IPERIONX COMPLETES ACQUISITION OF BREAKTHROUGH TITANIUM TECHNOLOGIES

- IperionX successfully completes acquisition of the intellectual property portfolio to secure the exclusive commercial rights to the breakthrough titanium technologies, including:
  - Green Rutile™ (GR™): A low-carbon enrichment technology that upgrades lower-grade titanium minerals to a high titanium 'synthetic' rutile product
  - Alkaline Roasting and Hydrolysis (ARH™): Advanced mineral enrichment technology that produces high purity +99% titanium dioxide (TiO_2)
  - Hydrogen Assisted Metallothermic Reduction (HAMR™): Metal refining technology to manufacture high-performance titanium with faster cycle times and lower energy consumption
  - Hydrogen Sintering and Phase Transformation (HSPT™): Forging technology that delivers ultra-fine, wrought-like, microstructures to titanium products for higher fatigue and strength properties
- Combined, these complementary technologies offer transformative advantages over the traditional Kroll process, including lower energy consumption, lower capital intensity, faster production cycles, higher yields and the ability to use 100% recycled titanium scrap or upgraded titanium minerals as feedstock
- IperionX is scaling these technologies at its Titanium Manufacturing Campus in Virginia to manufacture high-performance titanium products that exceed benchmark quality standards

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IperionX Limited ("IperionX") (NASDAQ: IPX, ASX: IPX), a leader in sustainable, circular titanium supply chains, is pleased to announce the successful acquisition of Blacksand Technology LLC's assets and intellectual property portfolio.

The acquisition secures IperionX's exclusive commercial rights to the patents and proprietary technologies, including Green Rutile, Alkaline Roasting Hydrolysis, Hydrogen Assisted Metallothermic Reduction and Hydrogen Sintering and Phase Transformation.

These complementary technologies offer significant advantages over the incumbent Kroll titanium production process - with lower energy consumption, lower capex, faster cycle times, higher product yields and the ability to utilize 100% scrap titanium or upgraded titanium minerals as feedstocks.

IperionX is developing an innovative 'end-to-end' American titanium supply chain solution, that spans from the production of U.S. titanium minerals, upgrading these minerals to +99% TiO_2, to the production of high-performance, lower-cost titanium metal forged parts. IperionX's technologies can produce a large range of high-strength forged titanium alloys, with class-leading sustainability and superior process energy efficiencies when compared to current industry methods.

The technologies provide IperionX with a sustainable competitive advantage and significant value uplift from upgrading raw titanium materials through to finished titanium products when compared to traditional titanium industry supply chains. IperionX's proprietary technologies negate the need for titanium metal sponge and ingot, allowing direct manufacturing of higher value titanium products from the billet stage onwards.

IperionX is now commercializing the technology portfolio at its Titanium Manufacturing Campus in Virginia. In August 2024, IperionX successfully commissioned the new HAMR furnace and delivered the first titanium deoxygenation production run in Virginia. The successful titanium production cycle was a significant milestone in the application of HAMR technology and demonstrates the commercial-scale capabilities of IperionX's titanium technologies.

Anastasios (Taso) Arima, IperionX CEO said:

"The acquisition of the award-winning intellectual property portfolio is an important milestone for IperionX – delivering direct control of the technologies and innovations that underpin our plans to re-shore an end-to-end, lower-cost U.S. titanium supply chain that is critical to America's economic and national security."

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

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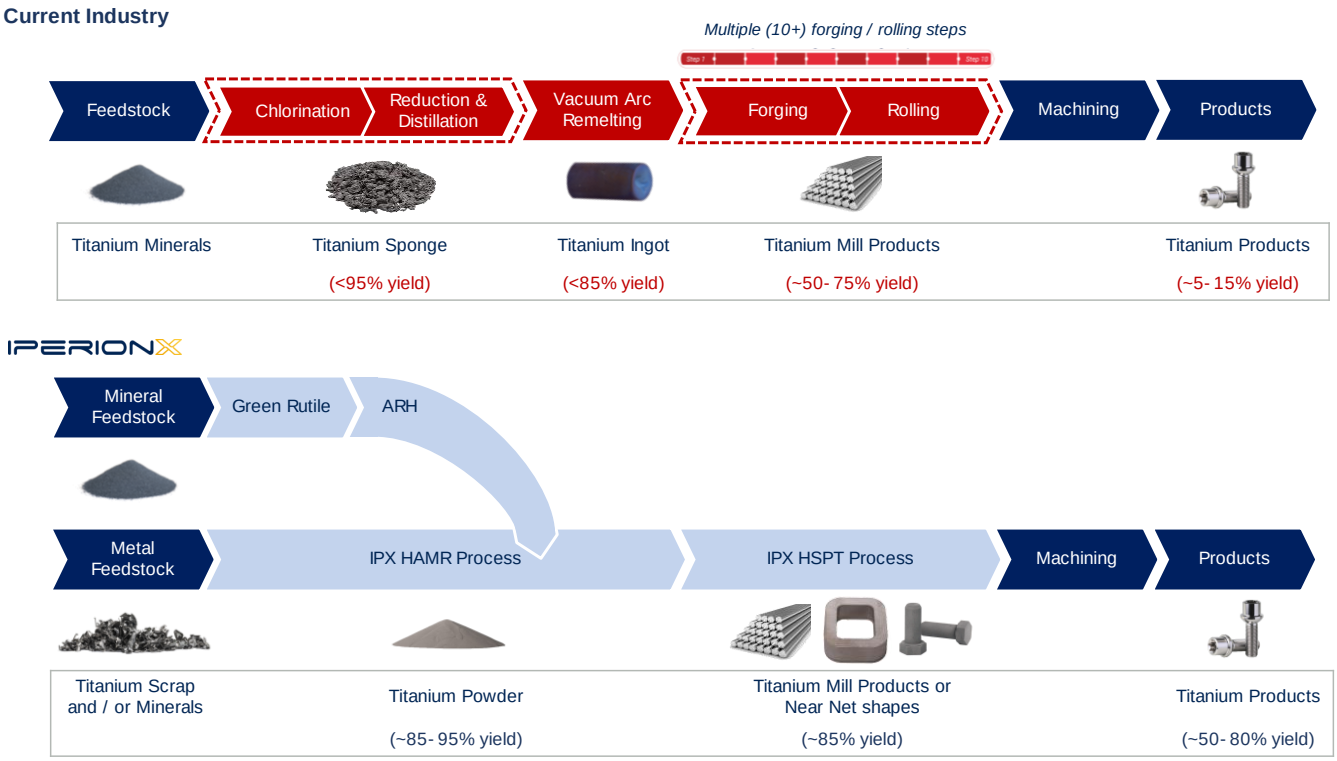

Figure 1: IperionX's titanium technologies – A full suite titanium value chain

Figure 2: IperionX's HAMR furnace production cycle

APPENDIX A: IPERIONX'S TITANIUM TECHNOLOGIES

IperionX's world-leading portfolio of patented and proprietary titanium technologies has been developed, enhanced and protected over a decade of research and development. The technology portfolio includes patents, trade secrets and know how related to the innovative titanium technologies. IperionX is developing a range of innovative new technologies that are related to the core technologies and titanium manufacturing.

Green Rutile & ARH Technologies

IperionX's patented and proprietary mineral upgrading technologies, Green Rutile™ and Alkaline Roasting and Hydrolysis (ARH™), can add value to titanium minerals to produce low-cost and high-purity titanium feedstock for use at HAMR titanium production facilities.

The patented Green Rutile process upgrades lower grade titanium minerals into higher-grade synthetic rutile titanium product plus a co-product of purified iron oxide powder that could be used for metal alloying or produced as a pre-cursor for lithium-iron-phosphate (LFP) batteries.

Most global synthetic rutile production is based upon the incumbent Becher Process, which consists of roasting lower-grade ilmenite titanium minerals using coal as a reductant in a rotary kiln at temperatures of more than 1,100°C to convert the iron oxide in the ilmenite to metallic iron, and then 'rusting' the kiln product in an aerated salt solution to remove most of the metallic iron.

The scope 1 & 2 emissions from the current production of synthetic rutile and titanium slag are significant, estimated at approximately 3.3 tons and 2 tons of CO_2 equivalent per ton of product. In contrast, IperionX's Green Rutile process does not use coal as a reductant, and when combined with renewable or low-carbon sourced electricity, has the potential to result in high quality titanium product with low carbon emissions.

IperionX is advancing plans to scale-up the Green Rutile enrichment technology to upgrade lower grade ilmenite titanium minerals from the Titan Project into a high quality synthetic rutile titanium product and iron oxide powder co-product.

IperionX's proprietary ARH™ technology can further upgrade rutile titanium minerals, including Green Rutile, to produce +99% titanium dioxide (TiO_2) feedstock for the HAMR titanium production process.

HAMR Titanium Technologies

The HAMR™ titanium production process is a patented technology originally developed at the University of Utah with funding from the U.S. Department of Energy's ARPA-E program.

HAMR, which stands for Hydrogen Assisted Metallothermic Reduction, is a process that can take titanium minerals or scrap titanium feedstock and produce titanium powders at low energy intensity, enabling the potential for low-cost titanium production in a sustainable closed loop. The majority of the energy and emissions savings are realized by eliminating the need to chlorinate titanium dioxide (TiO_2) to make titanium tetrachloride ($TiCl_4$) and removing the need for vacuum distillation after the reduction of $TiCl_4$.

The HAMR process uses powder metallurgy processing steps to control the size of the particles, add alloying elements, to produce high quality titanium powder. The HAMR process destabilizes Ti-O using hydrogen, making it possible to turn the reduction of TiO_2 with Mg from being thermodynamically impossible to thermodynamically favored. This allows TiO_2 to be reduced and deoxygenated directly by Mg to form TiH_2 with low oxygen levels to meet industry quality standards. TiH_2 is then further processed into titanium metal alloys for advanced market applications.

The Granulation-Sintering-Deoxygenation (GSD™) process is a patented thermochemical technology designed to produce spherical titanium powders for 3D printing and additive manufacturing. This innovative process significantly enhances production efficiency, increasing powder yield by up to 50%, while delivering spherical titanium powders with low oxygen content, precise particle size control, and excellent flowability.

In contrast, existing methods for producing spherical metal powders – such as gas atomization, plasma atomization, and the plasma rotating electrode process – face significant limitations. While gas and plasma atomization can generate fine powders, their final product yield is low after size classification. A common challenge across all these methods is the low production yield of fine powders, which is a key driver of the high cost of

titanium powder in additive manufacturing. GSD™ technology addresses these limitations, offering a more efficient and cost-effective solution for high quality titanium powder production.

HSPT Titanium Forging Technologies

The patented Hydrogen Sintering and Phase Transformation (HSPT™) technology process enables the low-cost production of near-net-shape and additively manufactured titanium parts with properties equivalent to traditional forged or wrought parts.

In traditional wrought manufacturing, multiple energy intensive and expensive forging and machining steps are required to produce a titanium bar, plate, or sheet. Machining needed to make a final part results in high levels of titanium scrap generation.

While powder metallurgy and additive manufacturing generate less waste and can be lower-cost alternatives to traditional manufacturing, titanium parts manufactured by these alternative approaches typically have poor mechanical properties and often rely on expensive post-sintering thermal mechanical processing.

In contrast, the patented HSPT 'forging' technology yields a wrought-like ultrafine grain microstructure to produce titanium products with superior fatigue properties versus traditional titanium powder metallurgy methods.

IperionX plans to leverage its patented HAMR and HSPT technologies with powder metallurgy to manufacture high-performance forged titanium products. These titanium parts have the potential to be produced at lower cost, significantly lower scrap generation, and with material performance properties equivalent to those produced by forging.

APPENDIX B: DETAILS OF THE ACQUISITION

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.

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.

Forward Looking Statements

Information included in this release constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include, without limitation, statements regarding the timing of any Nasdaq listing, plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance, and achievements to differ materially from any future results, performance, or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licenses and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation, as well as other uncertainties and risks summarized in filings made by the Company from time to time with the Australian Securities Exchange and in the Form 20-F filed with the U.S. Securities and Exchange Commission.

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

There may be other factors that could cause actual results, performance, achievements, or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Except as required by applicable law or stock exchange listing rules, the Company does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

Competent Persons Statement

The information in this announcement that relates to Exploration Results is based on information compiled and/or reviewed by Mr. Adam Karst, P.G. Mr. Karst is a consultant to IperionX. Mr. Karst is a Registered Member of the Society of Mining, Metallurgy and Exploration (SME) which is a Recognized Overseas Professional Organization (ROPO) as well as a Professional Geologist in the state of Tennessee. Mr. Karst has sufficient experience which is relevant to the style and type of mineralization present at the Titan Project area and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the 2012 JORC Code). Mr. Karst consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The information in this announcement that relates to Mineral Resources is extracted from IperionX's ASX Announcement dated October 6, 2021 ("Original ASX Announcement") which is available to view at IperionX's website at www.iperionx.com. IperionX confirms that a) it is not aware of any new information or data that materially affects the information included in the Original ASX Announcement; b) all material assumptions and technical parameters underpinning the Mineral Resource Estimate included in the Original ASX Announcement continue to apply and have not materially changed; and c) the form and context in which the relevant Competent Persons' findings are presented in this report have not been materially changed from the Original ASX Announcement.