

## IPERIONX WINS U.S. AIR FORCE TITANIUM RECYCLING CHALLENGE

- IperionX has won the Air Force Research Laboratory Grand Challenge, hosted by the National Security Innovation Network
- The AFRL Grand Challenge involved selecting the most commercially promising technology for producing titanium metal powders from scrap titanium and rejuvenating out-of-spec titanium powders for use in additive manufacturing
- Winning the prestigious AFRL Grand Challenge validates the commercial and technical superiority of IperionX's patented technologies to produce circular, low-carbon and lower-cost titanium metal powders
- Additive manufacturing, or 3D printing, is a critical technology for the U.S. Air Force to manufacture novel and complex geometry titanium alloy parts, including for aerospace and hypersonic missile applications

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**IperionX Limited ("IperionX") (NASDAQ: IPX, ASX: IPX)** is pleased to announce that it is the winner of the U.S. Department of Defense's National Security Innovation Network ("NSIN") Air Force Research Laboratory ("AFRL") Grand Challenge contract. As a result, IperionX will be eligible to produce titanium metal powders from scrap materials and rejuvenate used or out-of-specification titanium powder for the AFRL. The Grand Challenge is a competitive challenge program hosted by the U.S. Department of Defense's National Security Innovation Network.

Winning this Grand Challenge, against a field of leading titanium industry participants, is an important validation of IperionX's patented technologies to produce circular, low-carbon and lower cost titanium metal from 100% recycled titanium scrap or out-of-specification titanium powder feedstocks.

The U.S. Air Force and U.S. Department of Defense are accelerating the use of additive manufacturing to reduce long lead cycle times and to produce large volumes of complex parts for advanced weapons systems.

Only 20%-40% of titanium powder used in additive manufacturing ends up in fabricated parts. Titanium metal powders are typically reused only a limited number of times before the quality is compromised by elevated contaminant levels or inferior powder morphology. Out-of-specification titanium powders increase the probability of defects and jeopardize the structural integrity of additively manufactured components.

Titanium metal produced by the current "Kroll Process" is high carbon, energy intensive and expensive. Leading companies across the defense, automotive, consumer electronics and luxury goods sectors want to source low carbon, low-cost titanium from traceable recycled sources. IperionX's patented technologies offer a pathway to significantly lower cost, and lower carbon, titanium metal powders for titanium components in these industries.

The patented technologies were developed by Dr. Zak Fang, an American Professor of Metallurgical Engineering at the University of Utah, and uniquely position IperionX to upcycle a wide variety of low-grade, high oxygen content titanium scrap which has historically been downcycled to lower value markets. IperionX is able to achieve greater yields of nearly 100% from low-grade scrap without the need for blending the scrap with high-grade primary metal.

Winning the Grand Challenge also complements IperionX's project with Materials Resources, LLC to qualify titanium alloy powders for the U.S. Navy and test titanium flight critical metal replacement components for the U.S. Department of Defense.

The winner of the Grand Challenge is eligible for a contract award up to \$500,000 across four phases, with IperionX successfully completing Phase 1, and will complete Phases 2 – 4 as part of routine production operations at its Titanium Pilot Facility in Utah.

**Anastasios (Taso) Arima, IperionX CEO said:**

“Winning the Grand Challenge is an outstanding endorsement of IperionX’s patented titanium technologies.

Our leading technologies can efficiently recycle titanium scrap metal and metal powders at lower cost than existing processes, and we look forward to working closely with NSIN, AFRL and other Department of Defense agencies to qualify and rapidly deploy the use of circular titanium metal across key defense platforms.”

**Dr. Calvin Mikler, Materials Engineer, AFRL said:**

“The AFRL team is excited to work with IperionX on the next phase of the titanium recyclability Grand Challenge. IperionX seemed to really understand the purpose of the Grand Challenge and pitched a unique strategy to deoxygenate and rejuvenate used titanium powders and scrap materials back into powder suitable for additive manufacturing of aerospace-quality parts. We can’t wait to see the results of all the hard work yet to come!”

**Contract Details**

The winner of the Grand Challenge is eligible for a contract award up to \$500,000 across four phases:

- Phase 1 (\$125,000): White paper submission and pitch day
- Phase 2 (\$125,000): Generation of a precursor titanium feedstock
- Phase 3 (\$225,000): Titanium powder production
- Phase 4 (\$25,000): Build, test, and analyze cost savings for the overall concept

IperionX has successfully completed the requirements for Phase 1, and currently undertakes Phases 2 to 4 at its operational titanium pilot facility in Salt Lake City, Utah.

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

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## About NSIN

The National Security Innovation Network is an unrivaled problem-solving network in the U.S. Department of Defense that adapts to the emerging needs of those who serve in the defense of our national security. The NSIN is an organization of the Defense Innovation Unit and is dedicated to the work of bringing together defense, academic and entrepreneurial innovators to solve national security problems in new ways.

## About AFRL

The Air Force Research Laboratory is the primary scientific research and development center for the Department of the Air Force. AFRL plays an integral role in leading the discovery, development, and integration of affordable warfighting technologies for our air, space, and cyberspace force. With a workforce of more than 11,000 across nine technology areas and 40 other operations across the globe, AFRL provides a diverse portfolio of science and technology ranging from fundamental to advanced research and technology development.

## About IperionX

IperionX's mission is to be the leading developer of low carbon titanium for advanced industries including space, aerospace, electric vehicles, and 3D printing. IperionX's breakthrough titanium technologies can produce titanium products that are low carbon and fully circular, and were developed by Dr. Zak Fang, an American Professor of Metallurgical Engineering at the University of Utah. IperionX is producing titanium metal powders from titanium scrap at its operational pilot facility in Utah and intends to scale production at a Titanium Demonstration Facility in Virginia. IperionX holds a 100% interest in the critical minerals Titan Project, which has the largest JORC resource of titanium, rare earth and zircon rich mineral sands in the U.S.A.

### **Forward Looking Statements**

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

*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, the Company's ability to comply with the relevant contractual terms to access the technologies, commercially scale its closed-loop titanium production processes, or protect its intellectual property rights, 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.*

*Forward looking statements are based on the Company and its management's good faith 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.*

*Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, 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. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information 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.*