titanium.

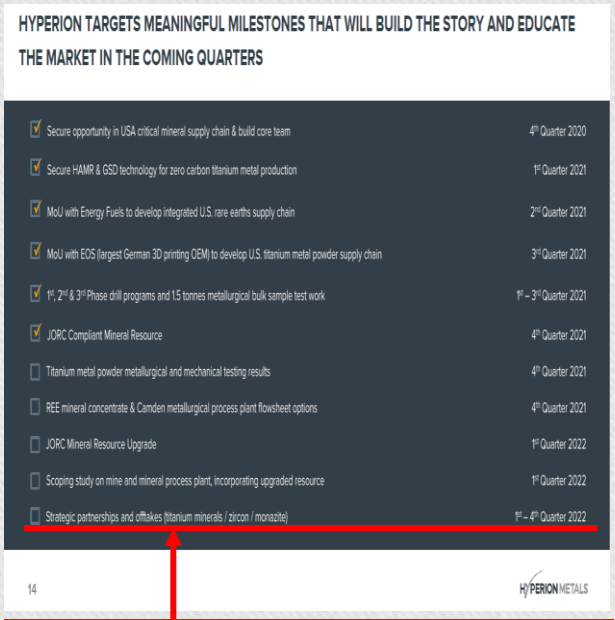
## Three Corporate Identifies And Still No Firm And Binding Offtake/Customer Agreements At Titan

TAO COMMODITIES LTD




**2020/21: Chemours MoU signed**

HYPERION METALS




**Q1-Q4'22: No firm and binding offtake agreements**

IPERIONX


**2025: "Interest" and "Potential" Customers, But Still No Revenue and No Chemours logo**

Source: TAO Commodities (2020), Hyperion (2021) and IperionX (2025) Investor Presentations, "*Hyperion Signs MoU with Chemours*", press release, Dec 6, 2021

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# Experts We Interviewed Familiar With IperionX And/Or HAMR Each Expressed Reservations

Spruce Point interviewed three people familiar with IPX and heard the following opinions.

## Expert 1: Industry Executive In Metal Additives

*"This process that they have proposed. **Again, it sounds very good, maybe too good to be true and it has to be proven**. My interaction with the team has, or from my interaction with the team, I also, let's just say I didn't gain any additional confidence from my experience, it's been quite hard, even as a potential customer with significant volumes in this space and significant technical competence. It has by my experience, been very hard to get a reach, get a response, or have an in-depth discussion that may have changed. The management may be different now, but that's my experience from a few years ago at least."*

*"**So the interaction that I had suggested that the (additive powder) market wouldn't be big enough for it to economically make sense to them**. I mean, this may have changed, but my thinking is that the competition, should this competitor choose to go forward, and my latest information is that they do plan on doing this, but these kind of plans can change of course, especially with the growth numbers that we've seen in additive falling significantly behind expectations. But if this competitor did enter the market, I'm pretty sure it would be very hard to compete with them."*

## Expert 2: Industry Executive In Metals And Alloy Recycling

*"Look, in the end, I think the biggest risk is the technology, whether that will function or not, and whether they're able to scale the technology at a very competitive cost. And now you have to think about, right, I've told you there is already over melting, over capacity in the market. So out of the roughly 200,000 plus metric tons that are being consumed, the melt capacity is, and the U.S. melt has just have added capacity. The melt capacity is beyond 300,000 metric tons. So you already have an excess capacity in a market. If you ask me personally from an investing, investing in a market that has over capacity, you'd really have to pick your company that really stands out. **So from my personal opinion, IperionX, where right now, and I think this is what they're good at, they're good at marketing. Personally, I believe, to me it's more a marketing story right now**. And that's why I say the risk is will they get their operations and be able to scale. It if that, yes, it can be, but I don't really know their internal cost base and also the scalability to get up to 10,000 in a market that has very large established players. TIMET is building a new plant, that is public information and probably adding anywhere between 10 and 15 thousand tons of melt capacity. So they know what they're doing. And even for them, even though they know what they're doing and it's an already established technology, as these are large industrial projects, it is hard to scale. So I think with IperionX from an investment perspective also is how can they to secure funding going forward because obviously they have costs and the revenue side, the revenue side is not there. I think these are the risks. So right now I would say it's a very speculative investment and from portfolio theory, you basically know what to do."*

## Expert 3: Materials Science Expert

*"**The HAMR process has a bit more steps, which is something that is never, from a material process perspective, more steps is never great**."*

*"I think the headline here is that **there's three and a half times more capacity than sales for six four powder**. And a lot of that was because several companies made investments into six four powder production just before COVID."*

*"And so **fasteners to us are a terrible place to start** because fasteners are a structural engineer's last resort to ensure structural integrity."*

Source: Spruce Point research interviews and red highlight emphasis. See disclaimers related to experts.

# Commercializing Technology And Revolutionizing Industry Requires Attention To Detail….

**In reviewing IPX promotional materials, we observed inconsistencies including misspelled names in a company video from 2023.**

| Dr. Hyrum Lefler<br>Not<br>Dr. Hyrum Leffler | Tom Witheford<br>Not<br>Tom Whiteford | Jeshua (Ash) Barnett<br>Not<br>Jeshua Barnette |
|---|---|---|
|  |  |  |

**While these may be minor production errors, investors should evaluate the Company's attention to detail in all aspects of its business.**

Source: IPX Promotional Videos (Facebook, YouTube), Tom Witheford J Ash Barnett LinkedIn and Univ of Utah webpage, Hyrum Lefler

# Even The CEO's Name Has Been Misspelled

**Anastasios Arima**
**<u>Not</u>**
**Anastasios Arimas**

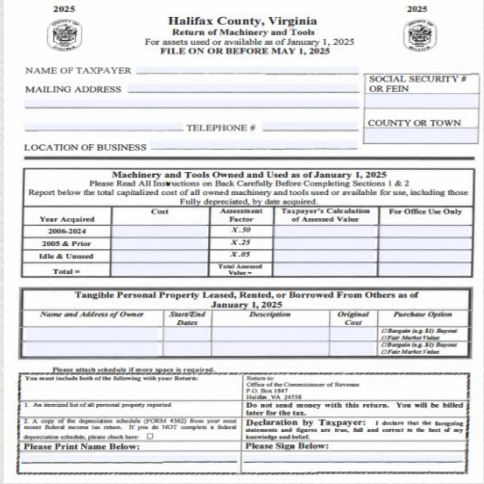

**We find it surprising that no one caught and/or corrected the misspelling of the CEO's name.**

Source: IPX Promotional Video (YouTube)

# FOIA In Virginia Indicates No PP&E Ownership

We submitted a FOIA with Halifax County, VA where IPX's manufacturing facility is located to request its Machinery & Tools and Tangible Property forms for the last three years.(1) We received a response that the forms do not exist, only a property bill for vehicles. Some of IPX's assets are procured (and titled) on behalf of the U.S. government. However, IPX says that government assets amounted to $10.3m. IPX has reported almost $30m in PP&E additions since 2022. While some may have been related to the Utah pilot plant, we would have expected a substantial majority of the $19m in 2025 to be in Virginia.

## Machine & Tools (M&T)



2025

**Halifax County, Virginia**
**Return of Machinery and Tools**
For assets used or available as of January 1, 2025
FILE ON OR BEFORE MAY 1, 2025

2025

NAME OF TAXPAYER

MAILING ADDRESS

SOCIAL SECURITY # OR FEIN

TELEPHONE #

COUNTY OR TOWN

LOCATION OF BUSINESS

**Machinery and Tools Owned and Used as of January 1, 2025**
Please Read All Instructions on Back Carefully Before Completing Sections 1 & 2
Report below the total capitalized cost of all owned machinery and tools used or available for use, including those Fully depreciated, by date acquired.

| Year Acquired | Cost | Assessment Factor | Taxpayer's Calculation of Assessed Value | For Office Use Only |
|---|---|---|---|---|
| 2006-2024 | | X .50 | | |
| 2005 & Prior | | X .25 | | |
| Idle & Unused | | X .05 | | |
| Total = | | Total Assessed Value = | | |

**Tangible Personal Property Leased, Rented, or Borrowed From Others as of January 1, 2025**

| Name and Address of Owner | Start/End Dates | Description | Original Cost | Purchase Option |
|---|---|---|---|---|
| | | | | ☐Bargain (e.g. $1) Buyout ☐Fair Market Value |
| | | | | ☐Bargain (e.g. $1) Buyout ☐Fair Market Value |

Please attach schedule if more space is required.

You must include both of the following with your Return:
1. An itemized list of all personal property reported
2. A copy of the depreciation schedule (FORM 4562) from your most recent federal income tax return. If you do NOT complete a federal depreciation schedule, please check here: ☐

Return to:
Office of the Commissioner of Revenue
P.O. Box 1847
Halifax, VA 24558

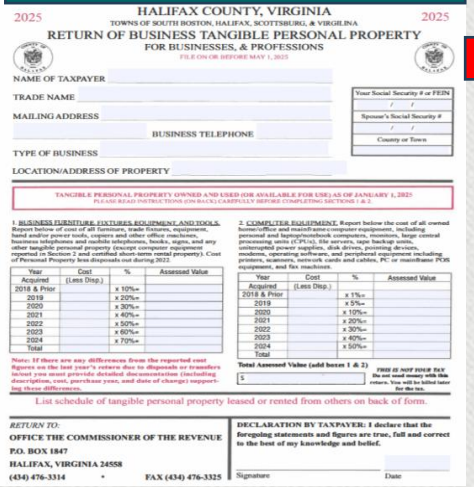
Do not send money with this return. You will be billed later for the tax.

**Declaration by Taxpayer:** I declare that the foregoing statements and figures are true, full and correct to the best of my knowledge and belief.

Please Print Name Below:

Please Sign Below:

## Business Tangible Property



2025

**HALIFAX COUNTY, VIRGINIA**
TOWNS OF SOUTH BOSTON, HALIFAX, SCOTTSBURG, & VIRGILINA
**RETURN OF BUSINESS TANGIBLE PERSONAL PROPERTY**
**FOR BUSINESSES, & PROFESSIONS**
FILE ON OR BEFORE MAY 1, 2025

2025

NAME OF TAXPAYER

TRADE NAME

MAILING ADDRESS

BUSINESS TELEPHONE

TYPE OF BUSINESS

LOCATION/ADDRESS OF PROPERTY

Your Social Security # or FEIN

Spouse's Social Security #

County or Town

TANGIBLE PERSONAL PROPERTY OWNED AND USED (OR AVAILABLE FOR USE) AS OF JANUARY 1, 2025
PLEASE READ INSTRUCTIONS (ON BACK) CAREFULLY BEFORE COMPLETING SECTIONS 1 & 2.

1. BUSINESS FURNITURE, FIXTURES, EQUIPMENT AND TOOLS. Report below of cost of all furniture, trade fixtures, equipment, hand and/or power tools, copiers and other office machines, business telephones and cochlin telephones, books, signs, and any other tangible personal property (except computer equipment reported in Section 2 and certified short-term rental property). Cost of Personal Property less disposals out during 2022.

| Year Acquired | Cost (Less Disp.) | % | Assessed Value |
|---|---|---|---|
| 2018 & Prior | | x 10%= | |
| 2019 | | x 20%= | |
| 2020 | | x 30%= | |
| 2021 | | x 40%= | |
| 2022 | | x 50%= | |
| 2023 | | x 60%= | |
| 2024 | | x 70%= | |
| Total | | | |

2. COMPUTER EQUIPMENT. Report below the cost of all owned home/office and main/Extra computer equipment, including personal and laptop/notebook computers, monitors, large central processing units (CPUs), file servers, tape backup units, uninterrupted power supplies, disk drives, pointing devices, modems, operating software, and peripheral equipment including printers, scanners, network cards and cables, PC or mainframe POS equipment, and fax machines.

| Year Acquired | Cost (Less Disp.) | % | Assessed Value |
|---|---|---|---|
| 2018 & Prior | | x 1%= | |
| 2019 | | x 5%= | |
| 2020 | | x 10%= | |
| 2021 | | x 20%= | |
| 2022 | | x 30%= | |
| 2023 | | x 40%= | |
| 2024 | | x 50%= | |
| Total | | | |

Total Assessed Value (add boxes 1 & 2)

$

THIS IS NOT YOUR BILL. Do not send money with this return. You will be billed later for the tax.

Note: If there are any differences from the reported cost figures on the last year's return due to disposals or transfers in/out you must provide detailed documentation (including description, cost, purchase year, and date of change) supporting these differences.

List schedule of tangible personal property leased or rented from others on back of form.

RETURN TO:
OFFICE THE COMMISSIONER OF THE REVENUE
P.O. BOX 1847
HALIFAX, VIRGINIA 24558
(434) 476-3314 • FAX (434) 476-3325

DECLARATION BY TAXPAYER: I declare that the foregoing statements and figures are true, full and correct to the best of my knowledge and belief.

Signature

Date

## Halifax County, VA FOIA Response

*"We have no Business Tangible Property or M&T Returns for Iperionx or any of its Subsidiaries for 2023, 2024 or 2025. We do have a personal property bill for vehicles For 2024 and 2025."*

## IPX 20-F Disclosure

***"As of June 30, 2025, the Company has procured assets on behalf of the government that cost approximately $10.3 million**. (2025: $4.0 million), (2024: $6.3 million). We received cash reimbursements from the U.S. DoW of $5.6 million during the twelve months ended June 30, 2025 (2024: $4.7 million). We expect to utilize the full $12.7 million of available funding by the end of fiscal year 2026. Title to all assets purchased by the Group with funds from the U.S. government vest with the U.S. government during the term of the technology investment agreement…**Through June 30, 2025, the Company used government funds primarily to acquire equipment used to produce titanium powder from recycled sources of scrap at the construction site**."*

## IPX Property, Plant and Equipment Additions

| $ in mm | 2022 | 2023 | 2024 | 2025 | Cumulative |
|---|---|---|---|---|---|
| Additions to PP&E | $0.9 | $2.1 | $5.7 | $16.0 | $24.7 |
| Additions to Right-of-Use Assets (leases) | $0.1 | $1.0 | $0.9 | $3.0 | $5.0 |
| **Total PP&E Additions** | **$1.0** | **$3.1** | **$6.6** | **$19.0** | **$29.7** |

Source: Spruce Point Research, FOIA Request, IPX disclosures, Halifax County, VA Forms. 1) IPX frequently shows pictures of its property and machinery (a, b, c).

# Email Verification of Missing Capex Forms

Here is the email directly from the Halifax County, Virginia Commissioner of the Revenue verifying that neither IperionX or any of its subsidiaries have the requisite forms filed related to tangible property, machinery, tools and equipment (owned or leased) for the past three years. Even if the Company owned no machinery or tools (or leases), the instructions say that it still is required to file the form. It is possible IPX takes the view that the forms are not necessary since it has no revenue and reports no taxes paid.

## Email From Halifax, VA

From: Brenda Powell <bpowell@co.halifax.va.us>
To: [redacted]
Cc: "Tomeka Morgan"<tcm@co.halifax.va.us>
Date: Wed, 29 Oct 2025 14:28:51 -0500
Subject: FOIA Request
========== Forwarded message ==========

We have no Business Tangible Property or M&T Returns for Iperionx or any of its

Subsidiaries for 2023, 2024 or 2025. We do have a personal property bill for vehicles

For 2024 and 2025.

Brenda P Powell, MCR
Commissioner of the Revenue
Halifax County, VA
434-476-3314
bpowell@co.halifax.va.us

## Form Instructions

**Instructions**

- **Report all machinery and tools, unlicensed motor vehicles, and delivery equipment used in manufacturing, mining, water well drilling, processing or reprocessing, radio or television, broadcasting, dairy, dry cleaning or laundry businesses on this return for local taxation.**
- **All property must be reported at its total capitalized cost before any allowance for trade-in or depreciation. Total capitalized cost should include the actual purchase price (excluding capitalized interest), installation (labor), wiring, design, special foundations and supports, transportation and freight, and any other normal costs of acquiring machinery and tools. These cost figures must be reported on a calendar year basis.**
- **ALL EXPENSED OR FULLY DEPRECIATED ITEMS ON HAND JANUARY 1, 2025, REGARDLESS OF DATE OF PURCHASE, SHOULD BE INCLUDED AT ORIGINAL COST.**
- **IF YOU OWN NO MACHINERY AND TOOLS, YOU MUST STILL FILE A RETURN: Please enter "NONE" in the Machinery and Tools area. Provide an explanation of how your business is conducted without the use of property.**
- **Machinery and tools may be reported on the "Idle and Unused" line ONLY if they have been continually idle and unused for a period of at least one year prior to January 1, 2025. In order for the "Idle and Unused" to be exempt, a written request must be received by May 1, 2025. Construction-in-progress, occasional, and seasonal use of machinery and tools would not constitute "idle and unused" property.**
- **A detailed list of assets itemizing all property reported by capitalized cost and date of acquisition must be submitted with this return. Also, an explanation must be provided with this return if there is a difference between the property reported on this return and your 2024 return.**
- **Calculate the assessed value of the property reported by multiplying the cost figures by the assessment percentages listed.**
- **Report in the Tangible Property area all tangible personal property that is leased, rented, or borrowed from others as required by 58.1-3518 of the code of Virginia. Please review the terms of each lease to determine if it is a true lease. A "lease-purchase" ("Capital lease"), usually is non cancelable and characterized by a nominal (often $1.00) buyout provision. It is actually a financing arrangement and should be reported under the Machinery and Tools section of the form.**

Source: Spruce Point Research, FOIA Request, IPX disclosures, Halifax County, VA Forms, Spruce Point red emphasis.

# *Why We Have Doubts About IPX's Promoted "Revolutionary" HAMR Process*

SPRUCE POINT CAPITAL MANAGEMENT

# Big Picture Question: Why Does The Market Need More Ti 6Al4V Powder From IPX's HAMR Process?

Spruce Point consulted with an expert in the metal alloy additive manufacturing industry. Even if IPX can scale its operations and produce qualified Ti 6Al4V powder at a lower cost, our research suggests it's already a highly competitive market and capacity will not be an issue even if the 3D printing Ti-6Al-4V market continues to grow double digits per annum. Furthermore, we estimate the U.S. market for Ti 6Al4V mill product to be 150k – 170k metric tonnes per annum with aerospace being >50%. We believe U.S. melters (Timet, Howmet, ATI) only use 20-25% sponge in new ingots, with the remainder coming from recycled or revert material. We believe IPX's story of reshoring the titanium industry from mine and scrap to product is a noble cause, but one which, under current market conditions, may not generate attractive returns on capital.

**Ti 6Al4V Atomization Capacity And Shipments (metric tons)**


**ATI, Sandvik, Oerlikon, Tekna, and AP&C combined account for ~80% of the capacity.**

**AP&C and Tekna combined account for ~50% of the shipments.**

**Pricing:**
- **Hydride Dehydride (HDH) Process – Sells for $150/kg**
- **Gas Atomization & Plasma Atomization – Sells for $150/kg**

Source: Spruce Point Research and estimates. ATI, Sandvik, Oerlikon, Tekna and AP&C.

SPRUCE POINT CAPITAL MANAGEMENT

# IPX Evaluated HAMR Over A Multi-Year Period

To believe the IPX story and The Hydrogen Assisted Metallothermic Reduction ("HAMR") process, you must believe that a small team led by Australian mining executives discovered a process that has been overlooked for years by the global titanium industry. Giving management the benefit of the doubt, it spent 3.5 years between its initial agreement and purchasing the IP and assets developed by Dr. Fang of the University of Utah and his Blacksand Technology which is ample time to evaluate its commercialization potential.

## IPX Evaluation Timeline

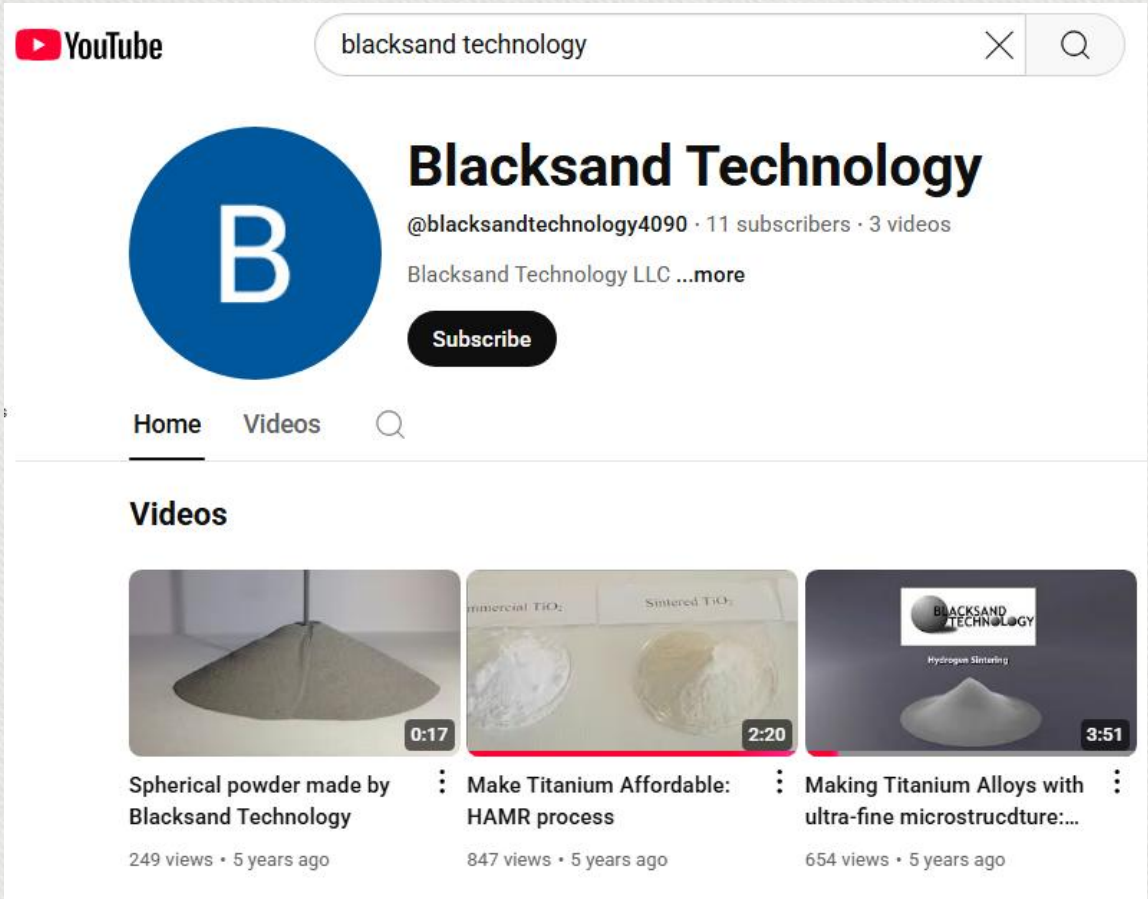
| Figures in US$ | Discussion of Terms | Payment Status |
|---|---|---|
| 2/15/21 | **Research agreement with exclusive option**<br>The Research Agreement provides the Company with an option to enter into an exclusive license agreement with Blacksand over a suite of patents comprising the HAMR technology and related products to be used for the processing of titanium ore or feedstock and the production of titanium metal or alloy. Upon exercise of the option, the Company will pay total license fees to Blacksand of US$1.9 million over a two-year period. From the third anniversary of the option exercise the Company will pay Blacksand the greater of the minimum annual license payment (between US$150,000 and US$250,000) and a royalty of 3% of the net value of licensed product sold. | |
| 10/21/21 | **Initial purchase option agreement**<br>• Option to purchase 100% ownership through Dec 31, 2022 for $250,000<br>• Upon exercise, $12M (up to 30% in stock)<br>• Upon exercise, $1M endowed chair at Univ of Utah over 3yrs<br>• Payment of 0.5% royalty on cumulative net sales in excess of $300M | • $250,000 option payment made |
| 12/8/22 | **Modification made before option expiration on Dec 31, 2022 and extended to Dec 31, 2024**<br>• Asset purchase option: 4x $1.5m payments over eighteen months + 1x $6m payment on December 31, 2024<br>• Exclusive Royalty-Bearing License Option: All Blacksand intellectual property, license fee: $8m, Royalties: 3% of net sales for HAMR products and 5% of net sales for GSD products, with a minimum annual royalty of $400,000 from the third anniversary of exercising the option through the life of the patented technologies. | • Two $1.5m cash payments totaling $3m of prepayments were made through June 30, 2023<br>• 3M shares issued for $2.0m in value were issued January 2024 |
| 11/26/24 | **Asset and IP Purchase Disclosure in Press Release**<br>IperionX's purchase of Blacksand's assets includes a $6 million payment to Blacksand to exercise the purchase option, plus the establishment of an endowed chair at the University of Utah supporting metallurgy research through a gift of $1 million payable over three years. IperionX will pay Blacksand a royalty of 0.5% of net annual sales of titanium powder exceeding $300 million throughout the life of the patents.<br><br>Blacksand previously held commercial rights to the technologies through an exclusive license agreement with the University of Utah Research Foundation ("UURF"). This license is paid-up and royalty free. Following IperionX's purchase of Blacksand's assets, the UURF license will transfer from Blacksand to IperionX, and the UURF will cooperate with IperionX to assign ownership of the intellectual property to IperionX. To fully extinguish the UURF's interest in the technologies, IperionX will make several payments to the UURF including: $750,000 prior to July 1, 2025; $1 million upon IperionX reaching $200 million in cumulative net sales; and $3 million upon IperionX reaching $400 million in cumulative net sales.<br><br>**Purchase disclosure in 2025 Annual Report**<br>The Group now holds the exclusive commercial licensing rights for more than 40 global patents through a license agreement with the University of Utah including the global patents for patented technologies that can produce low-cost and low-carbon titanium metal. As consideration for the option, IperionX has made or will make payments totaling US$14,270,495 (of which US$5,500,000 was paid in prior periods, US$6,616,251 was paid during the twelve months ended June 30, 2025, and US$2,154,244 was payable at June 30, 2025, of which US$1,454,244 was included in trade and other payables and US$700,000 was included in other long-term liabilities). | • $0.5m prepayment made in FY 2024.<br>• Total: $5.5m ($3.5m cash / $2.0m stock)<br>• $6.6m in FY 2025<br>• $2.2m payable at 6/30/25<br>• **Total: $14.2m** |

Source: Research Agreement (Feb 2021) Option agreement (Oct 2021), Option Extension (Dec 2022), Acquisition completion (Nov 2024)

# Early Attempts To Promote Blacksand Before IPX's Involvement Didn't Generate Much Attention

Blacksand Technology, Dr. Fang's company which developed HAMR, tried to promote its technology with a YouTube video account in early 2020. However, as can be seen below, the account only attracted 11 subscribers and a few hundred viewers. Although there may be reasons for this, it does not indicate to us that the Company was generating much attention in the market it was trying to address.

**Blacksand Technology YouTube Channel**




Source: YouTube

# The "Revolutionary" IP Was Acquired For Little More Than R&D Cost, And Initial Commercial Research Partners Are Not Mentioned As Potential Customers….

We question the scalability and commercialization aspects of the technology. To support our concerns, we observe that IPX no longer references that the technologies were tested over a 10-year period, funded in part with approximately $10 million from the U.S. DOE ($12 million total investment through 2021(1)) and with industry partners Boeing and Arconic. We observe that neither Boeing or Arconic have been disclosed as (potential) customers or have signed any MOUs related to purchase intent. Moreover, IPX spent $14.2 million to acquire the intellectual property of what has been described as *"the breakthrough science of a revolutionary technology"* for a nominal premium to the estimated $12 million invested in developing it over a decade.

**IPX No Longer Makes This Disclosure From 2023**

## Re-Shoring U.S. Titanium Metal Production with Production Technologies

IperionX holds exclusive commercialization rights to a range of patented technologies for producing titanium metal powders and products. These Technologies were initially developed by Dr. Z. Zak Fang and his team at the University of Utah, and were further developed at Blacksand Technology, LLC ("Blacksand"), Dr. Fang's research and development entity. At Blacksand, Dr. Fang's team further developed and tested the Technologies at lab scale over a 10-year period, funded in part with approximately $10 million from the U.S. Department of Energy's ("DoE") ARPA-E program as well as industry partners Boeing and Arconic. IperionX is now Blacksand's exclusive commercial partner for scaling the Technologies.



**Research Funded Over A Decade With $10M Sold For Just $14M….**

**Notes:**

1. During the period, the Group exercised its exclusive option to purchase intellectual property rights of Blacksand Technology, LLC. The Group now holds the exclusive commercial licensing rights for more than 40 global patents through a license agreement with the University of Utah including the global patents for patented technologies that can produce low-cost and low-carbon titanium metal. As consideration for the option, IperionX has made or will make payments totaling US$14,270,495 (of which US$5,500,000 was paid in prior periods, US$6,616,251 was paid during the twelve months ended June 30, 2025, and US$2,154,244 was payable at June 30, 2025, of which US$1,454,244 was included in trade and other payables and US$700,000 was included in other long-term liabilities).

Source: 2023 and 2025 Annual Report (1) Hyperion (now IPX) Press Release, Oct 21, 2021

# Blacksand Promoted Itself More Prominently After TAO Commodities (Now IPX) Started Its Promotion

The first archived version of Blacksand's website appeared a month after the commercial announcement that TAO Commodities (now IPX) would explore its commercialization.

## Tao Commodities (now IPX) To Explore HAMR

TAO COMMODITIES

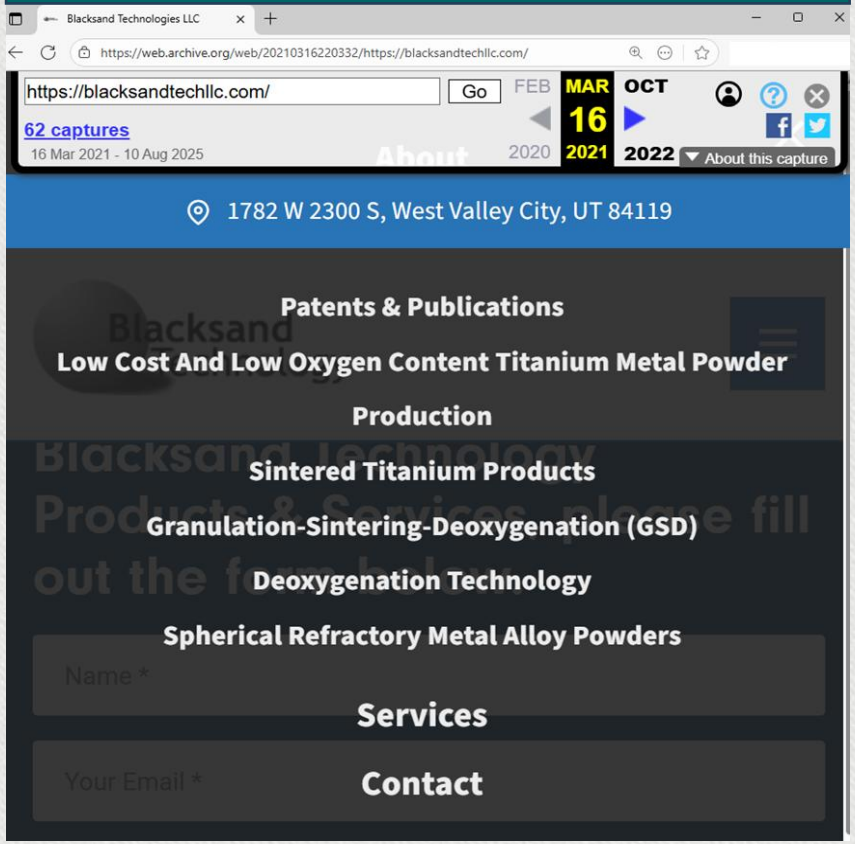
**ASX RELEASE** | ASX:TAO
*15 February 2021*

### TAO TO EXPLORE COMMERCIALIZATION OF LOW-CARBON, LOW-COST TITANIUM METAL POWDER IN THE USA

- Research agreement and option for exclusive license signed to develop titanium metal powders using the breakthrough **HAMR technology** invented by Dr. Z. Zak Fang and his team at the University of Utah with funding from ARPA-E, with Boeing and Arconic (formerly Alcoa, Inc.) as industrial partners.
- ARPA-E is a U.S. Department of Energy agency which funds transformational advanced energy technology projects which have included solid state EV battery company Quantumscape (NYSE: QS).
- The **HAMR technology** has demonstrated the potential to produce titanium powders with;
  - Low-to-zero carbon intensity
  - Significantly lower energy consumption
  - Significantly lower cost
  - Product qualities which exceeds current industry standards
- TAO's potentially large scale titanium deposit at the Titan Project in Tennessee – coupled with development of **low-to-zero carbon, low-cost titanium powders** – builds a platform for TAO to become an integrated leader in the titanium supply chain for high growth sectors such as;
  - Space exploration
  - Aerospace
  - Electric vehicles
  - Defense



## Blacksand Website Created 1 Month After….




Source: TAO press release (Feb 2021), Wayback Machine Archive of Blacksand Tech (March 2021)

# IPX's 10-Year, $10M Commitment To The University of Utah

Dr. Fang's current CV no longer provides a history of his research funding since 2002. An archived version we found reveals that **IPX has been his major industry funding partner at $13 million other than a small $30,000 funding from Boeing**.
**A 10-year, $10 million agreement by IPX to fund research at the Titanium Additive Manufacturing Center has not been disclosed or discussed in IPX's securities filings.**

## Dr. Fang's CV With Research Funding

**Research Funding Since 2002**

| # | Title (short) | Sponsor | Funding excl. in-kind ($1000) | Role | Year | Comments |
|---|---|---|---|---|---|---|
| Government Agencies Competitive Grants | | | | | | |
| 1 | BulkNano WC-Co | DOE/EERE | $ 1,200.00 | PI | 2004-2008 | Co-PI, Sohn |
| 2 | Metal hydrides powder for H2 Storage | DOE/EERE | $ 1,300.00 | PI | 2005-2011 | Co-PI, Sohn |
| 3 | Nano Intermetallic powder Coating | DOE/NETL | $ 250.00 | PI | 2006-2009 | Co-PI, Sohn |
| 4 | Nano Tungsten Sintering | Army Rsch/KMT | $ 320.00 | PI | 2005-2009 | |
| 5 | Functionally Graded WC-Co | Utah COE | $ 280.00 | PI | 2006-2010 | |
| 6 | Light Metal powder for H2 Storage | NSF | $ 300.00 | PI | 2009-2012 | Co-PI, F. Liu |
| 7 | New Method for Making TiO2 powder | DOE/EERE | $ 310.00 | PI | 2010-2012 | |
| 8 | Magnesium hydride powder for thermal battery | DOE/ARPA-E | $ 3,400.00 | PI | 2011-2014 | Co-PI, K Udell |
| 9 | Titanium hydride powder for solar thermal energy storage | DOE/ARPA-E | $ 220.00 | Co-PI | 2011-2014 | P.I.: PNNL |
| 10 | Composite powder for Anode of Li ion battery | Argonne National Lab | $ 77.00 | PI | 2011-2012 | |
| 11 | Composite powder for Anode of Li - air battery | Argonne National Lab | $ 45.00 | PI | 2012-2013 | |
| 12 | Development of Nano-W for fusion reactor | DOE/BES | $ 1,000.00 | PI | 2012-2015 | |
| 13 | Low Cost Production of Ti Alloy | DOE/EERE | $ 1,800.00 | PI | 2012-2015 | Co-PI: Chandran |
| 14 | Novel Chemical Pathway Production of Ti from Ti-slag | DOE/ARPA-E | $ 3,600.00 | PI | 2014-2017 | Co-PI: Free. |
| 15 | Novel Chemical Pathway for Production of Ti Powder | DOE/ARPA-E (continuation) | $ 3,400.00 | PI | 2017-2019 | Co-PI: Free |
| 16 | New Manufacturing for Low Cost High Performance Ti | NSF (GOALI) | $ 487.00 | PI | 2016-2019 | |
| subtotal | | | $ 17,969.00 | | | |
| Industry | | | | | | |
| 12 | Ti and other reactive metals | IperionX | $ 10,000.00 | PI | 2024-2034 | |
| 12 | Low cost Ti powder | IPX via Blacksand | $ 3,000.00 | PI | 2022-2024 | |
| 13 | New AM HEA alloy | NAVAIR/Blacksand | $ 180.00 | PI | 2021-2022 | |
| 13 | New AM Ti alloy | NAVAIR/Blacksand | $ 90.00 | PI | 2020-2021 | |
| 14 | DRA Ti alloy powder | NSF SBIR/Blacksand | $ 150.00 | PI | 2020-2021 | |
| 15 | Low cost Ti alloy | Boeing/Blacksand | $ 30.00 | PI | | |
| 16 | Functionally Graded WC-Co | NSF SBIR/Heavystone | $ 300.00 | PI | 2010-2014 | NSF SBIR and industry |
| 17 | Low Cost Titanium | CYMG | $ 250.00 | PI | 2007 - 2011 | |
| 18 | Advanced WC-Co | KD Ltd | $ 220.00 | PI | 2007-2011 | |
| 20 | Nano Tungsten | KMT/ARL | $ - | | | same as #4 |
| 21 | Co-enrichment | KMT | $ 220.00 | PI | 2006-2008 | |
| 22 | 3D Composite of PCD/WC-Co | Meyadiamond | $ 210.00 | PI | 2002-2007 | |
| 23 | General support to PM Lab | Smith Int'l | $ 170.00 | PI | 2003-2007 | |
| 24 | Fibrous monlith WC-Co | ARC | $ 90.00 | PI | 2002-2003 | |
| 25 | Fibrous monolith Heavyalloy | ARM | $ 64.00 | PI | 2002-2003 | |
| subtotal | | | $ 15,174.00 | | | |
| Intra-mural | | | | | | |
| 26 | Micro Lattice Composite | U.U. | $ 30.00 | PI | 2004-05 | |
| 27 | Intermetallic coating | UU | $ 30.00 | PI | 2007-08 | |
| 284 | Vickers Hardness tester | U.U. | $ 20.00 | PI | 2003 | |
| 29 | EDS system instrumentation | U.U. | $ 35.00 | PI | 2004 | |
| | | | | | | |
| Total | | | $ 33,258.00 | | | |

## Univ. of Utah $10-Yr, $10M IPX Agreement

THE UNIVERSITY OF UTAH — COLLEGE OF SCIENCE


**METALLURGICAL ENGINEERING AND IPERIONX UNVEIL NEW RESEARCH FACILITY**

**The new lab follows announcement of 10-year, $10 million agreement with titanium industry leader IperionX**

Following the 10-year, $10 million research agreement announced earlier this year between the University of Utah's Department of Materials Science and Engineering and Charlotte-based IperionX, the two partners, along with college and university leadership, celebrated the opening of a new state-of-the-art additive manufacturing research center on campus in the William Browning Building. The lab, which houses cutting-edge 3D titanium printing machines, will serve as a hub for the collaboration between Metallurgical Engineering Professor Zak Fang's powder metallurgy research team and IperionX as they work to advance metallurgical technologies for producing primary metals focused on titanium.

The opening of the lab, named the Titanium Additive Manufacturing Research Center, creates new opportunities for U students to gain hands-on experience with cutting-edge materials science and engineering technologies. The partnership aims to inspire the next generation of metallurgical innovators, equipping them with the skills and experience needed to pioneer breakthroughs in sustainable metal production and processing.

Source: Fang CV (2024) vs. Current CV (2025) and University of Utah Announcements (Jan 2024) (1,2)

SPRUCE POINT CAPITAL MANAGEMENT

# *If IPX's HAMR Technology Is "Revolutionary", They Are Not Taking Measures To Protect It….*

As a public company, we believe that IPX should be taking greater measures to safeguard its assets, intellectual property, and know how. However, its facility address at 1782 W 2300 S West Valley City, UT 84119 appears to be commingled with Blacksand Technology, RDM Technology, and Heavystone Lab which are other ventures not owned by IPX, but rather by Dr. Fang and Wenfang B. Fang. IPX's 20-F says it has the exclusive right to occupy and use the premises and equipment at the Utah location.


**Commingled with**
**Heavystone Lab LLC**
**RDM Technology LLC**
**Blacksand Technology LLC**

Source: Google Maps, July 2025, Utah Corporate Search, 2025 20-F

SPRUCE POINT CAPITAL MANAGEMENT

# Previous Pilot Plant Attempts To Challenge The Kroll Process Have Failed To Scale

The Kroll process has been used for commercial titanium production since the early 1950s, and while it has certain disadvantages such as being expensive with a poor environmental impact, it has been difficult to replace because it is reliable, scalable and a well established, understood and optimized process. Not surprisingly, there have been many attempts to displace the Kroll process with a few making it to the pilot plant stage, but all failing to achieve scalability and widespread adoption. We believe it is for these reasons that IPX has failed so far to attract larger committed customers.

**Multiple Attempts To Promote Alternatives To The Kroll Process At The Pilot Stage Have Failed To Scale**

| Company | Technology | Discussion | Outcome |
|---|---|---|---|
| -- | Ono and Suzuki (OS) Calciothermic Reduction process from Kyoto University | Proposed around 2003 by Ono et al. as a one-pot method to produce titanium metal by combining thermal and electrochemical reduction of titanium dioxide in a molten salt bath, the main goal is to produce high-purity titanium metal powder with very low oxygen content. | No evidence it has been commercialized but still discussed in research papers about titanium extraction and recycling |
| Metalysis Ltd. | FCC Cambridge process, developed at Cambridge Univ. in the late 1990s | Metalysis announced in March 2018 that it had raised £12m to fund new state-of-the-art post-processing facilities, the acquisition of feedstock and to provide working capital to support the roll-out of its Gen4 facility, the first to take the FCC Cambridge process to industrial scale. Overall, approximately £25 million was raised by the company to bring the project to completion. With the last £12m, it is estimated that Metalysis had raised a total of £92m in investment through seven rounds of funding since 2001. | Bankruptcy and failure to commercialize. |
| Titanium Metals Corp (NYSE: TIE) | FFC Cambridge Process | In 2003, TIE was selected by the U.S. Defense Advanced Research Projects Agency (DARPA) to receive $12.3m in government funding over the next four years to lead a program to commercialize the FFC Cambridge Process. | As of December 31, 2005, work to develop and scale up that process at our operational facilities was discontinued due to low overall process efficiency. |
| Materials and Electrochemical Research Corp (MER) / Dupont / ATS | Electrolytic process for processing titanium ore | The Defense Advanced Research Projects Agency (DARPA) awarded $5.7m to a consortium of Dupont and MER to develop a new process for making titanium metal powder. The powder, under heat and pressure, will be used to create lightweight items ranging from armor plating to components for the aerospace, transportation, and chemical industries. The new process is expected to improve costs by reducing the amount of energy it currently takes to convert titanium ore to titanium metal by more than 50%.<br><br>Later received an SBIR grant from the DOE to build a pilot plant utilizing MER's patented Electrolytic process for processing titanium ore. The electrolytic patented MER process reduces the energy required to process the ore by 50% and reduces pollution by over 90% while recovering 97% of the metal for every ton of titanium ore processed, when compared with the existing Kroll process in use today. | MER Corp was acquired by Achilles Technology Solutions LLC (ATS) in 2015. ATS business entity was terminated in 2020 and its website is no longer active. |
| International Titanium Powder LLC (ITP) | ITP owns all rights to the Armstrong Process® technology, which can be used for production of a wide range of metals, alloys and ceramic | ITP received $1.2m of funding from DARPA in 2004. Expected to begin producing commercial quantities of low cost pure and alloyed Ti powders at its new plant in Ottawa, Illinois in 2010. The plant is expected to reach its capacity of 4 million lbs (2000 short tons) of Ti powder during 2011. | ITP changed its name to Cristal Metals Inc. The titanium powder production plant was operated from 2010-2019 and a $200M investment was made. Tronox acquired Cristal in April 2019, and the 50,000sqft plant was listed for sale in 2020. |
| CSRIO (Australian National Science Agency) / Coogee | The TiRO process is an advanced continuous feed process that uses a fluidized bed reactor and vacuum sublimation chamber to produce to produce titanium metals | Originally conceived by CSIRO Division of Process Science and Engineering, and co-developed with Coogee Titanium as a commercial partner since 2008. The first commercial 24/7 pilot-scale production facility was constructed in Melbourne, with ICON Technologies as the instrumentation system integrators. Titanium powder under an Argon atmosphere. The instrumentation system includes 12 distributed IO Chasses/Controllers, over 400 analog, digital, and motion IO points, and a mix of conventional PID and custom control logic. | While the pilot plant successfully demonstrated the technology, the TiRO process has never scaled up to a full commercial production plant. A recent report indicates that Coogee continues to pursue its home-grown research and development driven project called TiRo. |

Source: Spruce Point research

# Recent Academic Literature Describes HAMR As Less Energy Efficient

An academic research paper published in Journal of The Electrochemical Society (2021) presents a review of various technologies to obtain titanium and its alloys and a discussion concerning the merits and demerits. **It concludes for HAMR that *"the process is not energy-efficient"*.**

**These highlighted bars relate to the scale on the left (red). Lower consumes less energy per kg of Ti.**

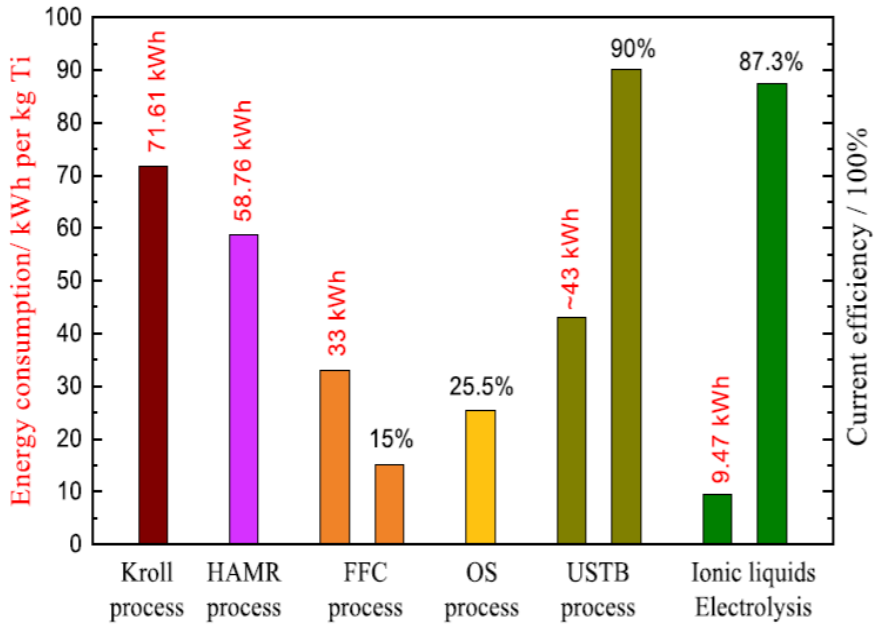



**Figure 21.** Energy consumption and the current efficiency of typical emerging electrolytic processes for titanium production.[16,17,61,62,110,131]

**Conclusions**

A widespread and cost-affordable commercial production and use of titanium is hampered by the disadvantages of improved Kroll process including high cost and high energy consumption. Over the years, many innovative electrolytic extraction techniques have been developed and aimed to replace the Kroll process. Among the new methods, electrochemical reduction of $K_2TiF_6$ from LiF-NaF-KF melts is advantageous in terms of high current efficiency (80%–85%) and continuous operation. However, disadvantages such as redox cycling and dendritic titanium coatings limits its usage. It is impossible to produce pure titanium from electrolysis of $TiO_2$ from $Na_3AlF_6$-base melts at high temperature (~1000 °C), which aims to achieve similar success of the Hall–Héroult process. The USTB process can produce titanium with low oxygen content (0.3 mass %), but it suffers from a dendritic titanium deposition. The requirement for the fabrication of the composite $TiC_xO_{1-x}$ anode is also a drawback. The EMR process has the advantages of the product with high purity (99.5 mass %) and the potential for continuous operation. However, the cell structure is complicated, and further study is required to identify the mechanism and optimum EMR process parameters. Besides, the PRP process is also not suitable for commercial applications because of the expensive reductant (Ca). A two-step HAMR process is advantages in terms of producing Ti with low-oxygen content (< 0.15 wt.%). Moreover, it obtains titanium in the form of $TiH_2$, which is less prone to being oxidized. However, this process is not energy-efficient. Both the FFC and OS processes have the potential to produce titanium powder semi-continuously with low oxygen content (0.3 mass% oxygen). However, long-term studies are required to improve the current efficiency of both the FFC and OS processes. Apart from the FFC and OS processes, it should be noted that the electrolytic reduction of $TiCl_4$ from ionic liquids such as $AlCl_3$-BmimCl is an alternatively promising method to produce cost-effective titanium. The temperature (75 °C–125 °C) required is much lower than other existing titanium extraction

Source: Journal of The Electrochemical Society, *"Review—The Emerging Technologies for Producing Low-Cost Titanium"*, April 1, 2021. IPX press release discussing lower unit cost production and energy efficiency, September 2, 2025. Spruce Point red emphasis

# Conflicting HAMR Temperature Claims

**The journal also reports that the major disadvantages of HAMR are *"High temperature (700°C–800°C)"* and *"High energy consumption"*.** IPX recently claimed that the HAMR process is <700°C which is in stark contrast to the peer evaluation. IPX recently reported operational improvements which result in *"Superior energy efficiency, which delivers more than 50% energy savings compared to the traditional Kroll & ingot melting process."* Limited details were offered exactly how this step function change was achieved other than to a reference of *"Lower reagent intensity"*. IPX should provide greater detail.

## IperionX Showing (<700°C) Since August 2024

### A Step Change in the Titanium Supply Chain

| | Current Industry | IPERIONX |
|---|---|---|
| $TiO_2$ Reduction Process | Kroll ($Cl_2$ gas, 1,300°C) | HAMR (<700°C) |
| Titanium Refining | VAR (1,850°C) | |
| Titanium Forging | Traditional Hot Working (Open or close die forging + Rolling or Extrusion) | HSPT (Sintering process) |
| Semi-finished Products | Mill Products (Bars, Sheet, Wire etc.) | Near Net Shapes or Mill Products |
| High quality microstructure | Yes | Yes |
| Final part machining requirements | High | Low |
| Yield to final parts | 5-15% | 50-85% |
| Carbon emissions (Scope 1 & 2)[1] | High | Zero |
| Energy consumption | High | Low |

1. IperionX carbon emissions based upon use of renewable power

8

## Scientific Journal: HAMR At (700 - 800°C)

**Table V. (Continued).**

| Processes | Features | Advantages | Disadvantages | References |
|---|---|---|---|---|
| Low-temperature reduction using $MgH_2$ | $TiCl_4$ reduction to $TiH_2$ using $MgH_2$ under $H_2$ and then to Ti powder by dehydrogenation at 400 °C–500 °C. | Low-cost Ti powder, Low oxygen content Ti, Low energy consumption. | | Ardani et al. (2020)[95] |
| HAMR process | Two-step process: Mg reduction in $H_2$ followed by a deoxygenation step in $H_2$ at ~800 °C. | Low oxygen content in Ti (<0.15wt. %); Can produce Ti in the form of $TiH_2$ | High temperature (700 °C–800 °C), High energy consumption | Fang et al. (2016)[96] |

*Journal of The Electrochemical Society*, 2021 168 042502

Source: Journal of The Electrochemical Society, *"Review—The Emerging Technologies for Producing Low-Cost Titanium"*, April 1, 2021. IPX press release discussing lower unit cost production and energy efficiency, September 2, 2025. Canaccord Presentation (August 2024), Spruce Point red / blue emphasis.

SPRUCE POINT CAPITAL MANAGEMENT

# Conflicting Story About The Production Process Undermines Our Confidence In The Story….

The Company initially said in April 2023 it could scale without any changes in reagent parameters or cycle times for reduction. However, in September 2025 the Company says it made structured process improvements and optimization that involved lower reagent intensity and reduced production cycles times. **We are concerned because the Company never previously said there were any inefficiencies or barriers to scale. However, there are clues that challenges may exist such as an impairment of PP&E that is not adequately explained with a reason for the loss.**

## April 2023


*Figure 4: Simplified process flow diagram showing key process steps*

HAMR deoxygenation is the key technological process that is the foundation of the commercial scale-up at the TDF & TCF-1. No significant changes to key process parameters are required to scale from the current IPF output to the TDF & TCF-1 production capacity. This includes no changes in reagent parameters, cycle times for reduction (not including furnace dead cycle time, or heat up and cool down), nor changes to the critical dimensions for furnace operations (e.g., powder bed thickness). Due to the benefits of the low temperature reaction for the HAMR process, and the lack of highly toxic or corrosive chemical reagents, the selection of furnace construction materials was simplified (e.g., no requirement for high temperature alloys). These factors combine to mitigate technical process scale-up risks and costs.

## September 2025

**1. 2025 OPERATIONS: COMMERCIAL SCALABILITY VALIDATED BY HIGHER TITANIUM PRODUCTION CAPACITY AND LOWER UNIT COSTS**

IperionX has fully commissioned all critical systems at its titanium production facility in Virginia, demonstrating steady-state production of high-quality, low-cost titanium metal products directly from recycled titanium scrap, using IperionX's proprietary HAMR and HSPT technologies.

This milestone proves that our proprietary technologies can deliver a low-cost, fully integrated, circular titanium supply chain in the United States.

Structured process improvements and optimization has lifted nameplate titanium powder production capacity by 60% - from 125 tpa to 200 tpa - without additional capital spend. Higher throughput, lower reagent intensity and reduced production cycle times are expected to cut operating costs down to ~$55/kg. This step-change reduction is driven by:

- Economies of scale that reduce unit labor costs;
- Lower reagent intensity; and
- Superior energy efficiency, which delivers more than 50% energy savings compared to the traditional Kroll & ingot melting process.

## October 2025

*Other income and expenses*

For fiscal 2025, we had $0.9 million in grant income from the U.S. DoW for reimbursements for expenditures related to the Titan Project definitive feasibility study in conjunction with the IBAS agreement. See Note 1(aa) to our audited consolidated financial statements for fiscal 2025, included in this annual report. The grant income was offset by a loss of $0.3 million relating to certain property, plant and equipment. For fiscal 2024, we had other income of $0.6 million principally from a research contract which was offset by an impairment loss of $0.2 million relating to certain plant and equipment.

Source: IPX press releases 2023 and 2025 and 2025 20-F

# Capacity for Phase II Lowered With Costs Rising

IPX has shifted the narrative from Phase II being spherical or angular powder to now just angular powder. They have also reduced the capacity estimate from 2,000 to 1,400 tpa at slightly higher capex cost. This could signal reduced or more narrow customer demand then originally anticipated. One industry source says that *"Spherical Metal Powders are the future of additive manufacturing"* and *"the holy grail"*.

## Feb 2024
## 2,000 (Angular) 1,125 (Spherical) tpa @ ~$70M

**APPENDIX II: MATERIAL ASSUMPTIONS**

Assumptions including development capital expenditure, operating costs and pricing for spherical and angular powder production, production capacity for 100% spherical and 100% angular powder production at the Titanium Production Facility is shown in the table below. Assumptions for material, labor and equipment utilisation remain as per the April 27, 2023 announcement.

| Item | Material Estimates | |
|---|---|---|
| | 100% Spherical Powder | 100% Angular Powder |
| Annual Capacity | 1,125 tpa | 2,000 tpa |
| Development Capex | ~US$70 million | ~US$70 million |
| Operating Costs | US$42/kg (US$42,000 / t) | US$30/kg (US$30,000 / t) |

## 2024 20-F
## 2,000 tpa (Angular) @ ~$70M

The TPF is expected to have an initial Phase I production capacity of 125 tons per annum ("tpa") of titanium powder at full capacity. Phase I of the TPF is expected to be commissioned by the end of the 2024 calendar year.

During fiscal 2024, the U.S. DoD contracted to award the Company US$12.7 million in funding under the DPA Title III authorities. This funding is being applied towards the TPF to reach its initial Phase I production capacity of 125 tpa. Title to all assets purchased by IperionX with funds from the U.S. government vest with the U.S. government during the term of the technology investment agreement. At the end of the agreement, title may be transferred back to the Company subject to certain conditions.

We then plan to expand the capacity of the TPF by adding modular HAMR furnaces. The TPF is expected to have a Phase II production capacity of 2,000 tpa of angular titanium powder at Phase II capacity. We estimate the additional capital costs to expand the TPF to reach Phase II capacity to be approximately US$70 million. This will require additional funds, which may require future debt or equity financings.

We retain optionality to expand the capacity of the TPF to above 2,000 tpa of angular titanium powder, with the aim of being a leading U.S. titanium producer of approximately 10,000 metric tons per annum by 2030. Comprehensive engineering, commercial, and financial studies are underway to review potential product mix, production scale, and associated capital and operational expenditures at higher production levels. If we ultimately decide to expand the capacity of the TPF to above 2,000 tpa, this will require additional funds, which may require future debt or equity financings.

## September 2025 Update
## 1,400 tpa (Angular) @ $75.1M(1)

**Appendix B: Material Assumptions and Cautionary Statements**

*1,400 tpa – "Phase 2"*

Engineering and design work relating to the production capacities referred to in this announcement has been undertaken to determine the potential viability of the Company's proposed Phase 2 facility to produce titanium metal products. The results should not be considered a profit forecast or a production forecast.

The Phase 2 capacity estimates are based on the material assumptions outlined below and elsewhere in this announcement. These include assumptions about the availability of funding. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Phase 2 projections will be achieved.

Estimates for capital and operating costs are subject to a variety of potential variances including, but not limited to, price of labor, price of consumables, foreign exchange impacts, and raw material prices.

To achieve the Phase 2 capacity estimates, funding in the order of $73 million will likely be required, which may be sourced from existing cash balance and government grants, including the Department of Defense IBAS and SBIR Phase III programs.

The Phase 2 capacity estimates are based on the material assumptions outlined below and elsewhere in this announcement. These include assumptions about the availability of funding. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Phase 2 projections will be achieved.

| Item | 1,400 tpa |
|---|---|
| Annual capacity (cumulative) | 1,400 tpa total |
| Procurement start date | Q3 2025 |
| Operational commissioning | Q2 2027 |
| Full capacity utilization | Q1-Q2 2028 |
| Pricing range (low, excl. complex products) | $130 / kg |
| Pricing range (high, excl. complex products) | $400 / kg |
| Proportion of titanium powder sold as near net shape / finished products | Up to 95% |

1) 20-F references it being angular

Source: FY 2024 20-F, IPX press releases(Sept 2025, Feb 2024, April 2023), Phoenix Scientific Industries blog on spherical.

SPRUCE POINT CAPITAL MANAGEMENT

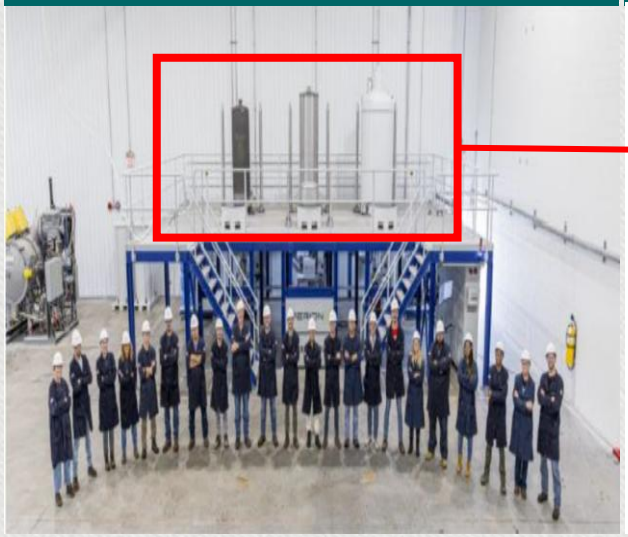
# The Evolving Depiction Of The HAMR Furnace

**Jan 16, 2024: *"Breakthrough Large Scale Test Runs of the HAMR Process"* (a)**


**April 26, 2024: *"Successful Installation"* (b)**

**August 14, 2024: *"First Successful Run"* (c)**


**August 2024 – Feb 2025 (d)**



**January 28, 2025 (e)**

*Figure 1 (clockwise from top left): Titanium scrap; Finished titanium metal powder; IperionX metal production team with a drum of finished titanium metal powder in front of the HAMR furnace at the Titanium Production Facility.*

**Annual Report, Sept 30, 2025 (f)**


Sources: (a) Shareholder Letter (Jan 2024), (b) *"IperionX HAMR Furnace Installation Complete"*, Press Release, April 2024, (c) *"IperionX Achieves Major Milestone With First Successful Titanium Furnace Production Run"*, press release, Aug 2024, (d) Sept Quarterly Report (Oct 2024) Shareholder Letter (Feb 2025), (e) Dec 2024 Quarterly Report (Jan 2025), (f) 2025 Annual Report

SPRUCE POINT CAPITAL MANAGEMENT

# We Question Furnace Capital Costs

IPX claims that a furnace costs in the range of $2.7 - $5.0 million. However, IPX's import records suggest a furnace system is in the $369,000 to $405,000 range. Is the difference explainable by significant service costs to put the furnace into operation? IPX also took a PP&E impairment, and we find PP&E and capex discrepancies. Is the charge related to a faulty furnace? The manufacturer's website even says that going from small-scale lab to large-scale production can be challenging for metal powders.

| | |
|---|---|
| **Sept 2022** | *"**The primary direct equipment costs include deoxygenation furnaces, with the deoxygenation cost area making up US$3.2 million of the direct costs**. Other major cost areas are spray drying, including the purchase of a new spray dryer, as well as crushing, milling, leaching, drying and final processing. **An additional deoxygenation furnace is planned to be purchased and installed in year 2 of the Titanium Demonstration Facility operations for ~US$3.2 million to allow for the full 125tpa capacity** to be met for spherical powder production."* |
| **April 2023** | *"The Electron bell-style furnace provides for a significant reduction in the production cycle time over existing operations at the IPF, and this is expected to reduce the cycle time for a HAMR production run from a one-week production turnaround to less than half a day at the TDF and TCF-1. Importantly, the production batch size is significantly increased to over 400 kg per run for the TDF and 1,300 kg per run for the TCF-1 versus just 50 kg per production run for the IPF. **The TDF furnace has a cost of ~US$2.7 million, with only one furnace required for the TDF's designed capacity. The larger TCF-1 furnace is forecast to cost ~US$5 million per furnace before contingency, with only two furnaces required for each 1,000 tpa module**."* |

**IperionX and IperionX Technology LLC U.S. Import Records**

| Bill of Lading Number | Date | Origin | Weight (Kg) | Value of Goods US$ | Goods Shipped |
|---|---|---|---|---|---|
| EGLV520400059166 | April 24, 2024 | Netherlands | 15,000 | $369,000 | Machinery Furnace and 1 retort |
| ACLUSA01010264 | March 21, 2024 | Netherlands | 2,200 | $31,300 | Containing Furnace and 1 Retort |
| ACLUSA01011083 | March 21, 2024 | Netherlands | 19,700 | $405,000 | Furnace System for Debinding Sintering Titanium Powders |
| | | | **36,900** | **$805,300** | |

Source: IPX press releases: Sept 2022 and April 2023 with Spruce Point yellow emphasis. Panjiva import records. Electron-Etg.com

SPRUCE POINT CAPITAL MANAGEMENT

# *Unexplained -45% Headcount Reduction Requirement Despite Expanded Product Offering Claims….*

**When selecting its Virginia location in September 2022, the headline stated that 108 new jobs would be created over the three-year development period. However, by March 2025, COO Sparks stated in a county meeting that the planned number of employees after the expansion would be around 60.**[1] Perhaps the original figure was exaggerated, or the March 2025 figure was expected to ramp up, but a 45% headcount reduction appears difficult to reconcile given that IPX has not changed its goal to increase long-term capacity to +10,000 tpa. Further, he now claims its goal is to produce not just powders for 3-D printing, but also parts. IPX should clarify how exactly it models vast labor savings with a broader product set.

## Sept 2022: 108 New Jobs Over Three Year Phase 1 and 2 Development Period

**For Immediate Release:** September 27, 2022
**Contacts:** Office of the Governor:Peter Finocchio, Peter.finocchio@governor.virginia.gov

### IperionX Selects Virginia for first U.S. 100% Recycled Titanium Metal Powder Facility

**RICHMOND, VA —** Governor Glenn Youngkin today announced that IperionX Limited ("IperionX") (NASDAQ: IPX), a U.S. critical minerals company, plans to make a capital investment totaling $82.1 million to establish Virginia's first titanium demonstration facility in Halifax County. The company's project will develop over two phases, with phase one consisting of a $12.5 million investment in building construction and production-related machinery and tools, and a further $69.6 million investment anticipated under a Phase 2 expansion within three years of the initial development.

The company will initially occupy the 50,000-square-foot Halifax Shell Building in the Southern Virginia Technology Park and plans to expand the facility to 100,000 square feet in the coming years. IperionX intends to source 100% renewable energy to produce 100% recycled titanium to supply advanced industries including automotive, defense, aerospace, electric vehicles, and 3D printing. IperionX plans to develop the titanium demonstration facility as a showcase for the intersection of titanium powder production with additive manufacturing and other powder metallurgy applications. Virginia successfully competed with North Carolina, South Carolina, and West Virginia for the project, which will create 108 new jobs over the three-year Phase 1 and Phase 2 development period.

"We are thrilled to welcome IperionX to the Commonwealth. The new Halifax County operation will represent the first titanium metal powder facility in the U.S. using 100% recycled titanium scrap as feedstock, putting Virginia on the map for providing a critical material that is essential for our advanced industries," **said Governor Glenn Youngkin.** "We look forward to supporting this forward-thinking company that will develop a new supply chain of titanium right here in the Commonwealth while creating high-quality jobs."

## March 2025: County Meeting Now References The Need For Approximately 60 Employees

Mr. Sparks said he had received a concern from a citizen regarding runoff oil into the creeks from scrap materials being dumped on the ground. He stated he explained to the citizen that all of the scrap materials go through a processor in Hartford, Connecticut. The processor washes all of the materials, removes all contaminants, and seals materials in a 55-gallon drum. He also explained to the citizen that IperionX will not dump scrap metal on the ground and invited him to tour the facility. Supervisor Smart wanted to know where the processor company is located and if they grind the materials down. Mr. Sparks responded that the processor they source is ELG Utica located in Hartford Connecticut. He explained that the processor grinds the materials down to a reasonable size but IperionX has to grind the materials down to five microns, which is about one-fifth the size of a human hair, for their process.

Supervisor McDowell wanted to know if IperionX employs upward of sixty staff. Mr. Sparks responded that is the planned number of employees needed after the expansion.

IDA Chairman Clark thanked Mr. Sparks for the work IperionX is doing by supporting the community by donating to different organizations.

Supervisor Witt wanted to know if IperionX is shipping out products. Mr. Sparks explained IperionX is currently shipping test products for people to evaluate. He explained IperionX first plan was to make powder for 3-D printers but currently is focusing on making powder and parts. Mr. Sparks said the expansion will allow IperionX to make powder and parts which will allow IperionX to offer powder jobs and manufacturing jobs. He noted IperionX is making lug nuts and knobs for dashes

Halifax County Board of Supervisors
Halifax County Industrial Development Authority
Joint Meeting – March 18, 2025

**Initially just powders for 3-D printers to now powders and parts with 45% less headcount?**

1) See slide showing IPX conflicting claims to be already at 70 employees. We found no employees in Charlotte and assume the majority to be in Virginia.
Source: IperionX Selects Viriginia Announcement and Halifax County Board meeting. IPX to deliver larger scale and lowest unit-cost production, Sept 2, 2025 press release.
10,000 tpa goal withing 5yrs in March 2022 Investor Presentation.

# Potential Customer Pipeline Appears To Have Been Reduced By 50%

It sounds as if IPX's potential customer funnel has been dramatically reduced. After indicating that 200 potential customers had signed NDAs in October 2024, IPX said customer activities accelerated by June 2024. IPX now says it counts ~100 active potential customer programs which suggests that at least 50% of the potential customer pool may have already declined interest.

## Quarterly Report: September 2024, Filed October 21, 2024

**CUSTOMER AND PRODUCT DEVELOPMENT**

IperionX has a large pipeline of potential customers, with over 200 potential customer non-disclosure agreements executed relating to sales agreements across a range of sectors including consumer electronics, automotive, green hydrogen, luxury good, aerospace and defense. A number of these discussions have the potential to convert to sales contracts as production ramps up in Virginia, with increased production and availability of titanium products.

## Quarterly Report: June 30, 2025

***Strong momentum across commercial and strategic customer partnerships***

Customer activities accelerated during the quarter with increasing engagement across automotive, defense and aerospace, with a range of customers completing inspection and pre-qualification visits to the Titanium Manufacturing Campus.

## Annual Report: September 30, 2025

~$70m

equity placements completed

Commercial traction and a growing titanium product range

Our titanium product roadmap targets fasteners, brackets, gears and actuators, and electronics enclosures – these are high 'buy-to-fly' titanium parts where our near-net-shape technologies and economics could unlock +80% cost reductions versus legacy titanium manufacturing routes.

Customer engagement accelerated over the year. We now count ~100 active potential customer programs and significantly progressed high-potential commercial opportunities across the luxury, consumer electronics and defense sectors. We signed a large supply contract with Ford for titanium powder and manufactured components.

Source: Q1 and Q4 Quarterly Report, Annual Report, Red underline Spruce Point

# Another Recent Indicator Suggests More Limited Active Customer Engagement

Recall on the previous slide that in the September 2024 quarter, IPX said it counted ~100 active potential customer programs but now it is showing just 22 active engagements across four sectors.

**September 2025 Quarterly Report, Filed October 29, 2025**

New products continue to be established opening a range of other verticals, such as brackets, cases and housings for a range of applications including aerospace.

| Sector | Active engagements | Potential product lines |
|---|---|---|
| Consumer electronics and consumer goods | 7 | 9 |
| Aerospace & defense | 7 | 7 |
| Fasteners | 7 | 4 |
| Automotive | 1 | 5 |

***Table 1: Summary of current advanced commercial engagements and potential product lines***

**Only 22 active commercial engagements**

Source: Q1 2026 Quarterly Report and Spruce Point red emphasis

# IPX Appears To Have No Inventory And That Revenues From Ford Are Not Imminent

IPX has no raw materials, in process, or finished goods inventory on the balance sheet at June 30, 2025 and reported no cash flows from operating activities related to production, development or inventory purchases through September 30th. IPX recently said it commenced processing consumer-electronic scrap and production of fasteners. However, in our opinion if there is no titanium scrap or ore inventory, then near-term sales are unlikely unless scrap was acquired after the quarter or it was a small amount consumed and not on the balance sheet. Moreover, it does not appear that these activities relate to IPX's promoted Ford contract which described metal components and not fasteners.

| | |
|---|---|
| **June Report (7/23/2025)** | *"Consumer–electronics scrap processing commenced, validating circular supply chain from recycled titanium feedstock to manufactured forged titanium, parts, as announced in collaboration with ELG Utica on July 3, 2024."* |
| **Sept Report (10/30/25)** | *"Consumer-electronics scrap processing has commenced, using scrap supplied by the consumer electronics OEM, with IperionX by now producing a range of consumer electronic components as specified in the customer contract."*<br><br>*"Production of various fasteners has commenced with IperionX receiving initial purchase orders for the delivery of a range of fastener products into applications for the U.S. military and commercial and industrial markets."* |

## June 30, 2025
## Balance Sheet Shows No Inventory

### Consolidated Statement of Financial Position

At June 30, 2025

| | Notes | 2025 US$ | 2024 US$ |
|---|---|---|---|
| ASSETS | | | |
| **Current Assets** | | | |
| Cash and cash equivalents | 5 | 54,814,125 | 33,157,356 |
| Trade and other receivables | 6 | 823,268 | 2,302,010 |
| Prepayments | 7 | 3,238,894 | 6,071,735 |
| Inventories | | – | 16,920 |
| Total Current Assets | | 58,876,287 | 41,548,021 |

## Sept 30, 2025
## No Production or Development Cash Flows

84 618 935 372 | September 30, 2025

| Consolidated statement of cash flows | | Current quarter USD$'000 | Year to date (3 months) USD$'000 |
|---|---|---|---|
| 1. | **Cash flows from operating activities** | | |
| 1.1 | Receipts from customers | 1 | 1 |
| 1.2 | Payments for | | |
| | (a) exploration & evaluation | (1,214) | (1,214) |
| | (b) development | - | - |
| | (c) production | - | - |
| | (d) staff costs | (3,645) | (3,645) |
| | (e) administration and corporate costs | (2,123) | (2,123) |
| 1.3 | Dividends received | - | - |
| 1.4 | Interest received | 648 | 648 |
| 1.5 | Interest and other costs of finance paid | (99) | (99) |
| 1.6 | Income taxes paid | (13) | (13) |
| 1.7 | Government grants and tax incentives | 774 | 774 |
| 1.8 | Other (provide details if material): | | |
| | (a) research & development | (2,077) | (2,077) |
| | (b) business development | (72) | (72) |
| 1.9 | **Net cash from / (used in) operating activities** | (7,820) | (7,820) |

Source: FY 2025 Annual Report and Quarterly Report (June 2025, Sept 2025). Ford Contract Announcement.

# Expert Interview I: Industry Executive In Metal Additives

Spruce Point interviewed an industry executive and prospective customer who had experience evaluating IPX's business, products and markets.

## Selected Quotes And Opinions

*"Again, there's also large companies looking into this from what I can tell the competency, and maybe now moving a little bit towards the company, the competency to scale such a process at IperionX is something I would, at least in my previous roles as a potential partner or customer for this, I would've been somewhat skeptical of with the information that I had. So that is to be proven.* ***And again, this story has been around for quite a while, that hasn't really materialized.****"*

*"This process that they have proposed.* ***Again, it sounds very good, maybe too good to be true and it has to be proven****. My interaction with the team has, or from my interaction with the team, I also, let's just say I didn't gain any additional confidence from my experience, it's been quite hard, even as a potential customer with significant volumes in this space and significant technical competence. It has by my experience, been very hard to get a reach, get a response, or have an in-depth discussion that may have changed. The management may be different now, but that's my experience from a few years ago at least."*

*"****So the interaction that I had suggested that the (additive powder) market wouldn't be big enough for it to economically make sense to them****. I mean, this may have changed, but my thinking is that the competition, should this competitor choose to go forward, and my latest information is that they do plan on doing this, but these kind of plans can change of course, especially with the growth numbers that we've seen in additive falling significantly behind expectations. But if this competitor did enter the market, I'm pretty sure it would be very hard to compete with them."*

Source: Spruce Point research interview. See disclaimers related to experts. Red emphasis of quotes from Spruce Point.

SPRUCE POINT CAPITAL MANAGEMENT

# Expert Interview II: Industry Executive In Metals And Alloy Recycling

Spruce Point interviewed an industry executive who has experience evaluating the Company's business, products, and markets.

## Selected Quotes And Opinions

*"Look, in the end, I think the biggest risk is the technology, whether that will function or not, and whether they're able to scale the technology at a very competitive cost. And now you have to think about, right,* ***I've told you there is already over melting, over capacity in the market****. So out of the roughly 200,000 plus metric tons that are being consumed, the melt capacity is, and the U.S. melt has just have added capacity. The melt capacity is beyond 300,000 metric tons.* ***So you already have an excess capacity in a market****. If you ask me personally from an investing, investing in a market that has over capacity, you'd really have to pick your company that really stands out.* ***So from my personal opinion, IperionX, where right now, and I think this is what they're good at, they're good at marketing. Personally, I believe, to me it's more a marketing story right now. And that's why I say the risk is will they get their operations and be able to scale****. It if that, yes, it can be, but I don't really know their internal cost base and also the scalability to get up to 10,000 in a market that has very large established players. TIMET is building a new plant, that is public information and probably adding anywhere between 10 and 15 thousand tons of melt capacity. So they know what they're doing. And even for them, even though they know what they're doing and it's an already established technology, as these are large industrial projects, it is hard to scale. So I think with IperionX from an investment perspective also is how can they to secure funding going forward because obviously they have costs and the revenue side, the revenue side is not there. I think these are the risks. So right now I would say it's a very speculative investment and from portfolio theory, you basically know what to do."*

Source: Spruce Point research interview. See disclaimers related to experts. Red emphasis of quotes from Spruce Point.

# Expert Interview III: Materials Science Expert

Spruce Point interviewed a materials science expert who opined on the HAMR process and titanium product end markets.

## Selected Quotes And Opinions

*"**The HAMR process has a bit more steps, which is something that is never, from a material process perspective, more steps is never great**."*

*"**I think the headline here is that there's three and a half times more capacity than sales for six four powder**. And a lot of that was because several companies made investments into six four powder production just before COVID."*

*"**And so fasteners to us are a terrible place to start because fasteners are a structural engineer's last resort to ensure structural integrity**. That's how we know that things are going to be held together. And the thought of using powder to make fasteners, I think someone else said it would strike fear in the heart of a chief engineer. So we're coming from the aerospace world, but then the aerospace world is the largest consumer of fasteners. I think the other problem, not a problem, it is what it is. Small fasteners range from 30 cents. You can get to the large fasteners that might go for $20 a piece, but I think at the end of the day you are talking best case, $20 a piece. That's a lot of fasteners."*

*"This is dominated by large players that have consolidated over the years. Alcoa alone has acquired several of those companies, and if you go out to that facility and outside of Los Angeles, you'll walk in and see a hundred sort of Swiss mills consuming miles and miles of wire to make fasteners by the minute. And that's just made from a rock product. So at the end of the day, you still have to thread, so put threads onto the fastener that's done through the Swiss mill, and you have to produce a certain grain structure in the head because that's ultimately what's holding the load together. **So I would never, as a former engineer, I would never try to launch a company saying, I'm going to come out with new fasteners from a technical standpoint**. Now if they're planning on breaking into a market that maybe isn't aerospace dominated, there could be something to that. But I think you guys are asking the right question."*

Source: Spruce Point research interview. See disclaimers related to experts. Red emphasis of quotes from Spruce Point.

SPRUCE POINT CAPITAL MANAGEMENT

# Key Technology, Patent And Geology Executives Reduced Or Sold Their Entire IPX Equity Holdings

Dr. Fang (Blacksand founder and technology inventor), Raymond Nimrod (IperionX's technology and patent portfolio advisor) and Lamont Leatherman (former Chief Geologist) either completely sold or materially reduced their stock holdings between August 31, 2024 and 2025. Dr. Fang's Blacksand Technology received 3.0 million shares in lieu of cash option payments totaling $2.0 million on January 30, 2024. Of course, there could be reasons outside of their view of IPX's prospects why they sold.

## August 31, 2024

### 1. TWENTY LARGEST HOLDERS OF LISTED SECURITIES

The names of the twenty largest holders of listed securities are listed below:

| Name | No. of Ordinary Shares Held | Percentage of Issued Shares |
|---|---|---|
| HSBC Custody Nominees (Australia) Limited | 89,239,654 | 34.20 |
| HSBC Custody Nominees (Australia) Limited – A/C 2 | 17,019,727 | 6.52 |
| BNP Paribas Nominees Pty Ltd <Clearstream> | 13,407,898 | 5.14 |
| J P Morgan Nominees Australia Pty Limited | 11,209,425 | 4.30 |
| Citicorp Nominees Pty Limited | 11,025,941 | 4.23 |
| BNP Paribas Noms Pty Ltd | 5,835,549 | 2.24 |
| Arredo Pty Ltd | 5,675,000 | 2.17 |
| BNP Paribas Nominees Pty Ltd <IB Au Noms Retailclient> | 5,474,724 | 2.10 |
| UBS Nominees Pty Ltd | 3,224,292 | 1.24 |
| M D H Pty Ltd | 3,005,000 | 1.15 |
| BNP Paribas Nominees Pty Ltd <Hub24 Custodial Serv Ltd> | 2,998,705 | 1.15 |
| DITM Holdings Pty Limited <DITM Family A/C> | 2,649,532 | 1.02 |
| Mr Lamont Edwin Leatherman | 2,353,500 | 0.90 |
| Mr Zhigang Zak Fang | 2,254,622 | 0.86 |
| Mr Raymond Neville Nimrod <Hudson Koi A/C> | 2,164,664 | 0.83 |
| Mr James Fisher McDonald | 2,115,000 | 0.81 |
| HSBC Custody Nominees (Australia) Limited <GSCO Customers A/C> | 2,000,000 | 0.77 |
| Verve Investments Pty Ltd | 2,000,000 | 0.77 |
| Moshos Family Investments Pty Ltd <Moshos Family A/C> | 2,000,000 | 0.77 |
| Peter Croke Holdings Pty Ltd | 1,900,000 | 0.73 |
| **Total top 20 holders** | **187,553,233** | **71.87** |
| Other holders | 73,418,156 | 28.13 |
| **Total issued capital** | **260,971,389** | **100.00** |

## August 31, 2025

### 1. Twenty Largest Holders of Listed Securities

The names of the twenty largest holders of listed securities are listed below:

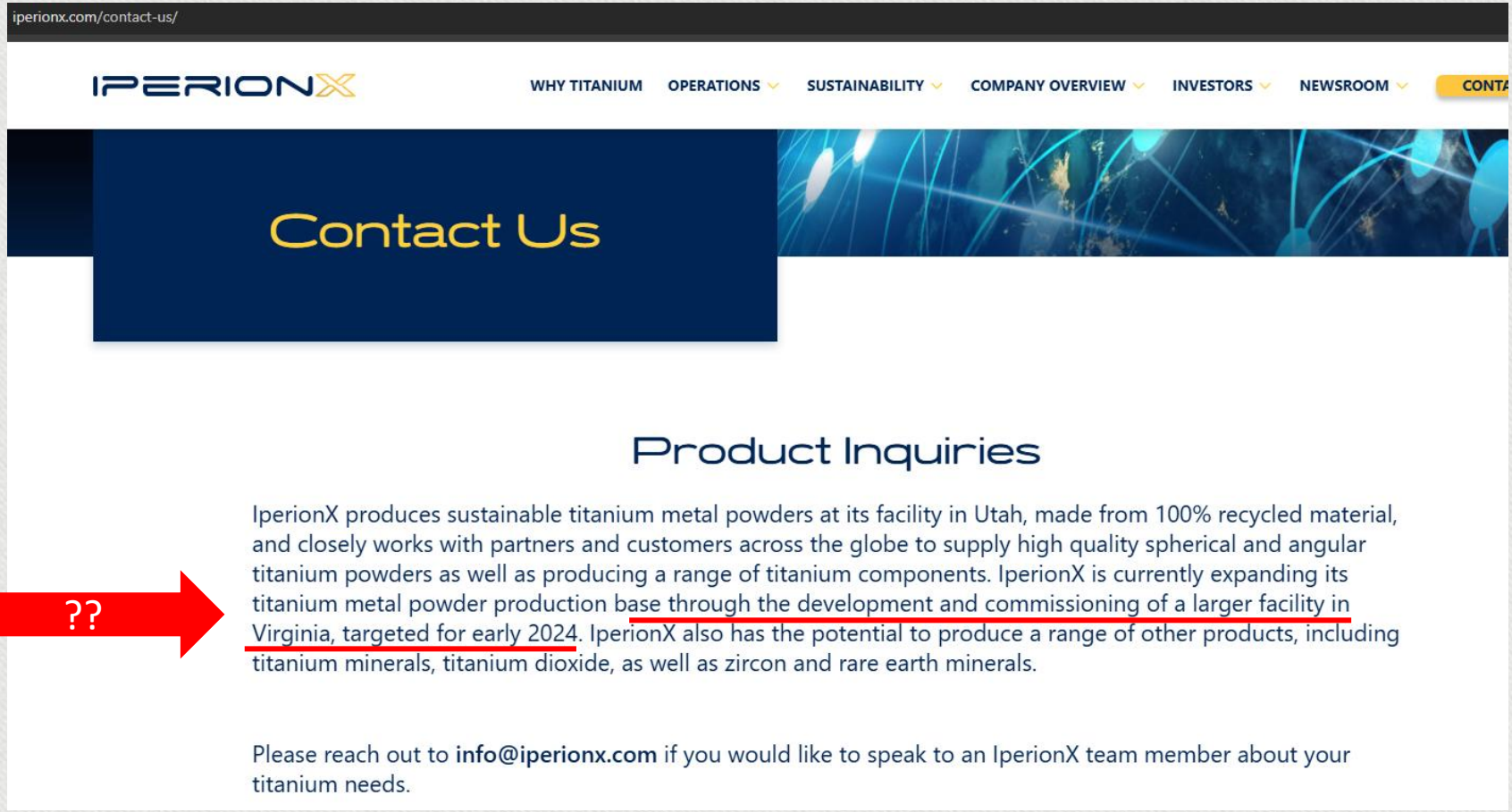
| Name | No. of ordinary shares held | Percentage of issued shares |
|---|---|---|
| HSBC Custody Nominees (Australia) Limited | 135,071,996 | 40.5% |
| Citicorp Nominees Pty Limited | 28,229,102 | 8.5% |
| J P Morgan Nominees Australia Pty Limited | 19,703,207 | 5.9% |
| BNP Paribas Nominees Pty Ltd <Clearstream> | 12,182,603 | 3.6% |
| BNP Paribas Noms Pty Ltd | 8,956,613 | 2.7% |
| UBS Nominees Pty Ltd | 6,026,633 | 1.8% |
| Arredo Pty Ltd | 4,650,001 | 1.4% |
| Mr James Fisher McDonald | 4,002,144 | 1.2% |
| BNP Paribas Nominees Pty Ltd <IB Au Noms Retailclient> | 3,941,330 | 1.2% |
| UBS Nominees Pty Ltd | 3,891,429 | 1.2% |
| M D H Pty Ltd | 3,469,000 | 1.0% |
| Verve Investments Pty Ltd | 3,300,000 | 1.0% |
| DITM Holdings Pty Limited <DITM Family A/C> | 3,260,282 | 1.0% |
| HSBC Custody Nominees (Australia) Limited <GSCO Customer A/C> | 3,194,232 | 1.0% |
| BNP Paribas Nominees Pty Ltd <HUB24 Custodial Serv Ltd> | 2,942,465 | 0.9% |
| Mr Dominic Paul Allen <Westoz Services A/C> | 2,677,501 | 0.8% |
| Moshos Family Investments Pty Ltd <Moshos Family A/C> | 2,625,001 | 0.8% |
| Ecapital Nominees Pty Limited <Accumulation A/C> | 1,944,282 | 0.6% |
| Peter Croke Holdings Pty Ltd | 1,900,000 | 0.6% |
| Halibery Hotels Pty Ltd | 1,745,000 | 0.5% |
| **Total top 20 holders** | **253,712,821** | **76.0%** |
| Other holders | 80,206,803 | 24.0% |
| **Total issued capital** | **333,919,624** | **100.0%** |

**Fang?**
**Leatherman?**
**Nimrod?**

Source: 2024 and 2025 Annual Report

# Any Need To Update The Contact Us Page About Product Inquiries?

IPX's Contact Us and Product Inquires page has not been updated for a while, and perhaps no potential customers have pointed out the glaring issue that it still references commissioning of a larger facility "targeted for early 2024"; 2026 is less than two months away.

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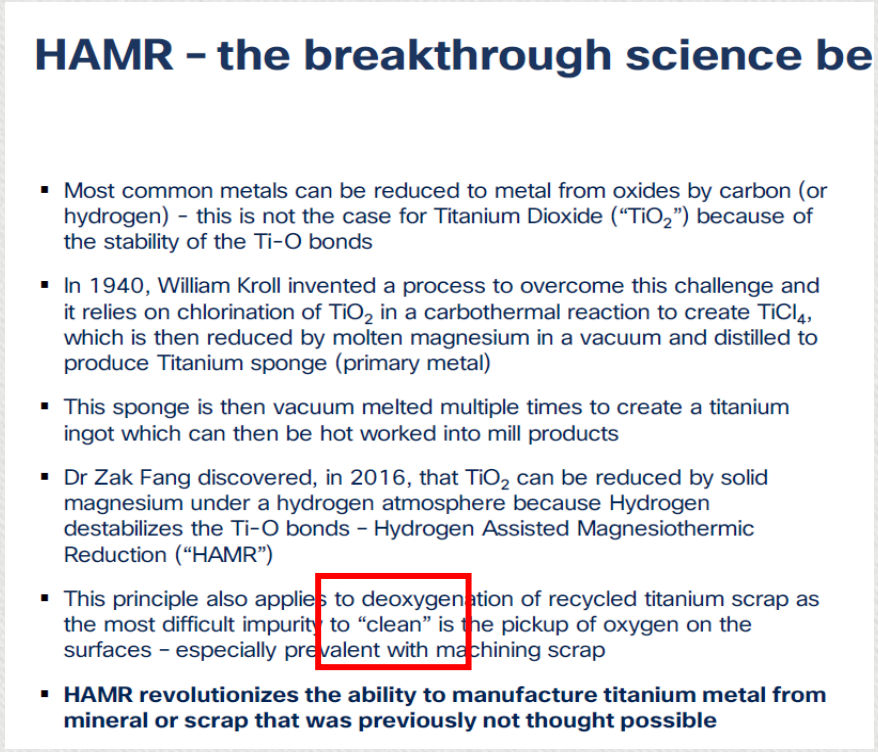
Source: Contact page

# *We Have Specific Concerns Related To Titanium Scrap Feedstock To Scale*

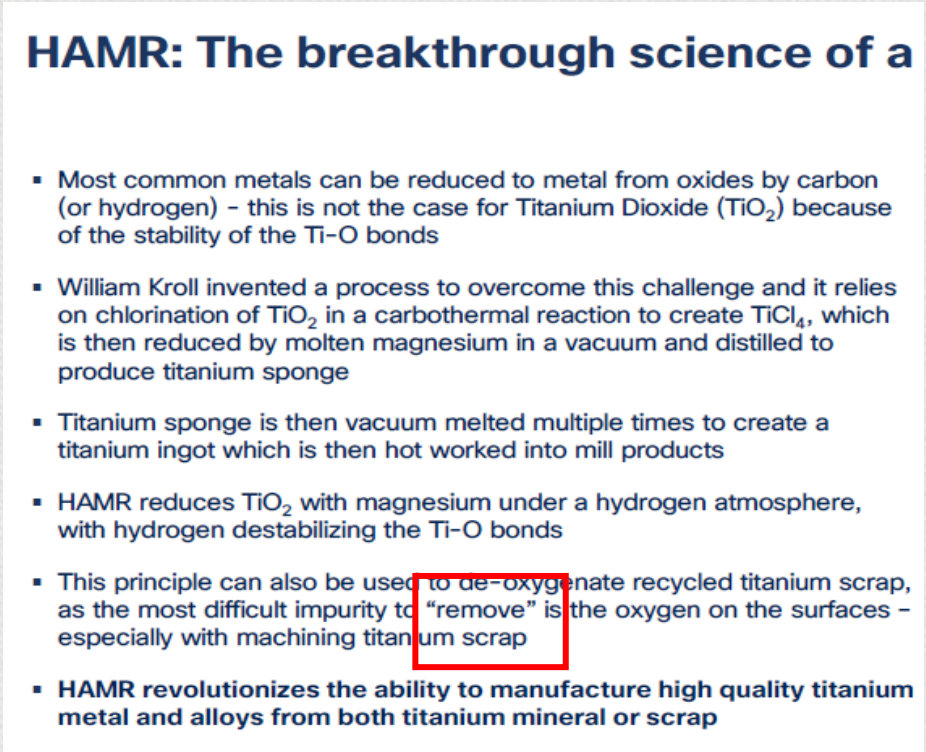
# The Complexity of Using Scrap In The HAMR Process

**There appear to be challenges of dealing with oxygen when using titanium scrap for feedstock. We noticed the Company initially suggested that oxygen impurities were to be "cleaned" but has now changed it to "removed".**
A recent scientific analysis by researchers in China succinctly says, "*However, the key challenge facing titanium alloy recycling is the removal of oxygen due to the strong affinity between titanium and oxygen. Therefore, the critical aspect in recycling titanium alloy scrap is the effective removal of oxygen. The current titanium alloy scrap recycling methods, which are effective to varying degrees, have notable limitations.*" The language implies that IPX may have challenges with its scrap feedstock.

**March 2023: "Clean"**
**(Last appeared in Feb 2024 presentation)**




**July 2025: "Remove"**




Source: *"Environmentally Friendly and Simple Recycling of Titanium Alloy Scrap via Deoxygenation with Hybrid Hydrogen Plasma Arc",* Advanced Science, January 21, 2025. IPX Investor Presentations.

SPRUCE POINT CAPITAL MANAGEMENT

# *It Is Difficult To Evaluate Costs When Projections Are Not Standardized*

We believe that IPX has not provided a standardized schedule of operating costs across time periods. We are particularly concerned that IPX no longer provides the "tolling services" and "feedstock" detail. This makes it difficult to evaluate the process. Through July 2023, IPX disclosed that it had entered a "*long-term titanium scrap supply and tolling agreement with a major titanium scrap processor.*" If this still holds true, IPX should be able to provide more granular cost detail. We also think more disclosure is necessary about the large recent decline in "G&A and waste disposal".

| Operating Cost Projection Disclosures | | | | | |
|---|---|---|---|---|---|
| **Date:** | **Sept 28, 2022** | | **April 27, 2023** | | **Sept 2, 2025** |
| **Product:** | **Spherical or Angular** | | **100% Spherical** | **Spherical or Angular** | **100% Angular** |
| **Phase:** | **TDF 125 tpa Annual Cost $mm** | **TDF 125 tpa US$/kg** | **TDF 125 tpa US$/kg** | **TCF-1, 1,125 tpa US$/kg** | **1,400 tpa US$/kg** |
| Operating Labor | $4.4 | $35.3 | $28.8 | $7.9 | $6.6 |
| Tolling Services (1) | $4.1 | $32.9 | **??** | **??** | **??** |
| Feedstock (Ti Scrap) | $1.5 | $12.4 | **??** | **??** | **??** |
| Chemicals & Reagents | $0.8 | $6.6 | -- | -- | -- |
| Materials and Reagents | -- | -- | -- | -- | $14.7 |
| Materials and Consumables | -- | -- | $17.7 | $17.6 | |
| Power & Utilities | $0.5 | $3.8 | -- | -- | $3.0 |
| Other | $1.8 | $14.6 | $3.8 | $3.8 | -- |
| Maintenance | -- | -- | $4.9 | $2.1 | -- |
| Repairs & Maintenance | -- | -- | -- | -- | $1.4 |
| G&A and Waste Disposal | -- | -- | $16.1 | $10.3 | **??** |
| G&A | -- | -- | -- | -- | $1.9 |
| Contingency (2) | $1.8 | $14.4 | -- | -- | $1.4 |
| **Total Operating Costs** | **$15.0** | **$120.0** | **$71.4** | **$41.8** | **$29.0** |

Note: May not sum due to rounding. TDF=Titanium Demonstration Facility, TCF-1=Titanium Commercial Facility

1) IPX last disclosed in July 2023, *"To facilitate such commercialization, IperionX has entered into a conditional agreement to negotiate a large, long-term titanium scrap supply and tolling agreement with a major titanium scrap processer."* IPX also said there was an opportunity to in-house tolling services at a $3m estimated cost but has not said it chose to do so.

2) Contingency is 12% (2022) and 5% (2025)

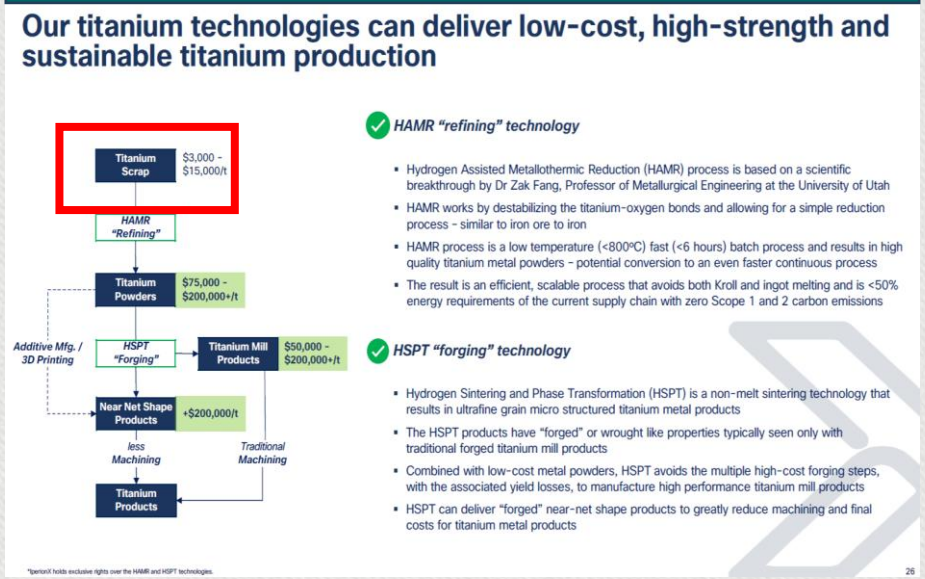
Source: Sept 2022, April 2023, Sept 2025

# Where Will IPX Get Titanium Scrap From, And At What Price?

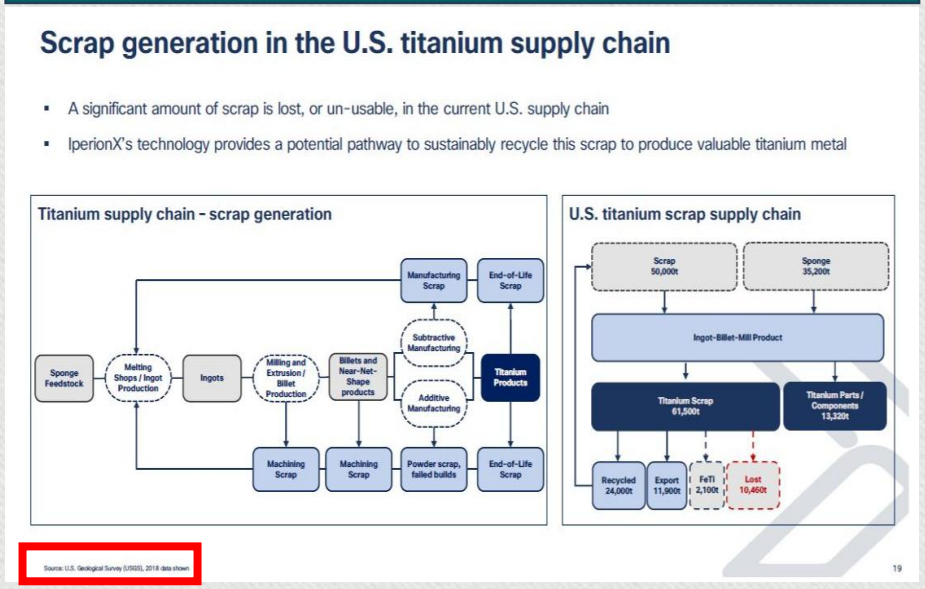
IPX is committed to producing titanium products using titanium scrap as the feedstock. However, we see two major challenges: 1) Where will all the scrap come from, and 2) At what price will it be purchased? IPX stopped showing a slide in 2023 outlining the U.S. titanium scrap supply chain and sourced 2018 U.S. Geological Survey (USGS) data (see next slide). IPX also last referenced a range of $3K - $15K per ton which introduces material price risk, likely dependent on grades and market conditions, but certainly a range wide enough to make planning unit economics difficult. IPX has referenced one supply agreement with Héroux-Devtek, a small-scale Canadian aerospace company with ~$510m of revenues to supply Ti-6Al-4V alloy scrap metal generated from landing gear manufacturing. However, Héroux-Devtek was recently acquired by Platinum Equity.

## Where From, And At What Price, Will IPX Acquire Critical Titanium Scrap For Its Production Process?

### Titanium Scrap Is The Input With A Wide Price Range Listed of $3 - $15k per ton




### Slide of U.S. Scrap Supply Chain Last Shown In April 2023 With 2018 Source Data




Source: Investor Presentation, April 2023, *"IperionX and Heroux-Devtek Partner for Aerospace Titanium Recycling"*, press release, September 6, 2023, *"Platinum Equity Completes Acquisition of Heroux-Devtek"*, press release, Feb 12, 2025. Spruce Point red emphasis.

SPRUCE POINT CAPITAL MANAGEMENT

# Where Will IPX Get Titanium Scrap From, And At What Price? (Cont'd)

The domestic scrap and recycling market has become more opaque with the USGS no longer able to estimate tonnage. The U.S. is dependent on imports, which come primarily from the U.K. (17%), Germany (12%), France and Japan (11% each), and Canada and the Republic of Korea (9% each) were the leading import sources for titanium waste and scrap in 2024 through September. However, IPX has only announced two supply arrangement with a small Canadian company, and a small announcement with ELG Utica Alloys (U.S.), but no agreements from larger import sources from Europe.

**IPX Last Disclosure Oct 2024**

*"Absent domestic titanium sponge production capacity, **the US is completely dependent on imports of titanium sponge and scrap** and lacks the surge capacity required to support defense and critical infrastructure needs in an extended national emergency."*

**USGS Data on Titanium and Titanium Dioxide**

| Metric tons | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|
| **Imported Scrap**<br>*% growth* | -- | -- | -- | 18,000<br>-- | 11,000<br>*-39%* | 17,000<br>*55%* | 26,000<br>*53%* | 28,000<br>*8%* |
| | | | | | | | | |
| Titanium Industry | 58,000 | 50,000 | 50,000 | 35,000 | | | | |
| Steel Industry | 9,800 | 9,800 | 10,000 | 8,000 | | | | |
| Super-alloy | 5,300 | 600 | 500 | 500 | | | | |
| Other Industries | 1,300 | 1,100 | 1,500 | 1,500 | | | | |
| **Total Recycled**<br>*% growth* | **69,630**<br>-- | **61,500**<br>*-12%* | **62,000**<br>*1%* | **45,000**<br>*-27%* | | | | |

USGS data publishing format changed in 2019 and no longer publishes sufficiently detailed data to estimate scrap recirculation in this manner USGS began withholding various sponge, ingot, and scrap data in 2019 to protect proprietary company information USGS collects its data via voluntary surveys and, beginning in 2021 reported no longer receiving sufficient responses to prepare scrap tonnage estimates

Source: USGS.gov and IPX Technical Report Summary For Titan Project

SPRUCE POINT CAPITAL MANAGEMENT

# We Estimate That IPX Could Face Scrap Purchasing Issues At Its Targeted 10,000 tpa Capacity Goal

Spruce Point is concerned that at IPX's stated production scale goal of 10,000 tpa, we estimate the Company would be ~20% - 30% of the global annual titanium scrap market. As a result of being such a large buyer, we see a major risk that sellers could increase their prices knowing that IPX is captive to the market for its business model to be economically viable. Currently, there is no financial market to directly hedge titanium scrap prices.

**Estimate of IPX's Scrap Requirements At Scale vs. The Titanium Scrap Market**

| | Tons | Yield | | Scrap | |
|---|---|---|---|---|---|
| | | Low | High | Low | High |
| Estimated Scrap Required By IPX @ 10,000 tpa (2030 Goal) (A) | 10,000 | 50% | 80% | 12,500 | 20,000 |
| Estimated Annual Scrap Production (1) (B) | 100,000 | 65% | 75% | 58,500 | 67,500 |
| **IPX's Scrap Requirement As % of Titanium Scrap Market =(A/B)** | | | | **21%** | **30%** |

**IPX Product Yield Assumptions**


Source: IPX Investor Presentation

1) Based on Spruce Point estimates obtained from a consultant who worked at a global titanium scrap dealer and assumes a buy-to-fly ratio of 9

# Why Are Scrap Assumptions No Longer Deemed Material And Why No Longer Discussed?

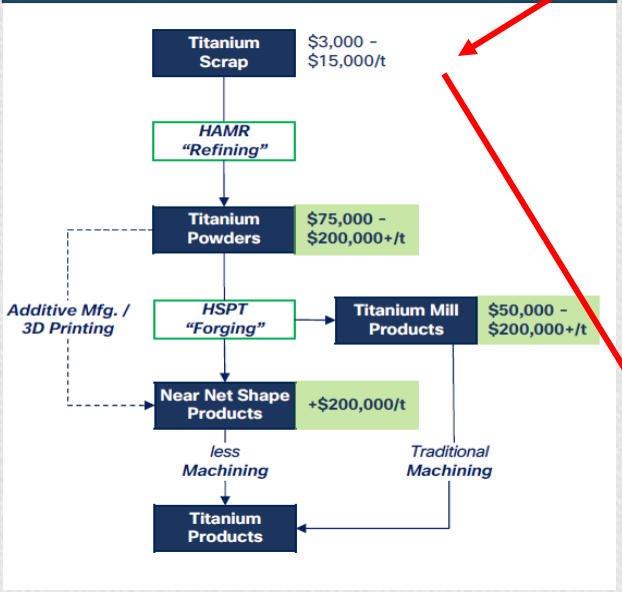
IPX has evolved from giving very specific guidance on assumed scrap prices, to a wide range, to no range at all. IPX previously said that scrap pricing was a material assumption.

## April 2023: Very specific $7.06/kg = $6,405/t

**Material Assumptions and Cautionary Statements**

| | | | |
|---|---|---|---|
| **Assumed Scrap Feedstock Pricing** | All Phases | US$7.06/kg Ti-64 Scrap feedstock | Based on conversations with scrap suppliers and purchases made to date. Assumes that a 70/30% blend of high-quality (lower oxygen content, higher cost) and low-quality (higher oxygen content, lower cost) titanium scrap is purchased and processed. |

## July 2025: $3,000 - $15,000/t




## September 2025: No assumption

**Appendix B: Material Assumptions and Cautionary Statements**

| Item | 1,400 tpa |
|---|---|
| Annual capacity (cumulative) | 1,400 tpa total |
| Procurement start date | Q3 2025 |
| Operational commissioning | Q2 2027 |
| Full capacity utilization | Q1-Q2 2028 |
| Pricing range (low, excl. complex products) | $130 / kg |
| Pricing range (high, excl. complex products) | $400 / kg |
| Proportion of titanium powder sold as near net shape / finished products | Up to 95% |

**Where is the scrap price assumption?**

Source: Investor Presentation (July 2025), IPX press release (Sept 2, 2025) and press release (April 27, 2023)

SPRUCE POINT CAPITAL MANAGEMENT

# *"Counterfeit Titanium" Concerns Could Present More Challenges In Sourcing Scrap Feedstock*

The titanium industry recently made headlines when it was reported that the FAA is investing counterfeit titanium that was used in Boeing and Airbus jets. To the extent this is true, we believe it would create another major challenge for IPX's supply chain in validating that its titanium scrap is authentic and unadulterated.


Source: *F.A.A. Investigating How Questionable Titanium Got Into Boeing and Airbus Jets"*, NYTimes.com, June 14, 2024
"*Boeing and Airbus may have used 'counterfeit' titanium in planes, FAA says"*, NBC News, June 14, 2024

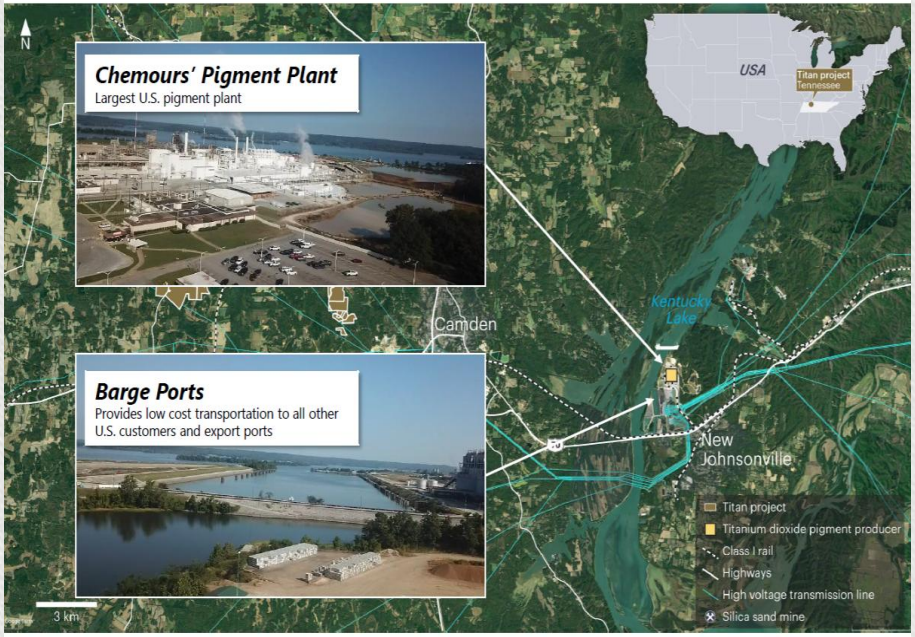
# *The Titan Project Looks Like A Long-Shot*

# What Happened To Chemours?

TAO Commodities (now IPX) initially promoted the Titan Project as strategically located near The Chemours Co. (NYSE: CC), the largest titanium dioxide producer in the U.S. Jonathan Lord, a professional geologist also joined IPX in October 2020 after having been previously employed by Chemours. A non-binding MOU was signed with Chemours in December 2021 to supply titanium feedstocks ilmenite and rutile as well as the industrial mineral staurolite. **Fast forward to today, IPX no longer discusses its relationship with Chemours, and it made its last disclosure of the relationship in the 20-F filed October 30, 2024. Chemours is also experiencing pressures in its Titanium Technologies segment with Q3 2025 EBITDA declining -68%. Our interpretation is that the relationship and business opportunity may no longer be active or as attractive.**

## Chemours Featured As "largest U.S. customer" In 2020

**Proximity to the largest U.S. customer & barge port access**

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## 2021 Non-Binding MOU With Chemours

Dec 6, 2021 8:30 AM Eastern Standard Time

### Hyperion Signs MoU With Chemours

Share

- MoU for the potential supply of titanium feedstocks to Chemours, one of the world's largest producers of high-quality titanium dioxide products for coatings, plastics, and laminates
- Chemours operates a pigment plant at New Johnsonville, located ~20 miles from Hyperion's Titan Project
- The Titan Project provides a material logistics advantage over feedstocks imported to the U.S., enabling the potential for significant reductions in carbon emissions in the mine to market supply chain

CHARLOTTE, N.C.--(BUSINESS WIRE)--**Hyperion Metals Limited (ASX: HYM)** is pleased to announce that it has entered into a non-binding Memorandum of Understanding ("MoU") with The Chemours Company FC, LLC for the potential supply of the titanium feedstocks ilmenite and rutile, as well as the

Source: TAO Commodities Investor Presentation, September 2020, Hyperion Press Release, Dec 2021, IPX 2024 Annual Report, Chemours Q3'25 press release

SPRUCE POINT CAPITAL MANAGEMENT

# End Market Demand For Titan's Main Resources Remain Weak

We express our concerns over the Titan Project's commercialization potential given sustained weak demand for Titanium Dioxide ($TiO_2$) and Zircon as illustrated by Tronox's recent results. Titanium is extracted from minerals like ilmenite and rutile which are a large portion of Titan's JORC-complaint mineral resource. While rare earth elements pose promise and often receive attention given China's control in the market, it is a small piece of IPX's resource. Moreover, Tennessee has not historically been a hotbed of mining activity. According to the state's last mineral industry overview, only coal, oil, and natural gas are currently being recovered, and we find no evidence that Tennessee has ever commercially developed a zircon or titanium ore mining operation.

## IperionX Titan Project

*"Our Titan critical minerals project is the largest JORC-compliant mineral resource of titanium, rare earth and zircon minerals sands in the U.S."*

## Tronox Results Show Sustained Weakness In $TiO_2$ and Zircon

**Summary of Select Financial Results for the Quarter Ending September 30, 2025**

| ($M unless otherwise noted) | Q3 2025 | Q3 2024 | Y-o-Y % Δ | Q2 2025 | Q-o-Q % Δ |
|---|---|---|---|---|---|
| Revenue | $699 | $804 | (13)% | $731 | (4)% |
| $TiO_2$ | $550 | $616 | (11)% | $587 | (6)% |
| Zircon | $59 | $74 | (20)% | $68 | (13)% |
| Other products | $90 | $114 | (21)% | $76 | 18% |
| (Loss) Income from operations | ($43) | $54 | n/m | ($35) | n/m |
| Net Loss attributable to Tronox | ($99) | ($25) | n/m | ($84) | n/m |
| GAAP diluted loss per share | ($0.63) | ($0.16) | n/m | ($0.53) | n/m |
| Adjusted diluted loss per share | ($0.46) | ($0.13) | n/m | ($0.28) | n/m |
| Adjusted EBITDA | $74 | $143 | (48)% | $93 | (20)% |
| Adjusted EBITDA Margin % | 10.6% | 17.8% | (720) bps | 12.7% | (210) bps |
| Free cash flow | ($137) | ($14) | n/m | ($55) | n/m |

| | Y-o-Y % Δ | | | Q-o-Q % Δ | | |
|---|---|---|---|---|---|---|
| | Volume | Price / Mix | FX | Volume | Price / Mix | FX |
| $TiO_2$ | (8)% | (5)% | 2% | (4)% | (3)% | 1% |
| Zircon | (4)% | (16)% | — | (7)% | (6)% | — |

**Chief Executive Officer John Romano:**

*"Our third quarter results were shaped by ongoing challenges associated with weaker demand than forecasted, downstream destocking above what we expected, and* ***heightened competitive dynamics in both the TiO2 and zircon markets. While a competitor's insolvency proceedings*** *are expected to benefit Tronox's future sales volumes, we saw a temporary headwind in the third quarter with more aggressive liquidation of inventory at below-market pricing.*

Source: Tronox Q3'25 Earnings Result, IPX press release, Oct 6, 2021, Venator bankruptcy, Sept 2025, State of Tennessee Mineral Industry Overview.

# Project Titan Has Faced Delays

The Project Titan Scoping Study from June 2022 provided a timeline that it would be construction ready by 2023. We are now nearing the end of 2025 and no ground has been broken. In fact, it wasn't until April 2025 that IPX commenced a definitive Feasibility Study. **The Feasibility Study commenced after a small U.S. government award**. **This fact pattern suggests to us that IPX may not have received enough private sector commercial customer buy-in to commence a feasibility study.**

## Titan Project Timeline (2022)

### Progressing to Construction Ready by 2023

The Scoping Study demonstrates the Titan Project's importance as a leading U.S. critical mineral project and the Company has now been working on progressing the Project to be construction ready during 2023.

| | 2022 | | | 2023 | | | |
|---|---|---|---|---|---|---|---|
| | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Opportunities & permit review | | | | | | | |
| Pre-feasibility study | | | | | | | |
| Feasibility bulk sample & test work | | | | | | | |
| Feasibility study | | | | | | | |
| Permitting | | | | | | | |
| Shovel ready / FID | | | | | | | |

*Figure 11: Titan Project construction ready timeline.*

Source: IPX Scoping study, June 30, 2022, Feasibility Study, April 8, 2025

SPRUCE POINT CAPITAL MANAGEMENT

# *Japanese Customers Do Not Yet Appear To Have Materialized*

IPX has been talking about a Japanese customer evaluation with a conglomerate since mid 2023 and that additional lab testing in Australia has been on going since September 2024 (over 1 year). In total, it has been ~26 months and we are not aware of any customers from Japan. **Japanese conglomerate Marubeni recently invested in a large rutile, zircon, ilmenite, and rare earth resource project to produce heavy mineral sands in Australia with RZ Resources ("RZ") and not the U.S. RZ previously partnered with Japan's JX Advanced Metals Corp. ("JX") in June 2025. IPX does not have a partnership with JX.** Also, Japan and the U.S. are teaming up to explore rare earths projects outside the U.S. but nothing has been announced in Tennessee.

**IPX Discussion of Potential Japanese Partners**

| Date | Disclosure |
|---|---|
| Aug 2023 | **Strategic & Offtake Partners - Multiple Partners, Advanced Due Diligence**<br>Multiple strategic partners have commenced due diligence on the Titan Project in preparation for sales offtake agreements and project investment opportunities. IperionX has conducted due diligence site visits for select partners and distributed product samples to a range of critical mineral customers.<br><br>One of these parties – a large Japanese conglomerate – is sole funding bulk sample and due diligence test work at the Titan Project during September 2023. |
| June 2024-Oct 2025 | Low carbon Green Rutile product has been successfully tested by potential customers in Japan and the U.S. |
| July 2024 | A major Japanese conglomerate continues to undertake metallurgical test work to advance potential sales offtake and development financing, with a range of other commercial opportunities with Japanese companies for potential offtake/investment at the Titan Project also in progress. |
| Sept 2024 | A major Japanese conglomerate completed bulk sample test work at the Titan Project to advance potential sales offtake and development financing, with subsequent metallurgical test work taking place at an independent laboratory in Australia. A number of other Japanese parties have expressed interest in sales, marketing, and investment proposals focused on the offtake of titanium and rare earth minerals from the Titan Project. |
| March 2025 | A major Japanese conglomerate completed bulk sample testing at the Titan Project, and metallurgical test work is ongoing at an independent laboratory in Australia, paving the way for potential offtake agreements and development financing. |
| Sept 2025 | **Strategic offtake partners – multiple partners, advanced due diligence**<br>• Throughout the period, IperionX continued to receive significant interest in the Titan Project's valuable titanium, rare earth and zircon critical minerals. A major Japanese conglomerate completed bulk sample test work at the Titan Project to advance potential sales offtake and development financing, with subsequent metallurgical test work taking place at an independent laboratory in Australia. A number of other Japanese parties have expressed interest in sales, marketing, and investment proposals focused on the offtake of titanium and rare earth minerals from the Titan Project. |

Source: IPX press releases, presentations and SEC filings, JX/RZ partnership press release, Marubeni press release, RZ Project Estimates and Resource, Japan/US join forces in rare earths.
Green emphasis Spruce Point.

# Comments On Project Scale

IPX promoted that Project Titan is large scale and covers 11,000+ acres of titanium & rare earth rich mineral sands in Tennessee. The Company also says that the project has been fully permitted. Upon close inspection of the permit, it appears to apply only to 308 acres.

The fully permitted Titan Project in Tennessee is one of the largest titanium mineral resources in North America

## Permit = 308 Acres

DSM-5

**STATE OF TENNESSEE**

**DEPARTMENT OF ENVIRONMENT AND CONSERVATION**

**DIVISION OF MINERAL & GEOLOGIC RESOURCES, MINING SECTION**

3711 Middlebrook Pike
Knoxville, TN 37921
(865) 594-6035

| | | | | | |
|---|---|---|---|---|---|
| County | *Henry & Carroll* | Area | | Permit No. | *OM-70711-01* |
| Type | *Surface* | | *Titan Project* | No. of Acres | *308.0* |
| Effective Date | *September 1, 2023* | | | Expiration Date | *August 31, 2028* |

**Permit**

**To Engage in the Surface Mining**

of *Titanium and Mineral Sands*

FOR: *IperionX Critical Minerals LLC, PO Box 338, Camden, TN 38320*

Pursuant to T. C. A. §59-8-201 et seq., a permit is hereby granted to engage in surface mining in the State of Tennessee. This permit may be suspended or revoked upon violation of any or all of the conditions set forth in T. C. A. §59-8-201 et seq., or in such rules and regulations promulgated by the Commissioner of Environment and Conservation.

This permit is subject to the following provisions and/or conditions, to wit:

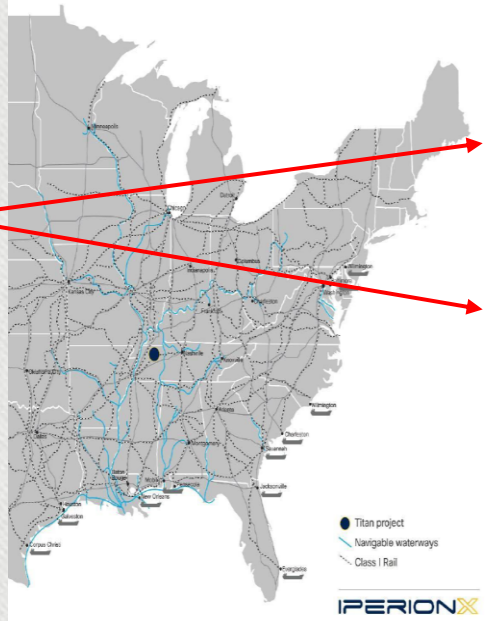
IN WITNESS WHEREOF, I have hereunto set my hand this 14th day of August , 2023

NAME

Environmental Program Manager
TITLE

CN-0809 (Rev 9/97) RDA 1650

## Promotion: "Large" and "11,000+ acres"




**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 mineral sands in Tennessee*

- Infrastructure rich location in the heartland of the U.S.
- The largest JORC and SK-1300 code compliant titanium and rare earth monazite / xenotime resource in the U.S.
- Simple, low-cost extraction & processing operations
- Sustainable operations with active reclamation

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Source: TN Permit (TN0070711), Investor Presentation, Feb 2023, Red emphasis Spruce Point

SPRUCE POINT CAPITAL MANAGEMENT

# Why Own/Lease Substantially More Acres Than The Project Is Permitted For?

The TN mining permit was issued for the fully permitted project in August 2023 and for just 308 acres. However, IPX has been steadily increasing its land ownership to cover 1,486 acres or nearly 5x the size of the permit. Moreover, the Company has also increased its acres subject to lease after 2024. The Company may have originally been trying to keep optionality, but as of recent reporting, IPX has extinguished optioned acres and written-off exploration and evaluation assets.

**Project Titan Acreage Disclosure**

| Date of Disclosure | Project Acres | Acres Owned | Acres Subject To Long-Term Lease | Acres Subject To Exclusive Purchase Option (A) | Acres Subject To Exclusive Lease Option (B) | Total Acreage Options (A+B) | Titan Project Write-offs |
|---|---|---|---|---|---|---|---|
| 12/31/2021 | 11,071 | 137 | NA | 1,357 | 9,577 | 10,934 | |
| 12/31/2022 | 11,071 | 453 | NA | NA | NA | 10,618 | |
| 6/30/2023 | 11,071 | 453 | NA | 1,034 | 9,858 | 10,618 | |
| 12/31/2023 | 11,062 | 1,486 | NA | NA | NA | 9,576 | |
| 12/31/2024 | 10,702 | 1,486 | 338 | NA | NA | 8,878 | |
| 12/31/2024 | 10,702 | 1,486 | 338 | NA | NA | 8,878 | |
| 3/31/2025 (1) | 10,086 | 1,486 | 422 | NA | NA | 8,178 | |
| 6/30/2025, 6-K filed July | **10,086** | **1,486** | **422** | NA | NA | 8,178 | **$246,396** |
| 6/30/2025, Revision Annual Report, Sept | **10,083** | **1,488** | **417** | NA | NA | 8,178 | |
| 9/30/2025 | **10,086** | **1,486** | **674** | NA | NA | 7,926 | |

No Permit

Permit

Source: IPX filings

1) "IPX said in its quarterly filing *"During the quarter, approximately 84 acres of optioned properties were exercised and converted into long-term leases and approximately 616 acres of optioned properties were extinguished."*

SPRUCE POINT CAPITAL MANAGEMENT

# We Cannot Reconcile IPX's Acreage Reporting

We cannot reconcile the Company's acreage claims from the 2025 public records in Henry and Carroll counties of Tennessee. We also checked nearby counties but could not identify the missing acreage.

| IperionX Critical Minerals LLC | | | | |
|---|---|---|---|---|
| **Tax Year** | **County** | **Property** | **Deeded Acres** | **Parcel Number** |
| 2025 | Carroll | Pleasant Hill Road | 327.4 | 17-005- -005- - -002.00- -000 |
| 2025 | Carroll | Bruceton Vale Road | 187.1 | 17-044- -044- - -016.01- -000 |
| | | **Total Carroll County Acres (A)** | **514.5** | |
| 2025 | Henry | County Line Road (1) | 100.0 | 09-171- -171- - -002.00- -001 |
| 2025 | Henry | County Line Road (1) | 308.0 | 09-171- -171- - -003.00- -000 |
| 2025 | Henry | 3215 Little Benton Rd | 3.9 | 09-171- -171- - -009.04- -000 |
| 2025 | Henry | 3115 Little Benton Rd | 3.9 | 09-171- -171- - -009.03- -000 |
| 2025 | Henry | 3105 Little Benton Rd (1) | 66.5 | 09-171- -171- - -009.01- -000 |
| 2025 | Henry | Little Benton Rd | 36.4 | 11-171- -171- - -005.03- -000 |
| 2025 | Henry | Bear Creek Rd (1) | 229.7 | 09-168- -168- - -014.03- -000 |
| 2025 | Henry | Buck Branch Rd | 86.4 | 09-167- -167- - -006.00- -000 |
| | | **Total Henry County Acres (B)** | **834.9** | |
| | | **Total Acres = (A+B)** | **1,349.4** | |
| | | **Reported to Investors** | **1,486.0** | |
| | | **Discrepancy** | **136.6** | |

1) Based on reported calculated acres

Source: Carroll and Henry County Trustee records and TN Comptroller of The Treasury (Carroll and Henry)

# IPX Made Subtle Changes In Acreage Reporting

Between the July 2025 Quarterly report for FY 2025 and the FY 2025 Annual Report, total acres, owned acres, and acres subject to long-term lease were modestly revised.

## Version 1: June 2025 Quarterly Report

***Mining properties – Titan Critical Minerals Project***

The Titan Project is prospective for critical mineral sands including titanium minerals, rare earth minerals, high grade silica sand and zircon minerals. As of June 30, 2025, the Titan Project comprised approximately 10,086 acres of surface and associated mineral rights in Tennessee, of which approximately 1,486 acres are owned by IperionX, approximately 422 acres are subject to long-term lease by IperionX, and approximately 8,178 acres are subject to exclusive option agreements with IperionX. These exclusive option agreements, upon exercise, allow IperionX to lease or, in some cases, purchase the surface property and associated mineral rights.

## Version 2: FY 2025 Annual Report

### 24. Contingent Assets and Liabilities

Titan Project

The Titan Project is prospective for critical mineral sands including titanium minerals, rare earth minerals, high grade silica sand and zircon minerals. At June 30, 2025, the Group had entered into exclusive option agreements with local landowners in Tennessee, in relation to its Titan Project, which upon exercise, allows the Group to lease or, in some cases purchase, the acres of surface property and the associated mineral rights from the local landowners. As of June 30, 2025, the Titan Project comprised approximately 10,083 acres of surface and associated mineral rights in Tennessee, of which approximately 1,488 acres are owned by IperionX, approximately 417 acres are subject to long-term lease by IperionX, and approximately 8,178 acres are subject to exclusive option agreements with IperionX. During the option period, our option agreements provide us with exclusive right to access, enter, occupy and use the surface property for all purposes related to exploring for and evaluating all minerals in return for making annual option payments and bonus payments during periods when we conduct drilling. Upon exercise, in the case of an option to lease, the Company will pay a production royalty to the landowners, subject to a minimum royalty. Upon exercise, in the case of a purchase, the Company will pay cash consideration approximating the fair market value of the property, excluding the value of any minerals, plus a premium.

Source: Quarterly and Annual report. Red underline Spruce Point.

# *Despite Years of Press Releases, Still Limited Committed Customers: Caught Between A Rock And A Hard Place?*

SPRUCE POINT CAPITAL MANAGEMENT

# IPX No Longer Shows These Slides

**Tellingly, IPX no longer shows a slide outlining the U.S. Titanium Metal & Powder market to show its position among current and potential product end users even after retaining scientific advisors and former industry executives with business relationships**. In fact, IPX eliminated its Scientific Advisor page from its website in late August 2024.
Dr. Aliana Fu, PhD joined IPX as an advisor in July 2021 and worked at Titanium Metals Corp (TIMET) and SpaceX. She ceased her advisory role in October 2024. Moreover, Tom Witheford was also announced as an advisor with experience at ATI Inc (NYSE: ATI), GKN Powder Metallurgy (owned by Dowlais Group, DWL.LN), and Special Metals (Precision Castparts, owned by Berkshire Hathaway). Mr. Witheford was removed from IPX's website though his LinkedIn profile indicates he is an advisor. IPX has not disclosed any partnerships or interest from either ATI, Precision Castparts, or SpaceX. GKN Aerospace was announced as partner with "test components" but has not been announced as a committed customer having placed large orders.

## IPX No Longer Shows Slides of Current And Potential Titanium End Users

### February 2021


### March 2022


The U.S. is one of the largest producers of titanium products for the aerospace, defense and medical industries

Source: TAO press release (Feb 2021), Jefferies Presentation (March 2022), Eliana Fu LinkedIn, Tom Witheford LinkedIn, "*Titanium Industry Leaders Join Hyperion Advisory Board*", Press Release, July 2021, Wayback Machine showing Witheford as an advisor, IPX press release announcing GKN partnership, Oct 2, 2023, Berkshire Hathway acquires Precision Castparts, Aug 2015.
Note: We acknowledge that there are many reasons that employment, consultant and other relationships come to an end, and this is not necessarily indicative of operational issues.

SPRUCE POINT CAPITAL MANAGEMENT

# Analysis of IPX's Announced Partnerships And Potential Customers

Spruce Point observes that IPX has issued multiple press releases about partnerships and non-binding MOUs, and in some cases they have lapsed or are no longer actively discussed. IPX also has still not reported revenues.

| Partner | Date | Nature of Relationship | Status |
|---|---|---|---|
| **Mario Pilato** | Feb 7, 2021 | MOU for the potential supply of zircon products for an initial 5-year term of up to 20,000 tonnes of zircon products. | **Non-binding and non-exclusive. Expires Jan 31, 2025. No further mention of Mario Pilato after the 2024 20-F.** |
| **Energy Fuels (US: UUUU)** | April 21, 2021 | Execution of a non-binding memorandum of understanding ("MOU") for the supply of natural monazite sands from IperionX Limited ("IperionX") Titan Project in Tennessee, if and when the project is developed and mined. | **EnergyFuels no longer discloses the partnership in its SEC filings.** |
| **EOS GmbH** | July 21, 2021 | Hyperion to collaborate with EOS GmbH, the global leader for industrial 3D printing of metals and plastics, to deploy low-to-zero carbon titanium metal powders using its breakthrough HAMR and GSD technologies. | **Non-binding MOU. No further disclosure of EOS after the 20-F/A filed May 30, 2023.** |
| **Material Resources (MRL)** | March 2, 2022 | IperionX has formally partnered with MRL to qualify and demonstrate the performance of IperionX's U.S. produced titanium powder for additively manufactured aerospace parts. This partnership supports an MRL project with the U.S. Navy to test titanium flight critical metal replacement components for the U.S. Department of Defense ("DoD"). | **IPX has made no further disclosures post the March 2023 Quarterly Report.** |
| **Panerai (Swiss: CFR)** | Aug 30, 2022 and Nov 17, 2022 | August: IperionX and Panerai, a maison of Richemont, have signed a commercial partnership agreement to produce luxury, sustainable, Panerai watches using IperionX's titanium.<br>November: Panerai Places Order for Production Series Titanium Watch Cases. | CFR has not made any public comment. IPX still shows the Richemont logo in its investor presentation. **No revenues reported.** |
| **Carver Pump** | Feb 6, 2023 | IperionX and Carver Pump to produce titanium parts for the U.S. Navy. | **IPX removed Carver Pump's logo from recent investor presentations.** |
| **GKN** | Oct 2, 2023 | IPX has agreed an order with GKN Aerospace for the delivery of titanium plate test components manufactured with IperionX's advanced titanium technologies. The collaboration with GKN Aerospace builds on the successful testing and validation of IperionX 100% recycled titanium powder made from GKN scrap titanium feedstocks. | Still listed as potential customer in the recent investor presentation. |
| **Ford** | Sept 23, 2024 | Executed a sourcing contract (Contract) for the supply of manufactured metal components for Ford Motor Company (Ford). The term of the Contract runs for 45 months commencing in 2025, with IperionX contracted to supply titanium metal powder and manufacture components. Total revenues from the contract are expected to be ~US$11 million. | **No revenues reported.** |

Source: Mario Pilato, Energy Fuels, MRL, Ford (2023, 2024), GKN Aerospace, Carver Pump, Richemont (order announcement, Nov 2022), EOS, IPX and UUUU SEC Filings

SPRUCE POINT CAPITAL MANAGEMENT

# Analysis of IPX's Announced Partnerships And Potential Customers (Cont'd)

More recent IPX press releases also do not appear to have gained much traction or converted to committed customer contracts that have produced revenue yet.

| Partner | Date | Nature of Relationship | Status |
|---|---|---|---|
| **SLM Solutions** | March 14, 2023 | IperionX and SLM Solutions have signed an MOU to negotiate a supply agreement for 100% recycled spherical titanium and titanium alloy powders, sourced from IperionX's planned Titanium Demonstration Facility, with the potential to commence supply in late 2023. Pursuant to the MOU, the parties will seek to negotiate a long-term supply agreement in good faith, the key terms of which are expected to include agreed product technical specifications, the volume of product to be supplied annually, anticipated to be up to 25 tons of titanium powders per annum, and a mutually agreed market pricing methodology. The MOU is non-exclusive, non-binding, and remains subject to the negotiation and execution of a definitive long-term supply agreement to give effect to the MOU. **The MOU expires on January 31, 2025 and can be renewed by agreement by both parties**. | **Agreement expired Jan 21, 2025. No further updates. No revenue reported.** |
| **Canyon Bicycles** | March 29, 2023 | Develop a more sustainable titanium supply chain for the bicycle industry through the production of bicycle components using IperionX's 100% recycled and low-carbon titanium. **The term of this initial agreement is until June 30, 2025**. Upon successful completion of the initial prototyping, Canyon and IperionX intend to negotiate an agreement for larger scale production. | Logo listed on the latest investor slide of "leading potential customers".<br><br>**No subsequent announcement has been made post the June 30, 2025 initial term agreement ending.** |
| **Lockheed Martin (US: LMT)** | August 17, 2023 | IPX to produce titanium plate for testing by Lockheed Martin. IPX has agreed to an order with Lockheed Martin (NYSE: LMT) for the delivery of titanium plate components produced using IperionX's U.S. manufactured titanium. | **No revenues reported.**<br><br>Logo listed on the latest investor slide of "leading potential customers". |
| **United Stars Inc** | April 15, 2024 | Signed a framework agreement with United Stars Holdings, Inc. (United Stars) with terms that will underpin a definitive commercial supply agreement for IperionX's titanium products. United Stars expects to purchase up to 80 metric tons annually of IperionX's high-performance, low cost and sustainable titanium products over a 10-year supply term. | **No revenues reported.**<br><br>Logo listed on the latest investor slide of "leading potential customers". |
| **Vegas Fastener** | May 1, 2024 | Vegas Fastener Manufacturing, LLC (Vegas Fastener) and IPX agreed to partner to develop and manufacture titanium alloy fasteners and precision components with IperionX's advanced titanium products. Vegas Fastener, headquartered in Las Vegas, Nevada, is a global leader in the development and manufacturing of high-performance fasteners and custom machined components. | Logo listed on the latest investor slide of "leading potential customers".<br><br>Appears to be a small company <50 employees per LinkedIn. |

Source: United Stars, SLM Solutions, Canyon Bicycles, Lockheed Martin, IPX Investor Presentation (Oct 2025)

SPRUCE POINT CAPITAL MANAGEMENT

# Recent 20-F Dramatically Reduces Discussion Of Customers, Partnerships And Engagements

IPX may be signaling that previous partnerships and customer engagements are no longer relevant to is current situation by vastly curtailing discussion in the recent 20-F report.

## 2025 Customer Engagements

**Customers Engagements**

*Partnership with Aperam to advance a circular titanium supply chain*

- In July 2024, IperionX and Aperam signed an agreement to apply IperionX's fully circular and sustainable titanium supply chain solution to the consumer electronics sector, with IperionX to use its patented titanium technologies to upcycle up to 12 metric tons of titanium scrap from the consumer electronics sector to manufacture a range of high-performance titanium products.

*IperionX executes sourcing contract with global automaker*

- In September 2024, IperionX executed a sourcing contract for the supply of manufactured metal components for Ford Motor Company. The term of the Contract runs for 45 months commencing in 2025, with IperionX contracted to supply titanium metal powder and manufacture components. Total revenues from the contract are expected to be approximately $11 million.

*IperionX secures first U.S. army task order under $99 million SBIR Phase III contract*

- In June 2025, IperionX received the first task order, valued at $1.3 million, from the U.S. Army under a SBIR Phase III Indefinite Delivery Indefinite Quantity contract with the U.S. DoW. The task order facilitates the production and delivery of titanium parts for U.S. Army ground vehicle programs. The project was the first of further task orders expected under the $99 million SBIR Phase III contract, which enables any DoW and U.S. Government agency to support production capabilities to procure titanium parts and materials directly from IperionX.

*Other ongoing customer engagements and developments*

- Product development and qualification continues to build momentum across key customer sectors - defense, automotive and consumer electronics.

- There has been very strong customer engagement for high-performance titanium components that suffer from historically low material yields (high scrap rates) - such as titanium fasteners, housings, and precision components.

## 2024 Customer Engagements

**Customers and Partnerships**

IperionX is engaged in commercial discussions and transactions with current and potential customers, collaborators, and strategic partners interested in critical minerals, titanium metal and products produced with the Technologies.

Among these are:

- IperionX will supply Ford Motor Company with titanium metal components under a sourcing agreement to commence in 2025, and is further collaborating to design, test and manufacture other high-quality titanium components for future production vehicles;
- IperionX and Aperam have agreed a partnership where IperionX will apply its patented titanium technologies to upcycle up to 12 metric tons of titanium scrap produced from the consumer electronics sector to manufacture a range of high-performance titanium products;
- IperionX and Vegas Fastener have partnered to develop and manufacture titanium alloy fasteners and precision components;
- IperionX will supply United Stars Holdings, Inc. with up to 80 metric tons annually of high-performance, low cost and sustainable titanium products over a 10-year supply term;
- IperionX will supply GKN Aerospace titanium plate test components;
- IperionX agreed to an order with Lockheed Martin for the delivery of titanium plate components;
- IperionX will supply titanium metal plate to the U.S. Army Combat Capabilities Development Command Ground Vehicle Systems Center ("DEVCOM GVSC") for ballistic testing;
- IperionX has supplied watch case blanks made with its fully recycled, sustainable titanium powder to Panerai, a luxury manufacturer of high-end timepieces;
- IperionX is working with Canyon Bicycles ("Canyon") to prototype parts using additive manufacturing and our low-carbon, recycled titanium metal powders; and
- IperionX is collaborating with Carver Pump to process its titanium scrap into high-grade, high-quality titanium powder for the production of prototype titanium components.

Agreements relating to the potential sale of critical minerals include the following:

- IperionX previously signed a non-binding MOU to potentially establish a partnership with Energy Fuels that aims to build an integrated, all-American rare earths supply chain. The MOU will evaluate the potential supply of rare earth minerals from the Titan Project to Energy Fuels for value added processing at Energy Fuels' White Mesa Mill. Rare earths may be valued as critical materials for magnet production essential for wind turbines, electric vehicles, consumer electronics and military applications;
- IperionX previously signed a non-binding MOU with Chemours to investigate a potential supply agreement between IperionX and Chemours for up to 50,000 metric tons of ilmenite, 10,000 metric tons of rutile, and 10,000 metric tons of staurolite. Chemours operates one of the largest titanium dioxide plants at its New Johnsonville plant which is located approximately 20 miles from IperionX's Titan Project in Tennessee; and
- IperionX previously signed a non-binding MOU with Mario Pilato BLAT S.A. for the potential supply of zircon products. The MOU contemplates a supply agreement for an initial five-year term on an agreed market-based pricing methodology for the annual supply of up to 20,000 tons of zircon products from IperionX's Titan Project in Tennessee.

Source: 2024 vs. 2025 20-F

# Caught Between A Rock And A Hard Place?

Spruce Point does not believe IPX is making rational economic decisions. For example, despite years of research and pilot testing of its promoted *"revolutionary"* technology and has *"successfully proven large scale titanium production"* , the Company still has no reported revenue or an ability to give specific financial guidance.(1) In fact, IPX carefully qualifies its language by expressing that it has *"strong interest"* from *"potential customers"*. Despite these issues, IPX is progressing the development of a larger scale facility. Why is management committing more capital resources to a project with no clear financial return on investment provided with specific sales guidance? The Company may be stuck between a rock and hard place as they may need to show customers they can operate and produce defect-free products at a greater scale before customers fully commit to buy.

**HAMR: The breakthrough science of a revolutionary technology**

**We have successfully proven large scale titanium production**

**March 2022:**
**Even Before Purchasing The Technology In December 2024…**

*"As a result of the successful scaling of the Titanium Pilot Facility - and the **strong interest we are seeing from potential customers** for our 100% recycled, lower cost and low carbon powders - **we are now progressing the development of a larger scale facility**. This comes at a time when there is an increased strategic focus on the need for wrestling control of the titanium supply chain from China and Russia and bring it back to the U.S."*

**July 2025: Despite Now Saying It Has Proven Large Scale Tititanium Production, These Corporate Logos Are Still Listed As "Potential Customers"**


1) IPX says, "*Titanium sales are expected to progressively scale through 2026, with positive EBITDA inflection point projected by year-end 2026.*" In April 2023, IPX said 2026E revenue and EBITDA forecast was $145m and ~$100m, respectively assuming conservative assumptions.
Source: IPX press release (March 2022), July 2025 Investor Presentation, Red underline Spruce Point

# IPX Was Awarded A U.S. Army Task Order With A Small Obligation

In June 2025, IPX reported that it has received the first task order, valued at $1.3m, from the U.S. Army under a Small Business Innovation Research (SBIR) Phase III Indefinite Delivery Indefinite Quantity (IDIQ) contract with the U.S. Department of Defense (DoD). The total contract value is listed at $99 million. An IDIQ contract does not require such specifics beyond a preset minimum quantity of goods or service at a negotiated price. USASpending.gov confirms the total obligated amount is $1.3m. The U.S. Dept. of War said bids were solicited on the internet with IPX being the only bid it received.

## IPX Press Release

IPERIONX

**PRESS RELEASE** | NASDAQ: IPX | ASX: IPX
*June 11, 2025*

**IPERIONX SECURES FIRST U.S. ARMY TASK ORDER UNDER US$99 MILLION SBIR PHASE III CONTRACT**

**IperionX Limited** (NASDAQ: IPX, ASX: IPX) is pleased to announce that is has received the first task order, valued at US$1.3 million, from the U.S. Army under a Small Business Innovation Research (SBIR) Phase III Indefinite Delivery Indefinite Quantity (IDIQ) contract with the U.S. Department of Defense (DoD).

The task order facilitates the production and delivery of titanium parts for U.S. Army ground vehicle programs. All technical specifications, performance requirements, and delivery schedules are governed under the U.S Controlled Unclassified Information Program (Executive Order 13556), ensuring protection of sensitive defense information.

The U.S. Army task order will be fulfilled at IperionX's Titanium Manufacturing Campus in Virginia, using proprietary titanium production and advanced forging processes. Manufacturing these critical titanium components in America strengthens supply-chain resilience and reduces reliance on foreign titanium sources, while creating high-value manufacturing jobs in the United States.

The project is the first of further task orders expected under the US$99 million SBIR Phase III contract, which enables any DoD and U.S. Government agency to support production capabilities to procure titanium parts and materials directly from IperionX.

## Details of Award

Delivery Order (DO) PIID W911QX25FA008

Unlinked Award

| Awarding Agency | Recipient |
|---|---|
| Department of Defense (DOD) | IPERIONX TECHNOLOGY LLC<br>129 W TRADE ST<br>STE 1405<br>CHARLOTTE, NC 28202-2143<br>UNITED STATES<br>Congressional District: NC-12 |

$ Award Amounts

$1.3 Million
Obligated Amount

$1.3 Million
Current Award Amount

$1.3 Million
Potential Award Amount

Source: IPX press release and USASpending.gov, IDIQ contract details at congress.gov, The U.S. Department of War, Spruce Point red emphasis

# *Insights From Piedmont Lithium And Other Troubled Mining Ventures*

SPRUCE POINT CAPITAL MANAGEMENT

# IPX's Management Includes Individuals With Experience At Other Mining Ventures That Encountered Operational And Commercial Challenges

The current management and Board of IPX is associated with one controversial individual and several public companies that have broadly failed to deliver lasting value for shareholders. Notably, there is a sharp overlap of IPX executives with Piedmont Lithium (Nasdaq / ASX: PLL), which faced two short seller reports alleging it was a stock promotion connected to Levi Mochkin who is permanently banned from financial services in Australia for alleged market rigging transactions and not acting honestly.

| | Taso Arima | Ian Middlemas | Todd Hannigan | Greg Swann | Dominic Allen | Levi Mochkin (ASIC banned stockbroker)[1] | Lamont Leatherman | Angela Risk | Patrick Brindle | Jonathon Lord | Adam Karst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **IperionX (formerly TAO Commodities and Hyperion Metals)** | CEO and Managing Director | Titan Project Founder/Shareholder | Executive Chairman | Corporate Secretary | Corporate Development | -- | Chief Geologist (through 2022) / Co-Founder | Corporate Controller | Project Dev. Advisor | VP, Geology & Land | Independent Geological Consultant / Competent Person |
| **Piedmont Lithium Nasdaq/ASX: PLL (faced short seller impropriety allegations[2,3])** | Founder / Director | Chairman | Director | Corporate Secretary | Unlisted option owner named in 2018/19 Annual Report | **Non-Executive Director / family trust largest shareholder** | Chief Geologist | Corporate Controller | EVP, COO | Exploration Geologist | Geologist / Competent Person |
| **Brazilian Rare Earths ASX: BRE** | Shareholder | | Executive Chairman | | Director (resign 2023) | **Shareholder** | | | | | Geologist / Competent Person |
| **Odyssey Gold ASX: ODY** | | Chairman | | Corporate Secretary | | **Non-Executive Director** | | | | | |
| **Paringa Resources Nasdaq: PNRL ASX: PNL (later GCX Metals and Terra Metals)** | Executive / Non-Executive Director | Chairman | CEO/ Director | Corporate Secretary | VP, Finance | | | | | | |
| **GreenX Metals ASX: GRX (formerly Prairie Mining Ltd)** | Former Director | Chairman | Former Director | | | | | | | | |
| **Coalspur Mines TSX: CPT ASX: CPL** | Executive Director | Chairman | | Group Controller | | | | | | | |

Source: (1) ASIC enforcement, AFR and Enforceable Undertaking. (2) Short seller (2022), (3) Short seller (2023)

# Key IPX Executives Connected To Mochkin Through Brazilian Rare Earths In 2023

According to public filings, certain IPX executives were investors in Brazilian Rare Earths alongside Ledger Holdings Pty Ltd, an entity affiliated with Levi Mochkin, as of December 2023. Mr. Mochkin was banned from the Australian securities industry by ASIC in 2001. We note this association and believe investors should be aware of management's business relationships. However, we make no allegation that IPX executives have engaged in any improper conduct, and investment in the same entity does not necessarily indicate an active business partnership or endorsement of Mr. Mochkin's past conduct.

## BRE Shareholder Base

Brazilian Rare Earths Limited
Top 20 Grouped
15-Dec-23
Ordinary Fully Paid Shares
Shares escrow 12M to 18/10/2024
Shares escrow 12M to 14/12/2024
Shares escrow 24M from Quotation

| Pos | Group/Holder Name | Holding | % IC |
|---|---|---|---|
| 1 | KUDA HURAA MINING VENTURES AND GLOBAL INVESTMENTS CORP | 27,973,524 | 13.07 |
| 2 | DITM HOLDINGS PTY LIMITED | 24,577,875 | 11.48 |
| 3 | BERNARDO SANCHEZ AGAPITO DA VEIGA | 17,536,525 | 8.21 |
| 4 | ACN 664 400 382 PTY LTD | 17,128,595 | 8.00 |
| 5 | KITABELLA PTY LTD <KITABELLA A/C> | 16,907,100 | 7.90 |
| 6 | DOMINIC PAUL ALLEN <WESTOZ SERVICES A/C> | 16,580,423 | 7.74 |
| 7 | ANASTASIOS ARIMA | 16,235,514 | 7.58 |
| 8 | HANCOCK PROSPECTING PTY LTD | 12,525,212 | 5.85 |
| 9 | HSBC CUSTODY NOMINEES (AUSTRALIA) LIMITED | 8,984,611 | 4.20 |
| 10 | RARE EARTHS AMERICAS PTY LTD | 5,024,600 | 2.35 |
| 11 | ILWELLA PTY LTD | 4,464,803 | 2.09 |
| 12 | MERRILL LYNCH (AUSTRALIA) NOMINEES PTY LIMITED | 2,986,189 | 1.39 |
| 13 | MDH PTY LTD | 2,003,750 | 0.94 |
| 14 | POUNAMU CAPITAL PTY LIMITED | 1,816,130 | 0.85 |
| 15 | FASCW PTY LIMITED | 1,716,379 | 0.80 |
| 16 | DAVIS INVESTMENT HOLDINGS LLC <LLC> | 1,700,681 | 0.79 |
| 17 | BNP PARIBAS NOMS PTY LTD | 1,632,655 | 0.76 |
| 18 | RIGI INVESTMENTS PTY LIMITED <THE CAPE A/C> | 1,275,630 | 0.60 |
| 19 | MR RAYMOND NIMROD <HUDSON KOI TRUST A/C> | 1,230,250 | 0.57 |
| 20 | LEDGER HOLDINGS PTY LTD <MOCHKIN FAMILY NO 2 A/C> | 1,113,875 | 0.52 |
| | Total | 183,464,421 | 85.69 |
| | Total Issued Capital | 214,105,170 | 100.00 |

**Entities affiliated with IPX members**

**Levi Mochkin was banned from working in the Australian securities and investment industry after allegations that he rigged the prices of key mining stocks**

Source: Brazilian Rare Earth filing, BRE Annual Report, DTIM Holdings Pty Ltd related to Hannigan, Enforceable Undertaking

SPRUCE POINT CAPITAL MANAGEMENT

# Similar Investment Pitch Between IperionX And Piedmont Lithium

Given the significant overlap of executives between Piedmont Lithium and IperionX, we do not find it surprising that the pitch to investors is nearly identical between both companies. We see the core investment proposition is that a world class leadership team and resource should be developed in the U.S.

**Considerable Overlap In The Investment Opportunity To Bring Back Domestic U.S. Production**

| | Headquarters | Headline Customer | North America's Largest Resource | Potential Byproducts For Upside | Integrated Mine to Product | Ideal Location | Low Projected Cost (1) | Highly Experienced Team |
|---|---|---|---|---|---|---|---|---|
| **IperionX Nasdaq/ASX: IPX** | Charlotte, North Carolina | Ford | Titanium | Rare Earths | ✓ | Close to infrastructure and potential customers | Overlap in technical experts | Overlap of Executives and Board |
| **Piedmont Lithium Nasdaq/ASX: PLL** | Belmont, North Carolina | Tesla | Lithium | Industrial Minerals | ✓ | Close to infrastructure and potential customers | Overlap in technical experts | Overlap of Executives and Board |

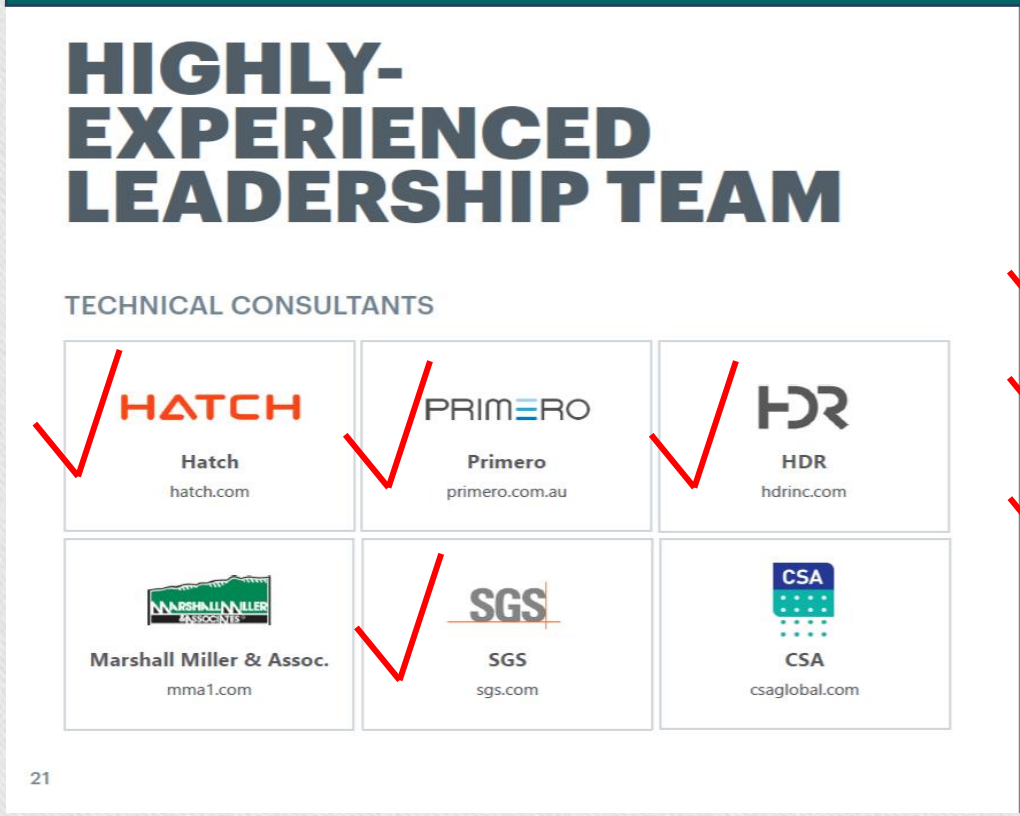
Source: PLL Telsa Announcement, IPX Ford Announcement

1) See next slide. Specifically for Primero Group (Jacques Parent) appears in IPX and PLL filings.

# IPX Also Used Most of Piedmont's Technical Consultants

The overlap between Piedmont Lithium and IperionX extends beyond just its leadership team and management. We observe that both companies engaged the same technical consultants in areas of engineering, procurement, and construction (Primero), lab analysis (SGS), permitting (HDR), and engineering studies (Hatch).

## Significant Leadership and Technical Consultants Between Piedmont Lithium and IperionX





Source: Piedmont Lithium Investor Presentation, May 2020, Hyperion Engages Hatch, press release, May 16, 2021, HDR, SGS, and Primero engagements in Scoping Study
Red check mark is Spruce Point red check emphasis of overlap between Piedmont and IPX.

# Case Study: Piedmont Lithium

Spruce Point finds a parallel between what sparked shareholder enthusiasm at Piedmont Lithium (PLL) and IperionX. In September 2020, PLL announced a 5-year sales agreement with Tesla for spodumene concentrate to be delivered from its North Carolina deposit. By 2023, PLL amended the contract to supply the concentrate from North American Lithium in Quebec, Montreal in a 2.5-year term agreement. In September 2024, IPX announced a sales agreement over 3.75 years for ~$11m starting in 2025 with Ford. However, through the first nine months in 2025, IPX has reported no revenues and we would not be surprised if the contract is also amended and/or IPX produces no revenues from the Ford agreement.

## IperionX (IPX)

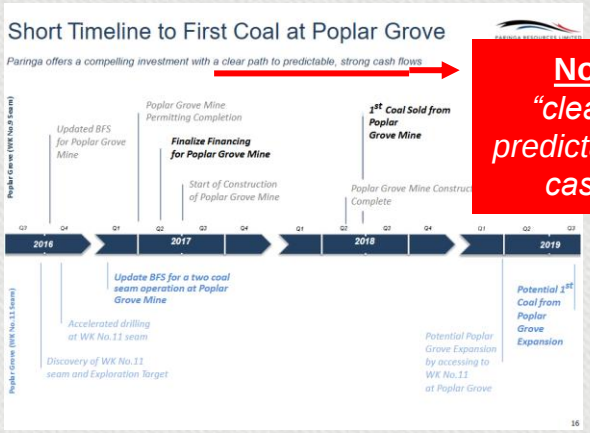

## Piedmont Lithium (PLL)


Source: Bloomberg, PLL Telsa Announcement and Amendment, IPX Ford Announcement, Sayona/Piedmont name change to Elevra, IPX Quarterly Report (Sept 2025)

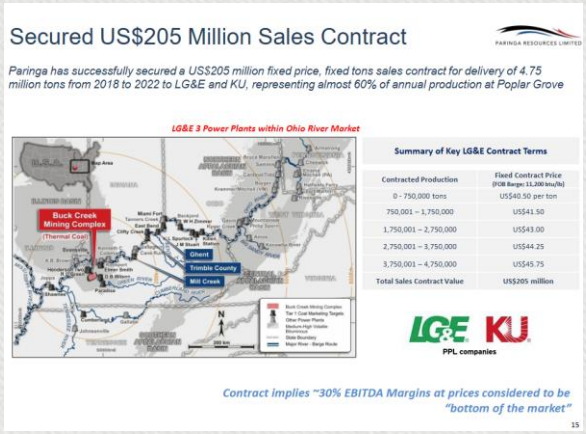
# Case Study: Paringa Resources Ltd.

While we acknowledge that mining is a risky business that involves many factors outside of management's control, the case of Paringa Resources Ltd. (Nasdaq/ASX: PNRL/PNL) illustrates the risk of relying on optimistic assumptions. Paringa said that its coal project had *"a clear path to predictable, strong cash flows"*. They also promoted a *"Secured US$205 Million Sales Contract"*. Sales never materialized and the share price ultimately collapsed. The Company is now called Terra Metals Ltd.

## Paringa Resources Investment Slides




**Nov 2016**
*"clear path to predictable, strong cash flows"*




## Paringa Resources Share Price


Source: Bloomberg, Paringa Company Presentation (Nov 2016), 20-F, Hannigan Appointment, Arima/Middlemas Appointment, Coal Sales Contract Announcement

# Case Study: Coalspur Mines Ltd.

Coalspur Mines Ltd. (TSE/ASX: CPT/CPL) – previously Xenolith Resources Ltd – was a thermal coal project in Alberta, Canada where IPX CEO Taso Arima (2009 – 2011) and Ian Middlemas (2007-2011) each played a role. The Company's Pre-Feasibility study touted the project to be *"the largest export thermal focused coal operation in North America"* with *"Strong and Competitive Economics"* and *"World Class Rail and Port Infrastructure"*. Despite these aspects, the project has never been commercialized due to a variety of factors such as push back from community indigenous and environmental groups among other things.

## Pre-Feasibility Study Touting The Project

**Pre-Feasibility Key Results**

***Large Scale, Long Life Project:*** Approximately 18.0Mtpa run-of-mine operation producing 9.0Mtpa of export (8.0Mtpa) and domestic (1.0Mtpa) thermal coal for 31 years was defined as being technically and economically feasible on the Company's VCP. Upon development this will be the largest export thermal focused coal operation in North America and will rank in the top tier of export thermal coal mines globally.

***Strategic Coal Reserve Base:*** 260Mt Marketable Coal Reserve defined from a 522Mt Recoverable Coal Reserve makes the VCP a globally significant, strategic export thermal coal asset.

**Table 1: JORC / NI 43-101 Coal Reserves**

| | Recoverable Coal Reserve | | | Marketable Coal Reserve | | |
|---|---|---|---|---|---|---|
| | Proven (Mt) | Probable (Mt) | Proven & Probable (Mt) | Proven (Mt) | Probable (Mt) | Proven & Probable (Mt) |
| Vista Coal Project | 415.4 | 106.3 | **521.7** | 208.4 | 51.6 | **260.1** |

***Strong and Competitive Economics:*** The VCP has the potential to achieve cash costs of ~C$51/t over the first 10 years and ~C$56.5/t over the first 20 years which places the Project as one of the most competitive new export thermal coal developments globally. Utilising forecast coal prices from Wood Mackenzie and an exchange rate of 0.92 Canadian dollar to 1 US dollar results in predicted strong EBITDA cashflows of C$361 million per annum ("**Mpa**") in the first 10 years of operations and C$375Mpa over the 31 year mine life.

***World Class Rail and Port Infrastructure:*** A mine location that provides ready access to underutilised world class coal logistics infrastructure is a key competitive advantage of the VCP. The Project is adjacent to the main line of CN Rail with significant spare capacity to transport coal to the Ridley Island Coal Terminal which is a deepwater, capesize port and capacity to ship significantly greater coal tonnages.

Details of the key results from the PFS are summarised in Table 2 which shows production metrics split into the first three decades of operations. The outline of the final reserve boundary and pit limit is given in Figure 2 and Figure 3 respectively below; note the utilisation of the total strike length and lowest strip ratios but not the total down dip extension of the resource. Future studies will be conducted into potential mining methods that may be able to recover the remaining resources in the VCP.

## Coalspur Share Price


Source: Bloomberg, PFS announcement, Acquisition Announcement, TSX Listing, ASX Inquiry, Ecojustice.ca

SPRUCE POINT CAPITAL MANAGEMENT

# Management Is Rewarded More For Fundraising And IR Than For Finding Customer Contracts

Spruce Point is alarmed that management's annual cash bonus structure is most heavily weighted towards fund raising and investor relations. Shouldn't management be compensated foremost on finding long-term committed customers to validate its business?

## Incentive Structure Is Most Weighted To Capital Raising and IR

The following table outlines the fiscal 2025 performance against the above short-term incentive criteria:

| Measure | Measure | Weighting |
|---|---|---|
| Safety | Managing the health and safety matters as a critical business activity | 15% |
| People & Sustainability | Recruitment and retention of key talent across the business, managing environmental compliance and promoting sustainable development | 15% |
| Product Innovation / R&D / IP | Ongoing innovation and protection of existing IP | 15% |
| Commercial and Government Engagements | Focus on delivering numerous commercial and government contracts | 15% |
| Operations | Focus on delivery of key scale-up targets | 15% |
| Funding, Corporate, Financial and Investor Relations | Focus on delivery and commercialization of our assets and balance sheet strength | 25% |

**Raising money and Investor Relations**

**No revenues have been produced yet**

**We think this <u>should</u> be the biggest factor. Only 1 gov't contract with a $1.3m obligation.**

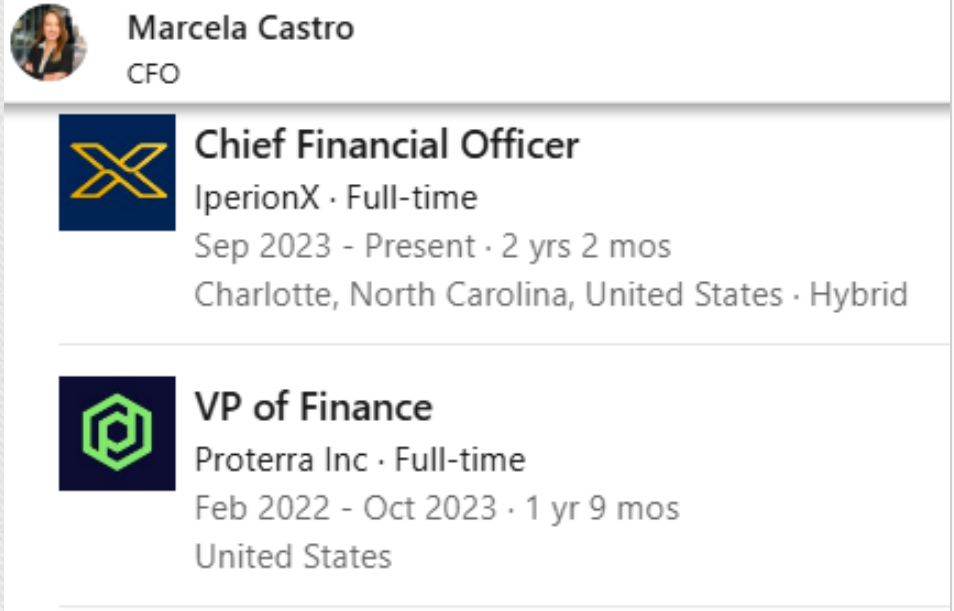
Source: IPX 2025 20-F

# *We've Identified Multiple Operating And Financial Discrepancies And Call Into Question IPX's Internal Controls*

# IPX's CFO Worked At A Company That Became Insolvent

IPX's CFO was previously VP of Finance at Proterra Inc. (Nasdaq: PRTA) which was a troubled SPAC that ultimately filed for bankruptcy. The Company later agreed to a $29 million settlement in August 2025 to resolve allegations that it misled investors by failing to disclose significant financial problems, including potential violations of financial clauses and risks to its operations. It is important to stress that CFO Castro was not named in the complaint or alleged to have done anything wrong, but presumably she reported to Proterra's CFO Karina Franco Padilla who was a named defendant. We note her prior experience for investor awareness, but make no allegation of wrongdoing on her part.

## IPX's CFO Was Previously VP of Finance At Proterra, Inc.

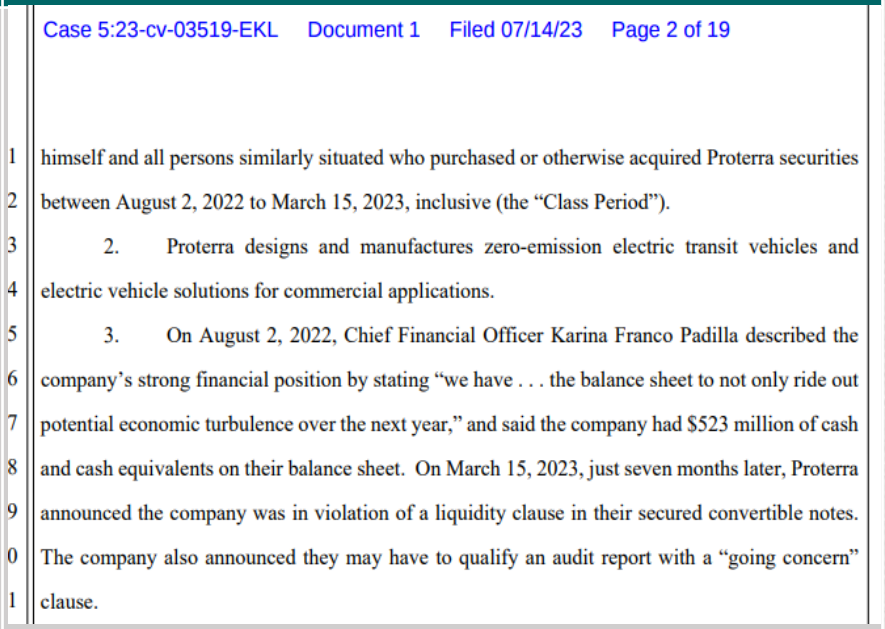


Marcela Castro
CFO

**Chief Financial Officer**
IperionX · Full-time
Sep 2023 - Present · 2 yrs 2 mos
Charlotte, North Carolina, United States · Hybrid

**VP of Finance**
Proterra Inc · Full-time
Feb 2022 - Oct 2023 · 1 yr 9 mos
United States

## Proterra Faced Securities Litigation Which Alleged That It Misled Investors About Its Liquidity, Balance Sheet And Financial Condition



Case 5:23-cv-03519-EKL Document 1 Filed 07/14/23 Page 2 of 19

himself and all persons similarly situated who purchased or otherwise acquired Proterra securities between August 2, 2022 to March 15, 2023, inclusive (the "Class Period").

2. Proterra designs and manufactures zero-emission electric transit vehicles and electric vehicle solutions for commercial applications.

3. On August 2, 2022, Chief Financial Officer Karina Franco Padilla described the company's strong financial position by stating "we have . . . the balance sheet to not only ride out potential economic turbulence over the next year," and said the company had $523 million of cash and cash equivalents on their balance sheet. On March 15, 2023, just seven months later, Proterra announced the company was in violation of a liquidity clause in their secured convertible notes. The company also announced they may have to qualify an audit report with a "going concern" clause.

Source: Castro LinkedIn biography, Proterra Securities Litigation Settlement

SPRUCE POINT CAPITAL MANAGEMENT

# We Believe The Chief Legal Officer Departed With Subpar Corporate Disclosure

**We are troubled by the disappearance of IPX's Chief Legal Officer (CLO) Jeanne McMullin**. A single footnote in the recent 2025 Annual Report filed September 30, 2025 denotes that she is no longer part of the Key Management Personnel (KMP) in the 2024 compensation table. However, there is evidence that she was still being represented as the CLO in August 2024 (two months into FY 2025) and appeared on both IPX's website and was also featured in the Canaccord Genuity Growth Conference investor presentation in August 2024. IPX references no compensation at all for CLO McMullin in the FY25 table. As a best practice, we believe IPX should have promptly filed a 6-K notification with the SEC to disclose her departure. The SEC told IPX in a comment letter dated filed February 7, 2024 that it was concerned by previous lapses in disclosures between the SEC and ASX.

## Why Was No Compensation Shown For CLO McMullin In 2025?

Details of the nature and amount of each element of the emoluments of each KMP of the Group for the year ended June 30, 2025, are as follows:

| | Short-term benefits | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2025 | Salary & fees US$ | Cash bonus US$ | Other US$ | Post-employment benefits US$ | Termination benefits US$ | Share-based payment expense US$ | Total US$ | Performance related % |
| **Directors** | | | | | | | | |
| Todd Hannigan[1] | 317,500 | – | – | 19,411 | – | 834,131 | 1,171,042 | 71% |
| Anastasios Arima | 475,000 | 480,000 | 7,857 | – | – | 1,047,347 | 2,010,204 | 52% |
| Lorraine Martin | 75,000 | – | – | – | – | 111,052 | 186,052 | 60% |
| Vaughn Taylor | 80,833 | – | – | 9,296 | – | 93,217 | 183,346 | 51% |
| Tony Tripeny | 19,167 | – | – | – | – | 19,887 | 39,054 | – |
| Melissa Waller | 75,000 | – | – | – | – | 111,052 | 186,052 | 60% |
| Beverly Wyse | 80,000 | – | – | – | – | 111,052 | 191,052 | 58% |
| **Other KMP** | | | | | | | | |
| Toby Symonds | 451,500 | 456,000 | 23,010 | 9,075 | – | 2,040,207 | 2,979,792 | 68% |
| W. Scott Sparks | 282,500 | 250,000 | 14,674 | 8,800 | – | 465,379 | 1,021,353 | 46% |
| Dominic Allen | 282,500 | 150,000 | 49,425 | – | – | 278,638 | 760,563 | 37% |
| Marcela Castro | 270,000 | 150,000 | 23,010 | 16,050 | – | 384,108 | 843,168 | 46% |
| **Total** | **2,409,000** | **1,486,000** | **117,976** | **62,632** | **–** | **5,496,070** | **9,571,678** | |

Notes:

1. Mr. Hannigan's share-based payments includes 141,844 shares issued in lieu of his cash bonus of US$250,000, as approved by shareholders on June 27, 2025.

## Footnote Disclosure In The FY 2025 Annual Report Related To 2024 Compensation

| | Short-term benefits | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2024 | Salary & fees US$ | Cash bonus US$ | Other US$ | Post-employment benefits US$ | Termination benefits US$ | Share-based expense payment US$ | Total US$ | Performance related % |
| **Directors** | | | | | | | | |
| Todd Hannigan | 236,667 | – | – | 18,025 | – | 139,902 | 394,594 | 35% |
| Anastasios Arima | 366,667 | 180,000 | 9,190 | – | – | 279,804 | 835,661 | 55% |
| Lorraine Martin | 70,000 | – | – | – | – | 164,819 | 234,819 | 70% |
| Vaughn Taylor | 80,000 | – | – | 17,608 | – | 79,654 | 177,262 | 45% |
| Melissa Waller | 75,000 | – | – | – | – | 164,819 | 239,819 | 69% |
| Beverly Wyse | 80,000 | – | – | – | – | 164,819 | 244,819 | 67% |
| **Other KMP** | | | | | | | | |
| Toby Symonds | 350,000 | 174,000 | 41,116 | 5,306 | – | 1,114,375 | 1,684,797 | 76% |
| W. Scott Sparks | 221,667 | 82,500 | 19,005 | 10,917 | – | 163,815 | 497,904 | 49% |
| Dominic Allen | 221,667 | 82,500 | 106,270 | 5,277 | – | 62,066 | 477,779 | 30% |
| Marcela Castro[1] | 201,763 | 50,000 | 20,769 | 7,000 | – | 131,489 | 411,021 | 44% |
| Gregory Swan[2] | – | 65,560 | – | – | – | – | 65,560 | 100% |
| Jeanne McMullin[3] | 240,341 | 100,000 | 26,276 | 4,167 | – | 283,784 | 654,568 | 59% |
| **Total** | **2,143,772** | **734,560** | **222,626** | **68,300** | **–** | **2,749,346** | **5,918,604** | |

Notes:

1. Ms. Castro was appointed Chief Accounting Officer effective September 12, 2023, and Chief Financial Officer effective December 21, 2023.
2. Mr. Swan ceased to be CFO and KMP effective December 21, 2023. Mr Swan provides services as the Company Secretary through a services agreement with the Apollo Group. During the 2024 financial year, Apollo Group was paid or is payable US$270,763 (A$413,000) for the provision of serviced office facilities and administrative, accounting and company secretarial services to the Group.
3. Ms. McMullin was not a KMP for fiscal year 2025.

**Single footnote disclosure**

Source: Wayback Machine of IPX Website and Canaccord Presentation (August 2024), Red underline Spruce Point. SEC comment letter.

SPRUCE POINT CAPITAL MANAGEMENT

# IPX Appears To Have Cash Control Issues: FY 2025 G&A Costs

IPX said it remediated past material weaknesses of internal controls in its 20-F. Spruce Point has identified some financial reporting issues that appear to affect operating cash flows. By evaluating the quarterly reports, we see that the full year figures do not seem to reconcile. The biggest difference is in administration and corporate costs which were apparently off by $274,000.

## Q1 Ended 9/30/24

| ABN | Quarter ended ("current quarter") |
|---|---|
| 84 618 935 372 | September 30, 2024 |

| Consolidated statement of cash flows | | Current quarter USD$'000 | Year to date (3 months) USD$'000 |
|---|---|---|---|
| 1. | **Cash flows from operating activities** | | |
| 1.1 | Receipts from customers | 500 | 500 |
| 1.2 | Payments for | | |
| | (a) exploration & evaluation | (26) | (26) |
| | (b) development | - | - |
| | (c) production | - | - |
| | (d) staff costs | (2,306) | (2,306) |
| | (e) administration and corporate costs | (590) | (590) |
| 1.3 | Dividends received (see note 3) | - | - |
| 1.4 | Interest received | 364 | 364 |
| 1.5 | Interest and other costs of finance paid | (29) | (29) |
| 1.6 | Income taxes paid | - | - |
| 1.7 | Government grants and tax incentives | - | - |
| 1.8 | Other (provide details if material): | | |
| | (a) research & development | (1,342) | (1,342) |
| | (b) business development | (83) | (83) |
| 1.9 | **Net cash from / (used in) operating activities** | **(3,512)** | **(3,512)** |

## Q2 Ended 12/31/24

| ABN | Quarter ended ("current quarter") |
|---|---|
| 84 618 935 372 | December 31, 2024 |

| Consolidated statement of cash flows | | Current quarter USD$'000 | Year to date (6 months) USD$'000 |
|---|---|---|---|
| 1. | **Cash flows from operating activities** | | |
| 1.1 | Receipts from customers | - | 500 |
| 1.2 | Payments for | | |
| | (a) exploration & evaluation | (61) | (87) |
| | (b) development | - | - |
| | (c) production | - | - |
| | (d) staff costs | (4,913) | (7,219) |
| | (e) administration and corporate costs | (1,642) | (2,232) |
| 1.3 | Dividends received (see note 3) | - | - |
| 1.4 | Interest received | 648 | 1,012 |
| 1.5 | Interest and other costs of finance paid | (91) | (120) |
| 1.6 | Income taxes paid | - | - |
| 1.7 | Government grants and tax incentives | - | - |
| 1.8 | Other (provide details if material): | | |
| | (a) research & development | (999) | (2,341) |
| | (b) business development | (109) | (192) |
| 1.9 | **Net cash from / (used in) operating activities** | **(7,167)** | **(10,679)** |

## Q3 Ended 3/31/25

| ABN | Quarter ended ("current quarter") |
|---|---|
| 84 618 935 372 | March 31, 2025 |

| Consolidated statement of cash flows | | Current quarter USD$'000 | Year to date (9 months) USD$'000 |
|---|---|---|---|
| 1. | **Cash flows from operating activities** | | |
| 1.1 | Receipts from customers | 32 | 532 |
| 1.2 | Payments for | | |
| | (a) exploration & evaluation | (29) | (117) |
| | (b) development | - | - |
| | (c) production | - | - |
| | (d) staff costs | (4,784) | (11,988) |
| | (e) administration and corporate costs | (1,109) | (3,345) |
| 1.3 | Dividends received (see note 3) | - | - |
| 1.4 | Interest received | 645 | 1,650 |
| 1.5 | Interest and other costs of finance paid | (80) | (199) |
| 1.6 | Income taxes paid | - | - |
| 1.7 | Government grants and tax incentives | - | - |
| 1.8 | Other (provide details if material): | | |
| | (a) research & development | (1,079) | (3,420) |
| | (b) business development | (116) | (308) |
| 1.9 | **Net cash from / (used in) operating activities** | **(6,517)** | **(17,205)** |

## Q4 Ended 6/30/25

| ABN | Quarter ended ("current quarter") |
|---|---|
| 84 618 935 372 | June 30, 2025 |

| Consolidated statement of cash flows | | Current quarter USD$'000 | Year to date (9 months) USD$'000 |
|---|---|---|---|
| 1. | **Cash flows from operating activities** | | |
| 1.1 | Receipts from customers | 37 | 568 |
| 1.2 | Payments for | | |
| | (a) exploration & evaluation | (498) | (615) |
| | (b) development | - | - |
| | (c) production | - | - |
| | (d) staff costs | (3,183) | (15,180) |
| | (e) administration and corporate costs | (1,654) | (5,269) |
| 1.3 | Dividends received (see note 3) | - | - |
| 1.4 | Interest received | 557 | 2,208 |
| 1.5 | Interest and other costs of finance paid | (55) | (254) |
| 1.6 | Income taxes paid | - | - |
| 1.7 | Government grants and tax incentives | 96 | 96 |
| 1.8 | Other (provide details if material): | | |
| | (a) research & development | (1,293) | (4,713) |
| | (b) business development | (84) | (391) |
| 1.9 | **Net cash from / (used in) operating activities** | **(6,077)** | **(23,550)** |

**Should Say 12 Months, Not 9 Months**

**Full Year = Q1+Q2+Q3+Q4**
**590+1,642+1,109+1,654 = 4,995**
**vs.**
**5,269 reported (274 difference)**

Source: Q1, Q2, Q3, Q4, Red underline Spruce Point

# Employee Count Reporting Variance

We identified a variance in employees reported between the 2025 Annual Report and 20-F which were filed at the SEC just two weeks apart. Both figures reference FY 2025 (ending June 30th). The 20-F indicates 35% more employees or 70 vs. 52.

## FY 2025 Annual Report vs. 20-F Employee Reporting

**FY 2025 Annual Report Performance Indicates 52 Employees**

### Remuneration Report continued

Executive Remuneration continued

Performance Based Remuneration – Short-Term Incentive continued

The following table outlines the fiscal 2025 performance against the above short-term incentive criteria:

| Measure | Measure | Weighting | Achievement |
|---|---|---|---|
| Safety | Managing the health and safety matters as a critical business activity. | 15% | Achieved zero recordable injuries in 2024.<br>Designed and implemented robust engineering systems to ensure workplace safety. |
| People & Sustainability | Recruitment and retention of key talent across the business, managing environmental compliance and promoting sustainable development. | 15% | Recruitment and retention of top talent is critical to IperionX's long-term success. In 2024 we added 24 employees, growing the team to 52 employees.<br>Obtained revalidation by UL for 100% recycled content for powder production in SLC, Utah. |

**FY 2025 20-F Indicates 70 Employees**

**D. Employees**

As of June 30, 2025, we had 70 employees and 5 employee contractors based in 3 different countries, as shown in the chart below.

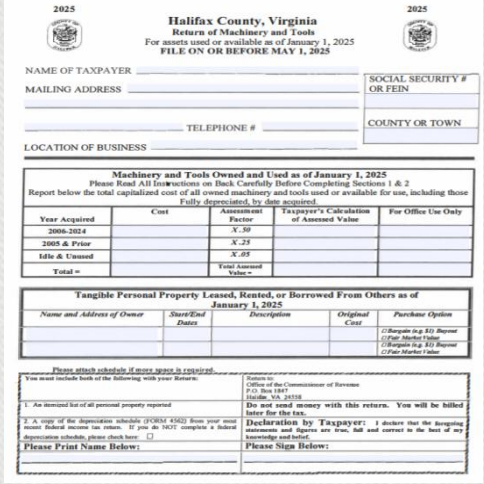
| | United States | Australia | Canada |
|---|---|---|---|
| Employees | 70 | - | - |
| Employee Contractors | - | 3 | 2 |

Source: IPX 2025 20-F and Annual Report. Note: In 2023 and 2024, IPX reported 30 and 48 employees, respectively.

# FOIA In Virginia Indicated No Forms Filed Detailing Property Or Equipment

We submitted a FOIA with Halifax County, VA where IPX's manufacturing facility is located to request its Machinery & Tools and Tangible Property forms for the last three years.(1) We received a response that the forms do not exist, only a property bill for vehicles. Some of IPX's assets are procured (and titled) on behalf of the U.S. government. However, IPX says that government assets amounted to $10.3m. IPX has reported almost $30m in PP&E additions since 2022. While some may have been related to the Utah pilot plant, we would have expected a substantial majority of the $19m in 2025 to be in Virginia.

## Machine & Tools (M&T)



2025

**Halifax County, Virginia**
**Return of Machinery and Tools**
For assets used or available as of January 1, 2025
FILE ON OR BEFORE MAY 1, 2025

2025

NAME OF TAXPAYER

MAILING ADDRESS

SOCIAL SECURITY # OR FEIN

TELEPHONE #

COUNTY OR TOWN

LOCATION OF BUSINESS

**Machinery and Tools Owned and Used as of January 1, 2025**
Please Read All Instructions on Back Carefully Before Completing Sections 1 & 2
Report below the total capitalized cost of all owned machinery and tools used or available for use, including those Fully depreciated, by date acquired.

| Year Acquired | Cost | Assessment Factor | Taxpayer's Calculation of Assessed Value | For Office Use Only |
|---|---|---|---|---|
| 2006-2024 | | X .50 | | |
| 2005 & Prior | | X .25 | | |
| Idle & Unused | | X .05 | | |
| Total = | | Total Assessed Value = | | |

**Tangible Personal Property Leased, Rented, or Borrowed From Others as of January 1, 2025**

| Name and Address of Owner | Start/End Dates | Description | Original Cost | Purchase Option |
|---|---|---|---|---|
| | | | | ☐Bargain (e.g. $1) Buyout ☐Fair Market Value |
| | | | | ☐Bargain (e.g. $1) Buyout ☐Fair Market Value |

Please attach schedule if more space is required.

You must include both of the following with your Return:

1. An itemized list of all personal property reported

2. A copy of the depreciation schedule (FORM 4562) from your most recent federal income tax return. If you do NOT complete a federal depreciation schedule, please check here: ☐

Return to:
Office of the Commissioner of Revenue
P.O. Box 1847
Halifax, VA 24558

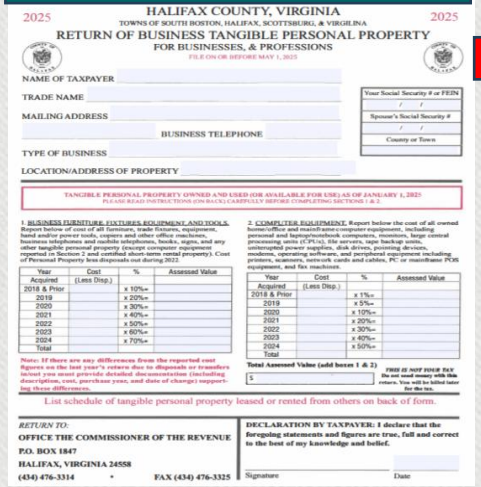
Do not send money with this return. You will be billed later for the tax.

**Declaration by Taxpayer:** I declare that the foregoing statements and figures are true, full and correct to the best of my knowledge and belief.

Please Print Name Below:

Please Sign Below:

## Business Tangible Property



2025

**HALIFAX COUNTY, VIRGINIA**
TOWNS OF SOUTH BOSTON, HALIFAX, SCOTTSBURG, & VIRGILINA
**RETURN OF BUSINESS TANGIBLE PERSONAL PROPERTY**
FOR BUSINESSES, & PROFESSIONS
FILE ON OR BEFORE MAY 1, 2025

2025

NAME OF TAXPAYER

TRADE NAME

MAILING ADDRESS

BUSINESS TELEPHONE

TYPE OF BUSINESS

LOCATION/ADDRESS OF PROPERTY

Your Social Security # or FEIN

Spouse's Social Security #

County or Town

TANGIBLE PERSONAL PROPERTY OWNED AND USED (OR AVAILABLE FOR USE) AS OF JANUARY 1, 2025
PLEASE READ INSTRUCTIONS (ON BACK) CAREFULLY BEFORE COMPLETING SECTIONS 1 & 2.

1. BUSINESS FURNITURE, FIXTURES, EQUIPMENT AND TOOLS. Report below of cost of all furniture, trade fixtures, equipment, hand and/or power tools, copiers and other office machines, business telephones and cochlin telephones, books, signs, and any other tangible personal property (except computer equipment reported in Section 2 and certified short-term rental property). Cost of Personal Property less disposals out during 2022.

| Year Acquired | Cost (Less Disp.) | % | Assessed Value |
|---|---|---|---|
| 2018 & Prior | | x 10%= | |
| 2019 | | x 20%= | |
| 2020 | | x 30%= | |
| 2021 | | x 40%= | |
| 2022 | | x 50%= | |
| 2023 | | x 60%= | |
| 2024 | | x 70%= | |
| Total | | | |

2. COMPUTER EQUIPMENT. Report below the cost of all owned home/office and main/franchise computer equipment, including personal and laptop/notebook computers, monitors, large central processing units (CPUs), file servers, tape backup units, uninterrupted power supplies, disk drives, pointing devices, modems, operating software, and peripheral equipment including printers, scanners, network cards and cables, PC or mainframe POS equipment, and fax machines.

| Year Acquired | Cost (Less Disp.) | % | Assessed Value |
|---|---|---|---|
| 2018 & Prior | | x 1%= | |
| 2019 | | x 5%= | |
| 2020 | | x 10%= | |
| 2021 | | x 20%= | |
| 2022 | | x 30%= | |
| 2023 | | x 40%= | |
| 2024 | | x 50%= | |
| Total | | | |

Total Assessed Value (add boxes 1 & 2) $

THIS IS NOT YOUR BILL. Do not send money with this return. You will be billed later for the tax.

Note: If there are any differences from the reported cost figures on the last year's return due to disposals or transfers in/out you must provide detailed documentation (including description, cost, purchase year, and date of change) supporting these differences.

List schedule of tangible personal property leased or rented from others on back of form.

RETURN TO:
OFFICE THE COMMISSIONER OF THE REVENUE
P.O. BOX 1847
HALIFAX, VIRGINIA 24558
(434) 476-3314 • FAX (434) 476-3325

DECLARATION BY TAXPAYER: I declare that the foregoing statements and figures are true, full and correct to the best of my knowledge and belief.

Signature Date

## Halifax County, VA FOIA Response

*"We have no Business Tangible Property or M&T Returns for Iperionx or any of its Subsidiaries for 2023, 2024 or 2025. We do have a personal property bill for vehicles For 2024 and 2025."*

## IPX 20-F Disclosure

*"**As of June 30, 2025, the Company has procured assets on behalf of the government that cost approximately $10.3 million**. (2025: $4.0 million), (2024: $6.3 million). We received cash reimbursements from the U.S. DoW of $5.6 million during the twelve months ended June 30, 2025 (2024: $4.7 million). We expect to utilize the full $12.7 million of available funding by the end of fiscal year 2026. Title to all assets purchased by the Group with funds from the U.S. government vest with the U.S. government during the term of the technology investment agreement…**Through June 30, 2025, the Company used government funds primarily to acquire equipment used to produce titanium powder from recycled sources of scrap at the construction site**."*

## IPX Property, Plant and Equipment Additions

| $ in mm | 2022 | 2023 | 2024 | 2025 | Cumulative |
|---|---|---|---|---|---|
| Additions to PP&E | $0.9 | $2.1 | $5.7 | $16.0 | $24.7 |
| Additions to Right-of-Use Assets (leases) | $0.1 | $1.0 | $0.9 | $3.0 | $5.0 |
| **Total PP&E Additions** | **$1.0** | **$3.1** | **$6.6** | **$19.0** | **$29.7** |

Source: Spruce Point Research, FOIA Request, IPX disclosures, Halifax County, VA Forms. 1) IPX frequently shows pictures of its property and machinery (a, b, c).

# Email Verification of Missing Capex Forms

Here is the email directly from Halifax County, Virginia Commissioner of Revenue verifying that neither IperionX or any of its subsidiaries have the requisite forms filed related to tangible property, machinery, tools and equipment (owned or leased) for the past three years. Even if the Company owned no machinery or tools (or leases), the instructions say that it still is required to file the form. It is possible IPX takes the view that the form is not necessary since it has no revenue and reports no taxes paid.

## Email From Halifax, VA

From: Brenda Powell <bpowell@co.halifax.va.us>
To: [redacted]
Cc: "Tomeka Morgan"<tcm@co.halifax.va.us>
Date: Wed, 29 Oct 2025 14:28:51 -0500
Subject: FOIA Request
========== Forwarded message ==========

We have no Business Tangible Property or M&T Returns for Iperionx or any of its

Subsidiaries for 2023, 2024 or 2025. We do have a personal property bill for vehicles

For 2024 and 2025.

Brenda P Powell, MCR
Commissioner of the Revenue
Halifax County, VA
434-476-3314
bpowell@co.halifax.va.us

## Form Instructions

**Instructions**

- **Report all machinery and tools, unlicensed motor vehicles, and delivery equipment used in manufacturing, mining, water well drilling, processing or reprocessing, radio or television, broadcasting, dairy, dry cleaning or laundry businesses on this return for local taxation.**
- **All property must be reported at its total capitalized cost before any allowance for trade-in or depreciation. Total capitalized cost should include the actual purchase price (excluding capitalized interest), installation (labor), wiring, design, special foundations and supports, transportation and freight, and any other normal costs of acquiring machinery and tools. These cost figures must be reported on a calendar year basis.**
- **ALL EXPENSED OR FULLY DEPRECIATED ITEMS ON HAND JANUARY 1, 2025, REGARDLESS OF DATE OF PURCHASE, SHOULD BE INCLUDED AT ORIGINAL COST.**
- **IF YOU OWN NO MACHINERY AND TOOLS, YOU MUST STILL FILE A RETURN: Please enter "NONE" in the Machinery and Tools area. Provide an explanation of how your business is conducted without the use of property.**
- **Machinery and tools may be reported on the "Idle and Unused" line ONLY if they have been continually idle and unused for a period of at least one year prior to January 1, 2025. In order for the "Idle and Unused" to be exempt, a written request must be received by May 1, 2025. Construction-in-progress, occasional, and seasonal use of machinery and tools would not constitute "idle and unused" property.**
- **A detailed list of assets itemizing all property reported by capitalized cost and date of acquisition must be submitted with this return. Also, an explanation must be provided with this return if there is a difference between the property reported on this return and your 2024 return.**
- **Calculate the assessed value of the property reported by multiplying the cost figures by the assessment percentages listed.**
- **Report in the Tangible Property area all tangible personal property that is leased, rented, or borrowed from others as required by 58.1-3518 of the code of Virginia. Please review the terms of each lease to determine if it is a true lease. A "lease-purchase" ("Capital lease"), usually is non cancelable and characterized by a nominal (often $1.00) buyout provision. It is actually a financing arrangement and should be reported under the Machinery and Tools section of the form.**

Source: Spruce Point Research, FOIA Request, IPX disclosures, Halifax County, VA Forms, Red emphasis Spruce Point.

SPRUCE POINT CAPITAL MANAGEMENT

# PP&E And Capex Discrepancies Emerge

We are concerned by the apparent divergence of cash costs related to capex and amounts recorded on the balance sheet within PP&E. Through 2023, the reported amounts reconciled, but in 2024 and 2025 it appears that they diverged.

| IPX Property, Plant & Equipment Activity | | | | | | |
|---|---|---|---|---|---|---|
| **US$ as reported** | **Source In Financial Report** | **2021** | **2022** | **2023** | **2024** | **2025** |
| Additions To PP&E | PP&E Footnote | 66,818 | 889,988 | 2,077,794 | 5,745,871 | 15,966,078 |
| Purchase of PP&E | Cash Flow Statement (Investing) | 66,818 | 889,988 | 2,077,794 | 5,018,093 | 16,963,016 |
| | Match: | Yes | Yes | Yes | No | No |
| | **Difference** | **0** | **0** | **0** | **727,778** | **-996,938** |
| | **Impairment** | **--** | **--** | **--** | **198,750** | **--** |
| | **Loss on Disposal of PP&E** | | | | **16,353** | **260,569** |

**No specific explanation why PP&E was impaired**

**More indicators of potential issues for a young growth company**

Source: IPX Annual Reports

# IPX Appears To Have Cash Control Issues: FY 2025 Capex

Spruce Point has identified some financial reporting issues affecting FY 2025 capex figures. The quarterly totals do not match the full year totals in the Appendix 5B. The Appendix 5B total does not match the Annual Report.

## Q1 Ended 9/30/24

| | | | |
|---|---|---|---|
| 2. | Cash flows from investing activities | | |
| 2.1 | Payments to acquire: | | |
| | (a) entities | - | - |
| | (b) tenements | (128) | (128) |
| | (c) property, plant and equipment | (2,830) | (2,830) |
| | (d) exploration & evaluation | - | - |
| | (e) investments | - | - |
| | (f) other non-current assets | - | - |

## Q2 Ended 12/31/24

| | | | |
|---|---|---|---|
| 2. | Cash flows from investing activities | | |
| 2.1 | Payments to acquire: | | |
| | (a) entities | - | - |
| | (b) tenements | (292) | (420) |
| | (c) property, plant and equipment | (2,180) | (5,010) |
| | (d) exploration & evaluation | - | - |
| | (e) investments | - | - |
| | (f) other non-current assets | - | - |

## Q3 Ended 3/31/25

| | | | |
|---|---|---|---|
| 2. | Cash flows from investing activities | | |
| 2.1 | Payments to acquire: | | |
| | (a) entities | - | - |
| | (b) tenements | (83) | (503) |
| | (c) property, plant and equipment | (4,562) | (9,570) |
| | (d) exploration & evaluation | - | - |
| | (e) investments | - | - |
| | (f) other non-current assets | - | - |

## Q4 Ended 6/30/25

| | | | |
|---|---|---|---|
| 2. | Cash flows from investing activities | | |
| 2.1 | Payments to acquire: | | |
| | (a) entities | - | |
| | (b) tenements | (134) | (637) |
| | (c) property, plant and equipment | (6,114) | (14,785) |
| | (d) exploration & evaluation | - | - |
| | (e) investments | - | - |
| | (f) other non-current assets | - | (6,630) |

15,686?

## Annual Results

| | Notes | 2025 US$ | 2024 US$ |
|---|---|---|---|
| **Investing activities** | | | |
| Purchase of property, plant and equipment | 8 | (16,963,016) | (5,018,093) |
| Proceeds from sale of property, plant and equipment | 8 | 9,417 | 2,040,083 |
| Purchase of intangible assets | 9 | (6,678,750) | – |
| Purchase of exploration and evaluation assets | 10 | (644,661) | (3,051,559) |
| Blacksand option prepayments | 7 | – | (500,000) |
| **Net cash flows used in investing activities** | | (24,277,010) | (6,529,569) |

**Payments To Acquire PP&E**
**Q1+Q2+Q3+Q4**
**2,830+2,180+4,562+6,114 = 15,686**
**vs.**
**14,785 reported (901 difference)**

**PP&E does not match.**
**Tenements (purchase of exploration and evaluation assets) and purchase of intangibles (other non-current assets) broadly match**

Source: Q1, Q2, Q3, Q4, Red underline Spruce Point

# IPX Appears To Have Cash Control Issues: FY 2024 Capex

We also have difficulty reconciling FY 2024 purchase of PP&E figures between the quarterly and annual report. The difference is over $1.4 million. The Appendix 5B total does not match the Annual Report.

## Q1 Ended 9/30/23

| | | | |
|---|---|---|---|
| 2. | **Cash flows from investing activities** | | |
| 2.1 | Payments to acquire: | | |
| | (a) entities | - | - |
| | (b) tenements | (1,980) | (1,980) |
| | (c) property, plant and equipment | (973) | (973) |
| | (d) exploration & evaluation | (26) | (26) |

## Q2 Ended 12/31/23

| | | | |
|---|---|---|---|
| 2. | **Cash flows from investing activities** | | |
| 2.1 | Payments to acquire: | | |
| | (a) entities | - | - |
| | (b) tenements | (861) | (2,841) |
| | (c) property, plant and equipment | (997) | (1,970) |
| | (d) exploration & evaluation | - | (26) |

## Q3 Ended 3/31/24

| | | | |
|---|---|---|---|
| 2. | **Cash flows from investing activities** | | |
| 2.1 | Payments to acquire: | | |
| | (a) entities | - | - |
| | (b) tenements | (65) | (2,906) |
| | (c) property, plant and equipment | (1,073) | (3,043) |
| | (d) exploration & evaluation | - | (26) |
| | (e) investments | - | - |

## Q4 Ended 6/30/24

| | | | |
|---|---|---|---|
| 2. | **Cash flows from investing activities** | | |
| 2.1 | Payments to acquire: | | |
| | (a) entities | - | - |
| | (b) tenements | (145) | (3,051) |
| | (c) property, plant and equipment | (3,406) | (6,475) |
| | (d) exploration & evaluation | - | - |
| | (e) investments | - | - |

6,475?

**Exploration & Evaluation Amount of 26 Was Reclassified To PP&E**

## Annual Results

| | Notes | 2024 US$ | 2023 US$ |
|---|---|---|---|
| **Investing activities** | | | |
| Purchase of property, plant and equipment | 8 | (5,018,093) | (2,077,794) |
| Proceeds from sale of property, plant and equipment | 8 | 2,040,083 | – |
| Purchase of exploration and evaluation assets | 9 | (3,051,559) | (627,792) |
| Blacksand option prepayments | 7 | (500,000) | (3,000,000) |
| **Net cash flows used in investing activities** | | **(6,529,569)** | **(5,705,586)** |

**6,475 of PP&E from quarterlies above 5,018 Tenements match the purchase of exploration and evaluation**

Source: Q1, Q2, Q3, Q4, Red underline Spruce Point. Note: CFO Castro assumed role December 2023 according to press release.

# Why Is IPX's Audit Led From Australia When The Company Is "Unequivocally American"?

For all purposes other than its legal domicile, IPX appears to be a U.S. company with its mineral resources, R&D, manufacturing, and employees based here. In fact, the Company states it is *"unequivocally American"* and its segment reporting indicates no long-term assets outside of the U.S. Despite this fact pattern, the IPX audit is led by a PwC engagement partner based in Perth, Australia when PwC has an office in Charlotte, NC which is just a five-minute walk from IPX's headquarters. We are troubled by this and believe that IPX's audit should be led by a U.S.-based partner.

pwc

individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial report.

A further description of our responsibilities for the audit of the financial report is located at the Auditing and Assurance Standards Board website at: https://auasb.gov.au/media/bwvjcgre/ar1_2024.pdf. This description forms part of our auditor's report.

**Report on the remuneration report**

**Our opinion on the remuneration report**

We have audited the remuneration report included in the directors' report for the year ended 30 June 2025.

In our opinion, the remuneration report of IperionX Limited for the year ended 30 June 2025 complies with section 300A of the *Corporations Act 2001*.

**Responsibilities**

The directors of the Company are responsible for the preparation and presentation of the remuneration report in accordance with section 300A of *the Corporations Act 2001*. Our responsibility is to express an opinion on the remuneration report, based on our audit conducted in accordance with Australian Auditing Standards.

PricewaterhouseCoopers

PricewaterhouseCoopers

Craig Heatley
Partner

Perth
30 September 2025

Who we are and where we operate

IperionX is a U.S.-based titanium metal technology business with an award-winning, patented technology portfolio. While we are listed on both the ASX and Nasdaq, our business is unequivocally American: the vast majority of our executives and employees, our customers, and our operating assets are in the United States, supporting the rapid build-out of a domestic titanium supply chain.

## 22. Segment Information

AASB 8 requires operating segments to be identified on the basis of internal reports about components of the Consolidated Entity that are regularly reviewed by the chief operating decision maker in order to allocate resources to the segment and to assess its performance. The Consolidated Entity operates in one segment, being exploration and evaluation of mineral properties in the U.S. and research and development of associated metals technologies to support an integrated titanium processing operation.

(a) Reconciliation of non-current assets by geographical location

| | 2025 US$ | 2024 US$ |
|---|---|---|
| United States of America | 45,719,988 | 13,887,873 |
| | 45,719,988 | 13,887,873 |

**IPX reports no long-term assets outside of the U.S. but its audit engagement partner is based in Perth, Australia.**

Source: IPX Annual Report, PwC Charlotte, NC location

# *We Estimate 70% - 95% Downside Risk Potential To IPX's Share Price*

# Doubling of Pledged Shares By CEO Without Making An SEC Disclosure

In February 2024, the SEC notified IPX in a comment letter that it has been filing reports with the Australian Securities Exchange ("ASX") that have not been filed with the SEC. In June 2024, IPX disclosed in an SEC filing that CEO Arima had pledged 1.25m shares as collateral for a margin lending facility. No further SEC filings have been made to update this disclosure. In October 2025, an ASX filing revealed that 6.6m shares are pledged but no corresponding disclosure was made to the SEC.

## Filed With ASX: October 8, 2025

**Part 2 – Change of director's interests in contracts**

Note: In the case of a company, interests which come within paragraph (ii) of the definition of "notifiable interest of a director" should be disclosed in this part.

| | |
|---|---|
| **Detail of contract** | Master Loan Agreement, Deed of Security, and Share Possession Agreements between Moshos Family Investments Pty Ltd ATF Moshos Family Trust and Equities First Holdings, LLC |
| **Nature of interest** | Moshos Family Investments Pty Ltd ATF Moshos Family Trust, an entity controlled by Mr Arima, has entered into a margin lending facility in respect of IperionX ordinary shares. The loan provides Moshos Family Investments Pty Ltd with the ability to borrow against the value of the IperionX ordinary shares held as collateral under the agreement. The term of the loan facility is 2 years.<br><br>A total of 6,600,000 IperionX ordinary shares had previously been transferred to a custodian of Equities First Holdings, LLC (HSBC Custody Nominees (Australia) Pty Ltd) which have been borrowed against and allocated as collateral under the margin lending facility.<br><br>Moshos Family Investments Pty Ltd has now transferred an additional 250,000 IperionX ordinary shares to HSBC Custody Nominees (Australia) Pty Ltd pursuant to the Master Loan Agreement, Deed of Security and Share Possession Agreements. No change in beneficial ownership. |
| **Name of registered holder (if issued securities)** | HSBC Custody Nominees (Australia) Pty Ltd |
| **Date of change** | October 1, 2025 |

## Filed With SEC: June 4, 2024

**Part 2 – Change of director's interests in contracts**

Note: In the case of a company, interests which come within paragraph (ii) of the definition of "notifiable interest of a director" should be disclosed in this part.

| | |
|---|---|
| **Detail of contract** | Master Loan Agreement, Deed of Security and Share Possession Agreement between Moshos Family Investments Pty Ltd ATF Moshos Family Trust and Equities First Holdings, LLC. |
| **Nature of interest** | Moshos Family Investments Pty Ltd ATF Moshos Family Trust, an entity controlled by Mr Arima, has entered into a margin lending facility in respect of IperionX ordinary shares. The loan provides Moshos Family Investments Pty Ltd with the ability to borrow against the value of the IperionX ordinary shares held as collateral under the agreement. The term of the loan facility is 2 years.<br><br>3,000,000 IperionX ordinary shares have been transferred to a custodian (HSBC Custody Nominees (Australia) Pty Ltd), of which 1,250,000 shares have been borrowed against and allocated as collateral under the margin lending facility and 1,750,000 shares remain available for take up as collateral under the margin lending facility. |
| **Name of registered holder (if issued securities)** | HSBC Custody Nominees (Australia) Pty Ltd |
| **Date of change** | May 28, 2024 |

Source: SEC filed 6-K , ASX filing; SEC Comment Letter and IPX response. Red underline Spruce Point

SPRUCE POINT CAPITAL MANAGEMENT

# Recent Buying Includes Passive / Index Investors

Based on Spruce Point's analysis, we estimate that recent large buying was driven from U.S. investors, notably Vanguard which is a passive investor that tracks indices and manages ETFs. IPX filed notification to investors that it became included in the S&P/ASX 200. Index buyers may not be completely attuned to the underlying issues we've identified.

| Analysis of Institutional Shareholder Activity | | | | |
|---|---|---|---|---|
| **Shareholder** | **Affiliation / Orientation** | **Ordinary Shares Reported** | **Bought (Sold)** | **Reporting Date** |
| Bank of NY Mellon | ADR Custodian / Investor | 56.7 | +3.9 | 9/18/25 to 10/21/25 |
| FMR and FIL (Fidelity) | Fundamental | 42.8 | (0.5) | FIL: 2/11/25<br>FMR: 2/11/25 |
| State Street Corp | Passive/Index | 22.3 | +3.4 | 9/24/25 |
| Vanguard Group | Passive/Index | 16.8 | +16.8 | 9/26/25 |
| B. Riley Financial (1) | Research Provider / Market Maker / Underwriter | -- | (15.8) | 3/31/24 and 6/30/24 |
| Regal Funds | Investor / Hedge Fund | 8.8 | (10.1) | 7/23/25 and 10/31/25 |

**Often promotes speculative companies**

**Large Index / ETF additions recently became substantial shareholders**

Source: Bloomberg, exchange filings, S&P addition.

(1) Listed as owning 15.8 million shares at its peak and last filing in March 2024 disclosed 337,762 ADS or 3.3M ordinary shares. Recent filings indicate no longer an owner.

SPRUCE POINT CAPITAL MANAGEMENT

# IPX Valuation Is $1.2 Billion

IPX's valuation is $1.2 billion and the Company still has not identified any off-take agreements for the Titan Project and is reliant on a narrow set of customers with limited purchase obligations. We adjust the valuation for the recent capital raise.

| IPX's Current Capital Structure And Enterprise Value | | | |
|---|---|---|---|
| US$ in mm, except shares and per share figures (may not sum due to rounding) | Street | Adjusted | Spruce Point Adjusted |
| **Stock Price** | **$37.47** | **--** | **$36.51** |
| Common Stock (6/30/25) | 32.0 | -- | 32.0 |
| Share Issuance (7/23/25) | -- | 1.4 | 1.4 |
| RSUs, Performance Rights and Net Options | -- | 2.5 | 2.5 |
| **Total Diluted Shares** | **32.0** | **3.8** | **35.8** |
| **Market Capitalization** | **$1,198.8** | **$140.0** | **$1,342.4** |
| Current Leases | $0.5 | -- | $0.5 |
| Long-Term Leases and Borrowings | $3.5 | -- | $3.5 |
| **Total Debt** | **$3.9** | **--** | **$3.9** |
| Less: Cash and Equivalents | $79.2 | | $79.2 |
| **Adjusted Enterprise Value** | **$1,123.5** | **$143.7** | **$1,267.1** |

Source: Company filings, recent share issuance, and Spruce Point analysis. Note: Excludes Class B performance shares as their conversion to ordinary shares is contingent on commercial production from the Titan Project area before Sept 17, 2025. Cash as of 9/30/25.

SPRUCE POINT CAPITAL MANAGEMENT

# We Believe IPX Trades At An Irrational Premium To Revenues And Price / Book Value of Its Peers

Because we believe that IPX may be challenged to meet the revenue expectations set by analysts (and they may never produce any revenue in one possible scenario), we believe the best way to evaluate the valuation is price to book value. On this metric, IPX's share price appears to be materially overvalued.

## Specialty Materials Peers

US$ in mm, ex: share price

| Name (Ticker) | Stock Price 11/12/2025 | Adj Ent. Value | 2025E EBITDA Margin | Sales Growth 2025-26 | EV / Revenues 2025E | EV / Revenues 2026E | EV / Revenues 2027E | Price / Book Value |
|---|---|---|---|---|---|---|---|---|
| **Specialty Materials** | | | | | | | | |
| Carpenter Technology (CRS) | $322.62 | $16,756 | 23.6% | 6.7% | 5.7x | 5.3x | 4.6x | 8.5x |
| ATI Inc (ATI) | $97.91 | $15,410 | 18.6% | 8.7% | 3.4x | 3.1x | 2.9x | 7.5x |
| Tronox (TROX) | $3.48 | $3,806 | 12.7% | 7.3% | 1.3x | 1.2x | 1.2x | 0.3x |
| Materion (MTRN) | $119.72 | $3,015 | 12.7% | 7.3% | 1.7x | 1.6x | 1.5x | 2.7x |
| Minerals Technologies (MTX) | $57.28 | $2,477 | 18.1% | 3.8% | 1.2x | 1.2x | NA | 1.0x |
| AMG Critical Materials (AMG NA) | $29.07 | $1,597 | 12.8% | 3.1% | 0.9x | 0.9x | 0.8x | 1.6x |
| Compass Minerals Int'l (CMP) | $17.92 | $1,496 | 16.9% | 6.6% | 1.2x | 1.1x | 1.1x | 3.0x |
| Proto Labs (PRLB) | $49.51 | $1,062 | 14.3% | 4.8% | 2.0x | 1.9x | NA | 1.8x |
| Ferroglobe (GSM) | $3.72 | $905 | 2.0% | 22.2% | 0.7x | 0.5x | 0.5x | 0.9x |
| Toho Titanium (5727 JT) | $8.89 | $969 | 13.0% | 5.8% | 1.6x | 1.5x | 1.4x | 1.6x |
| Osaka Titanium (5726 JT) | $14.71 | $836 | 22.0% | 12.6% | 2.3x | 2.1x | 1.9x | 1.9x |
| Luxfer Holdings (LXFR) | $12.26 | $370 | 13.0% | -1.0% | 1.0x | 1.0x | NA | 1.4x |
| Amaero (3DA AU) | $0.17 | $132 | -220.1% | 257.9% | 26.1x | 7.3x | 1.9x | 2.7x |
| Norsk Titanium (NTI NO) | $0.10 | $78 | -220.4% | 448.7% | 6.8x | 1.2x | 0.8x | 3.6x |
| | | **Max** | 23.6% | 448.7% | 26.1x | 7.3x | 4.6x | 8.5x |
| | | **Median** | 13.0% | 7.0% | 1.6x | 1.4x | 1.4x | 1.8x |
| | | **Min** | -220.4% | -1.0% | 0.7x | 0.5x | 0.5x | 0.3x |
| **IperionX (IPX)** | **$37.47** | **$1,267** | **9.8%** | **356.7%** | **110.7x** | **24.2x** | **6.9x** | **9.7x** |

Source: Company filings, Bloomberg and Spruce Point estimates.

SPRUCE POINT CAPITAL MANAGEMENT

# Spruce Point's Valuation Analysis: Scenario-Based Downside Risk Estimate

Below is our opinion of potential valuation outcomes under specific scenarios. These are estimates subject to significant uncertainty and depend on numerous assumptions that may not materialize. We believe that IPX is a promotional investment story which identified a *"revolutionary"* technological process that will offer an end-to-end, cheaper and environmentally cleaner solution to making titanium products. We believe investors should exercise skepticism. If revenues fail to materialize as planned, investors may revalue IPX on a price to book value basis. In this scenario, IPX could be valued at little more than its cash and value of its property and equipment with little value ascribed to intangible assets. If losses accelerate from increasing its production footprint with no revenues, at 0.5x to 1.0x tangible book value, IPX's share price could see up to 95% downside risk potential.

| $ in mm, ex: per share | | Low Multiple | High Multiple |
|---|---|---|---|
| **Base Case** | **Book Value of Equity (A)**[1] | **$127.9** | **$127.9** |
| | Diluted Shares (B) | 35.8 | 35.8 |
| | **Book Value / Dil. Share C=(A/B)** | **$3.57** | **$3.57** |
| | Price To Book Value Multiple (D) | 1.0x | 3.0x |
| | **Share Price Target = C X D**<br>***% Downside*** | **$3.57**<br>***-90%*** | **$10.71**<br>***-71%*** |
| **Downside Case** | **Book Value of Equity** | **$127.9** | **$127.9** |
| | Less: Intangible Assets | ($13.6) | ($13.6) |
| | Less: Exploration & Eval. Assets | ($6.5) | ($6.5) |
| | **Tangible Book Value** | **$107.8** | **$107.8** |
| | Diluted Shares | 35.8 | 35.8 |
| | **Tangible Book Value / Dil. Share** | **$3.01** | **$3.01** |
| | Price To Book Value Multiple | 0.5x | 1.0x |
| | **Share Price Target**<br>***% Downside*** | **$1.50**<br>***-96%*** | **$3.01**<br>***-92%*** |

Note: Diluted share count includes effect from options, RSUs and performance shares.
1) Estimated by 6/30/25 ending equity of $92.4m, plus $43.2m stock issuance, and reduced by Q1 loss of $7.8m.

## Factors Favoring Multiple Compression

- McNairy assets from the Titan Project have been evaluated since the 1950s with limited evidence of commercialization and no off-take with Chemours has occurred.
- No other offtake agreements have been reported despite claims that Japanese parties are conducting due diligence.
- IPX is expanding operations with limited revenue sources in place which we expect to accelerate financial losses.
- Questions around where, and at what price, will IPX source enough titanium scrap as a feedstock to the HAMR process.
- Core IP from Blacksand Technology acquired for little more than the R&D cost sunk into its development over a decade. Questionable reasons why a small cap Australian company discovered and acquired the "revolutionary" IP from the HAMR process which was developed in the U.S. where other titanium industry participants passed on licensing/acquiring opportunities.
- Market for titanium powders are currently oversupplied.
- Financial and operational reporting concerns.
- Management overlap with Piedmont Lithium and other mining ventures that failed to create sustaining shareholder value.

SPRUCE POINT CAPITAL MANAGEMENT

# Reviewing Past IPX Projections

In mid-2023, IPX said, *"Assuming a conservative spherical titanium metal powder price of ~US$130/kg (vs. current estimated market pricing of ~US$200/kg), and using key operating assumptions, the TCF-1 has the potential to generate revenue of ~US$145 million and EBITDA of ~US$100 million in 2026."* We acknowledge that making forecasts have inherent risks that include factors outside of management's control. Last month, IPX now says it expects to progressively scale revenue through 2026 and to inflect to positive EBITDA by year-end 2026. This new forecast does not provide much specificity in guidance, and unlike in 2023 where IPX showed projected annual powder production, the current forecast provides no such production guidance.

## Long-Term Projections Provided Mid-2023

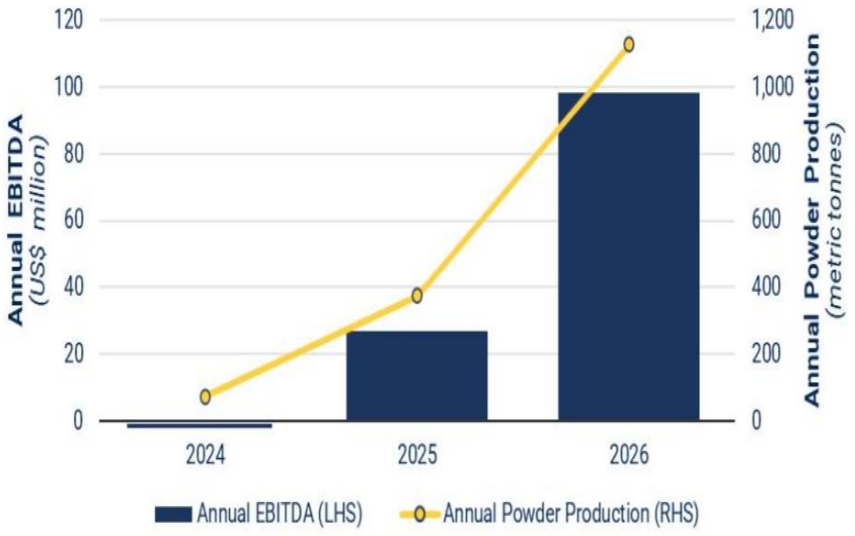



*Figure 2: IperionX Titanium Metal Powder projected production scale up and revenue generation.*

## Long-Term Projections Provided Mid 2023

IPERIONX

**PRESS RELEASE** | NASDAQ: IPX | ASX: IPX
*October 30, 2025*

**IPERIONX – SEPTEMBER 2025 QUARTERLY REPORT**

**IperionX Limited (Nasdaq | ASX: IPX)** is pleased to present its quarterly report for the period ending September 30, 2025. Highlights during and subsequent to the end of the quarter include:

**Commercial operations: production online, with higher production capacity and lower unit costs**

- All planned major manufacturing equipment is online and operational, for both titanium powder production and component manufacturing at the Titanium Manufacturing Campus in Virginia.
- Process improvements and optimization has lifted nameplate titanium powder production capacity by 60% without additional capital spend, with further increases in production capacity expected in 2026.
- Titanium manufacturing sales are expected to progressively scale through 2026, with a positive EBITDA inflection point projected by year-end 2026.
- Consumer-electronics scrap processing has commenced, using scrap supplied by the consumer electronics OEM, with IperionX by now producing a range of consumer electronic components as specified in the customer contract.
- Production of various fasteners has commenced with IperionX receiving initial purchase orders for the delivery of a range of fastener products into applications for the U.S. military and commercial and industrial markets.

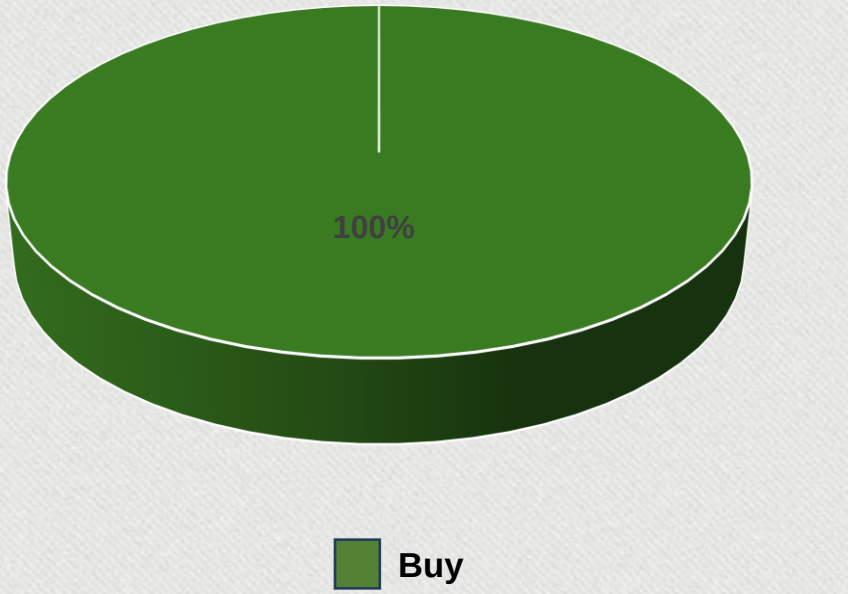
Source: Quarterly Reports (June 2023, Sept 2025).

# Our View Differs From The Market View

Analysts model revenues beginning in FY 2026 and accelerating in the out years. We believe these assumptions are aggressive. Given the large current discount to the consensus analyst price target, the market appears to be expressing skepticism.

| Analyst | Recommendation | US$ Price Target |
|---|---|---|
| Roth (US) | Buy | $74.00 |
| Alliance Global (US) | Buy | $60.00 |
| Bell Porter (Aus) | Speculative Buy | $61.10 |
| Canaccord (Aus) | Speculative Buy | $58.80 |
| B. Riley (US) | Buy | $58.00 |
| **Average Price Target:**<br>***% implied upside (downside)*** | | **$62.00**<br>**+66%** |

**Ratings Distribution**




Source: Bloomberg, Spruce Point analysis. Australian broker targets converted to US$ at spot rate.

SPRUCE POINT CAPITAL MANAGEMENT

# Where We Could Be Wrong And What Could Go Right For IPX

Our key assumptions involve uncertainties and there are a variety of things that could go right for IPX and would be beneficial for upside potential to its share price.

| Upside Factors To IPX's Share Price[1] | |
|---|---|
| **Factor** | **What Could Happen** |
| End Markets | Powder capacity shrinks and demand increases. Demand for $TiO_2$ and zircon increases. Demand for titanium products increase. |
| Management Execution | Management delivers faster financial results and more than just EBITDA breakeven by late 2026 as it currently expects. |
| Titan Project Off-Take | Positive Definitive Feasibility Study (DFS) and potential Japanese customers convert into off-take agreements. |
| Process Optimization and Capacity Ramp | Recently identified process improvements (and any other subsequent improvements) successfully help IPX scale and lower operating costs. |
| Customers/Ford/US Gov't | Ford and U.S. government contracts (SBIR Phase III) convert into revenue as do other potential customers that have expressed interest. |

1) Not an exhaustive list and for illustration purposes.