ZS-Si Project Update

Pilot Demonstration Facility achieves ~99.998% Purity

12 April 2023

Highlights:

- **The Zero-Spin Silicon (ZS-Si) Project has been successfully completed with the submission of the final report to the Federal Government's Cooperative Research Centres Projects (CRC-P) Program**
- **The Project achieved all key target enrichment objectives during extensive testing with the pilot demonstration facility designed, built and operated at the Company's Lucas Heights technology centre, using a variant of the SILEX laser enrichment technology**
- **Additional testing during Q1 CY2023 with the pilot demonstration facility has confirmed the production of ZS-Si in the form of enriched silicon-28 at the highest purity of ~99.998% and identified a path to production scalability**
- **We believe that producing enriched silicon-28 to 99.998% is the highest purity ever achieved, exceeding the 99.995% purity produced for the International Avogadro Coordination Project***
- **The ZS-Si Project to date has been supported by collaboration partners SQC and UNSW, with funding from the Federal Government's CRC-P Program**
- **High purity ZS-Si is a critical enabling material for the fabrication of next generation silicon quantum processor chips, which will drive quantum computers and open new frontiers in artificial intelligence, cybersecurity and other fields**
- **Silex has advanced planning for the scale-up of the pilot demonstration facility to produce the first saleable quantities of ZS-Si and to thereby provide a path to a secure and resilient supply chain and initial ZS-Si revenues for Silex**
- **Planning for the design and construction of the full commercial production facility also includes facilities for the conversion of the SILEX process output into two different product forms required by potential customers: gaseous silane and solid ZS-Si**

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Silex Systems Limited (Silex) (ASX: SLX) (OTCQX: SILXY) is pleased to confirm the successful completion of the ZS-Si Project at the Company's Lucas Heights technology centre in Sydney. The results achieved during the Project exceeded initial expectations, with two key outcomes:

i) production of gram quantities of ZS-Si and enrichment of silicon-28 up to ~99.998% purity; and

ii) identification of a potentially cost-effective path to scalable production.

The key results were achieved using the Company's proprietary ZS-Si pilot demonstration facility, which is based on a variant of the SILEX laser isotope separation (LIS) platform technology. The ~$8 million 3-year project was undertaken in conjunction with project partners Silicon Quantum Computing Pty Ltd (SQC) and UNSW Sydney (UNSW) and was the beneficiary of a $3 million funding grant from the Federal Government's Cooperative Research Centres Projects.

The focus is now on planning for the scale-up of the pilot demonstration facility to potentially produce up to 5 kilograms of ZS-Si annually at a target purity of 99.995%, along with the design and construction of additional facilities for the conversion of the laser enrichment process output into two product forms requested by potential customers: gaseous silane and solid ZS-Si. Details on the next phase of commercialisation are expected to be finalised shortly.

Michael Goldsworthy, Silex's CEO/Managing Director said:

"The successful completion of the ZS-Si Project is a pivotal event for Silex, enabling the Company to shift focus from engineering development activities to commercial production activities. The achievements and results from this Project have been outstanding, and I would like to give full credit to the entire project team for such a fantastic sustained performance over the last three years."

"As stated before, the importance of success in this Project to the emerging silicon-based quantum computing industry has become critical, considering the unfolding global disruption to the main source of enriched silicon, being Russian centrifuge production. We look forward to transitioning our efforts towards building the first dedicated commercial production module while growing our customer base over the next few years," he added.

About ZS-Si for Quantum Computing Processor Chips:

Silex's LIS technology has the potential to efficiently produce ZS-Si and provide a secure supply of high-purity enriched silicon – a critical enabling material for the emerging silicon quantum computing market. The first batches of commercial ZS-Si product are expected to be purchased by SQC under an Offtake Agreement that was executed in December 2019.

ZS-Si is a unique form of isotopically enriched silicon required for the fabrication of next-generation processor chips, which will power silicon-based quantum computers. Quantum computers are expected to be dramatically more powerful than the most advanced conventional computers in operation today and may be able to address currently intractable problems, creating new opportunities across industries, including advanced medicine, artificial intelligence, cybersecurity and global financial systems. Many governments around the world and big tech corporates, such as Intel, Google, IBM, and Microsoft, are vying for leadership in Quantum Computing development. SQC believes its proprietary 'atomic spin qubit in silicon' technology has key attributes that make it a leader in the race to build a scalable quantum processor.

Current methods for production of enriched silicon are very limited and costly (even for lower purity material) with only a few kilograms produced annually world-wide, mostly using second generation gas centrifuge technology in Russia. Should the ZS-Si process be successfully commercialised with highly efficient third generation SILEX laser enrichment technology, it would enable Australia to establish itself as a world-leader in ZS-Si production, potentially creating a new value-added export market.

** www.nist.gov/si-redefinition/redefining-mole*

Authorised for release by the Silex Board of Directors.

Further information on the Company's activities can be found on the Silex website: www.silex.com.au or by contacting:

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Forward Looking Statements and Risk Factors:

About Silex Systems Limited (ASX: SLX) (OTCQX: SILXY)
Silex Systems Limited ABN 69 003 372 067 (Silex) is a technology commercialisation company whose primary asset is the SILEX laser enrichment technology, originally developed at the Company's technology facility in Sydney, Australia. The SILEX technology has been under development for uranium enrichment jointly with US-based exclusive licensee Global Laser Enrichment LLC (GLE) for a number of years. Success of the SILEX uranium enrichment technology development program and the proposed Paducah commercial project remain subject to a number of factors including the satisfactory completion of the engineering scale-up program and nuclear fuel market conditions and therefore remains subject to associated risks.

Silex is also at various stages of development of additional commercial applications of the SILEX technology, including the production of 'Zero-Spin Silicon' for the emerging technology of silicon-based quantum computing. The 'Zero-Spin Silicon' project remains dependent on the outcomes of the project and the viability of silicon quantum computing and is therefore subject to various risks. The commercial future of the SILEX technology in application to uranium, silicon, medical and other isotopes is therefore uncertain and any plans for commercial deployment are speculative.

Additionally, Silex has an interest in a unique semiconductor technology known as 'cREO®' through its 100% ownership of subsidiary Translucent Inc. The cREO® technology developed by Translucent has been acquired by IQE Plc based in the UK. IQE has paused the development of the cREO® technology until a commercial opportunity arises. The future of IQE's development program for cREO® is very uncertain and remains subject to various technology and market risks.

Forward Looking Statements
The commercial potential of these technologies is currently unknown. Accordingly, no guarantees as to the future performance of these technologies can be made. The nature of the statements in this announcement regarding the future of the SILEX technology as applied to uranium enrichment, Zero-Spin Silicon production, medical and other isotope separation projects, the cREO® technology and any associated commercial prospects are forward-looking and are subject to a number of variables, including but not limited to, unknown risks, contingencies and assumptions which may be beyond the control of Silex, its directors and management. You should not place reliance on any forward-looking statements as actual results could be materially different from those expressed or implied by such forward-looking statements as a result of various risk factors. Further, the forward-looking statements contained in this Report involve subjective judgement and analysis and are subject to change due to management's analysis of Silex's business, changes in industry trends, government policies and any new or unforeseen circumstances. The Company's management believes that there are reasonable grounds to make such statements as at the date of this Report. Silex does not intend, and is not obligated, to update the forward-looking statements except to the extent required by law or the ASX Listing Rules.

Risk Factors
Risk factors that could affect future results and commercial prospects of Silex include, but are not limited to: ongoing economic and social uncertainty, including in relation to the impacts of the COVID-19 pandemic; geopolitical risks, in particular relating to Russia's invasion of Ukraine and tensions between China and Taiwan which may impact global supply chains among other risks; uncertainties related to the effects of climate change and mitigation efforts; the results of the GLE/SILEX uranium enrichment engineering development program; the market demand for natural uranium and enriched uranium; the outcome of the project for the production of 'Zero-Spin Silicon' for the emerging technology of silicon-based quantum computing; the outcome of the Medical Isotope Separation Technology program; the potential development of, or competition from alternative technologies the potential for third party claims against the Company's ownership of Intellectual Property; the potential impact of prevailing laws or government regulations or policies in the USA, Australia or elsewhere; whether IQE's commercialisation program for cREO® is resumed, the results from the program and the market opportunities for cREO® products; actions taken by the Company's commercialisation partners and other stakeholders that could adversely affect the technology development programs and commercialisation strategies; and the outcomes of various strategies and projects undertaken by the Company.