Quantum Silicon Production Project awarded $5.1m funding under the Defence Trailblazer Program

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Highlights:

- **New Silex Quantum Silicon Production Project awarded $5.1m funding from the Defence Trailblazer for Concept to Sovereign Capability Program**
- **The Defence Trailblazer is a strategic partnership between The University of Adelaide and UNSW Sydney, supported by the Department of Education**
- **The funding will support the establishment of a Quantum Silicon (Q-Si) Production Plant, which aims to deliver an end-to-end manufacturing facility at the Company's Lucas Heights technology centre**
- **It is anticipated that the first production module will produce between 5kg to 10kg annually of Zero-Spin Silicon (ZS-Si) (in the form of halo-silane), which will then be converted to multiple Q-Si product forms for potential customers in the global silicon-based quantum computing industry**
- **The new Project extends the successful relationship between Silex, UNSW Sydney and Silicon Quantum Computing Pty Ltd, which resulted in the Company's previous ZS-Si Project demonstrating efficient production of ZS-Si with enrichment of silicon-28 up to ~99.998% purity**
- **Through the new Project, Silex will establish a sovereign capability and secure supply chain for Quantum Silicon products in Australia, and create a new value-added export market for Australia**

Silex Systems Limited (Silex) (ASX: SLX) (OTCQX: SILXY) is pleased to announce the award of $5.1m in funding from the Defence Trailblazer for Concept to Sovereign Capability Program, a strategic partnership between The University of Adelaide and UNSW Sydney (UNSW), supported by the Australian Government Department of Education through the Trailblazer Universities Program.

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The funding will support the establishment of a Quantum Silicon Production Plant, which aims to deliver an end-to-end manufacturing facility at the Company's Lucas Heights technology centre. It is anticipated that the first production module will produce between 5kg to 10kg annually of ZS-Si (in the form of halo-silane), which will then be converted to multiple Q-Si product forms for potential customers in the global silicon-based quantum computing industry.

The new project will be undertaken in conjunction with partners, Silicon Quantum Computing Pty Ltd (SQC) and UNSW, and follows on from an earlier project that demonstrated efficient production of gram quantities of ZS-Si, with enrichment of silicon-28 up to ~99.998% purity.

Michael Goldsworthy, Silex's CEO/Managing Director, said:
"We are delighted to receive funding under the Federal Government's Defence Trailblazer Program, which will assist us to transition our Zero-Spin Silicon enrichment technology from the pilot demonstration level to commercial-scale, including the development of product conversion technology to produce two forms of commercial Quantum Silicon products (gas and solid) required by emerging silicon quantum chip fabricators around the world."

"This enables us to capitalise on the results achieved in the recently completed Zero-Spin Silicon Project for our innovative SILEX laser isotope separation technology, and to establish a sovereign capability and secure supply chain for this critical enabling material for the emerging silicon quantum computing industry. Previously, the main supply of enriched silicon came from Russia, but this source has been disrupted by geopolitical events", he added.

Professor Michelle Simmons AO, CEO of SQC, said:
"Following the successful collaboration under the CRC-P program, SQC is tremendously excited about the expansion of our partnership with Silex through the Trailblazer Quantum Silicon Production Project. The Trailblazer funding supports Silex's commercial-scale production of Quantum Silicon, the key enriched silicon material essential to the manufacture of SQC's atom-scale quantum computers in Australia. The creation of a sovereign supply of this vital material comes at a time when our traditional source of supply has been disrupted. We couldn't be more motivated to support this Project."

Dr Sanjay Mazumdar, Executive Director, Defence Trailblazer, said:
"The Defence Trailblazer looks forward to supporting the commercial deployment of Silex's Quantum Silicon Production Plant. The intent of the Defence Trailblazer Program is to support the commercialisation of Australian technologies that will have a material benefit to the Defence sector in Australia. Through the Quantum Silicon Production Project, a sovereign end-to-end supply chain for critical quantum materials essential for silicon quantum computing will be created. The advent of quantum computing is expected to have profound impacts on Defence and National Security activities, and this Project is a perfect fit with the intent of the Trailblazer."

Professor Nicholas Fisk, Deputy Vice-Chancellor Research and Enterprise, UNSW Sydney, said:
"UNSW Sydney is extremely pleased to support Silex and SQC in the Quantum Silicon Production Project under the Defence Trailblazer Program, in partnership with The University of Adelaide. As a major shareholder in SQC, and as the Administering Organisation for the Australian Research Council Centre of Excellence for Quantum Computation and Communication Technology, we have been impressed with the achievements in the previous CRC-P project for the development of ZS-Si production technology, and are excited to support the next step for commercial-scale production of Quantum Silicon. This Project is of critical importance to Australia's ability to maintain leadership in an increasingly competitive and strategic endeavour to develop the world's first scalable quantum computing technology."

Contributing to the '*Quantum Materials, Technologies and Computing Theme'* under the Defence Trailblazer Program, quantum computing capability is emerging as a vitally important strategic and national security technology, as evidenced by the global race to establish early mover advantage.

The Trailblazer funding will support the commercialisation of Q-Si products for use in defence and civilian markets (domestic and offshore), while cementing areas of critical sovereign capability within Australia. Quantum technologies are expected to have a profound impact on our way of life in the decades to come, with quantum computing to open new frontiers and opportunities for defence and national security.

The Q-Si Production Plant will include equipment for conversion of ZS-Si (in the form of halo-silane) into different product forms that are compatible with silicon quantum chip fabrication technologies utilised by manufacturers, namely:

1) **Quantum Silane gas** – used in chemical vapour deposition (CVD) based processes utilised for quantum chip fabrication
2) **Quantum Silicon solid** – used in atomic and molecular beam epitaxy (ABE / MBE) based processes utilised for quantum chip fabrication.

A key benefit of the SILEX laser isotope separation technology is its modular nature, allowing the possibility for the production plant to be scaled up with additional modules, based on market demand and other factors.

The 3.5-year Project has a total budget of ~$16m, of which $5.1m in funding will be provided by the Defence Trailblazer. Silex is currently resolving other avenues of financial support for the Project.

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 or the Company**) 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 'Quantum Silicon' project remains dependent on the outcomes of the project and the viability of silicon quantum computing and is therefore subject to various risks. Silex is also conducting research activities in its Medical Isotope Separation Technology (MIST) Project, which is early-stage and subject to numerous 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 Announcement 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 Announcement 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 pilot demonstration 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 MIST Project; 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.