



Silex
Systems Limited

Second Full-Scale Laser System Module Completed for SILEX Uranium Enrichment Project

15 August 2023

Highlights:

- **The second full-scale laser system module constructed for deployment in GLE's commercial pilot demonstration facility in the US has successfully completed testing at Silex's Lucas Heights facility in Sydney**
- **The laser system module is currently being prepared for shipment to GLE's facility in Wilmington, North Carolina, and is expected to be installed and operational by the end of CY2023, subject to transport scheduling**
- **Construction of the other key parts of the pilot demonstration facility, including the separator and gas handling systems, are progressing at the Test Loop facility, and are expected to commence commissioning activities in Q1 CY2024**
- **In February this year, GLE joint venture owners Silex (51%) and Cameco (49%) agreed to a plan and budget for CY2023 that accelerates activities in the commercial-scale pilot demonstration project for the SILEX uranium enrichment technology with the aim of completing a commercial-scale pilot demonstration (TRL-6¹) of the SILEX technology as early as mid-2024**
- **The earlier pilot demonstration of the SILEX technology preserves the option of commencing commercial operations at the planned Paducah Laser Enrichment Facility (PLEF) as early as 2028, up to three years earlier than originally planned**

Silex Systems Limited (Silex) (ASX: SLX) (OTCQX: SILXY) is pleased to announce the completion of another significant milestone in the SILEX uranium laser enrichment project being conducted in collaboration with exclusive licensee, US-based Global Laser Enrichment (GLE).

The milestone involved the accelerated construction and successful completion of testing of the second module of full-scale laser technology required for GLE's commercial pilot demonstration project being conducted in Wilmington, North Carolina. The second laser system module was constructed and tested at Silex's Lucas Heights laser technology development centre in less than 12 months, in line with the accelerated schedule for the commercial-scale pilot demonstration project, which may be completed as early as mid-2024.

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

“This is another key milestone for the SILEX uranium enrichment technology which demonstrates our ability to efficiently build full-scale SILEX laser system modules, and to incorporate improvements which enable increased reliability under commercial-scale conditions for extended periods. We are also encouraged with the accelerated efforts in GLE’s Test Loop facility through which the balance of pilot systems, including the separator and gas handling equipment, are progressing towards completion of construction. We are hopeful that commissioning of the full pilot facility could commence in Q1 CY2024.”

Under the accelerated project plan announced in February, GLE and Silex are targeting completion of the commercial pilot demonstration project (TRL-6)¹ as early as mid-2024, after which a feasibility assessment will be conducted for the proposed Paducah Laser Enrichment Facility (PLEF). Assuming successful achievement of TRL-6 and a positive feasibility study, GLE could potentially deploy the PLEF for the production of natural grade uranium (in the form of UF₆) via enrichment of DOE²-owned tails inventories under a landmark agreement signed between GLE and the DOE in 2016.

Acceleration of GLE’s commercialisation activities preserves the option of commencing commercial operations at the PLEF as early as 2028, up to three years earlier than originally planned, subject to market conditions and other factors. In addition to GLE’s opportunity to produce natural grade uranium (in the form of UF₆) via enrichment of DOE-owned tails inventories, GLE is also uniquely positioned to produce low enriched uranium (LEU) for existing and future nuclear power plants and to produce high assay LEU (HALEU) for next-generation advanced reactors, including small modular reactors (SMRs). The opportunity to produce three different grades of nuclear fuel at the proposed PLEF is referred to as the ‘*Triple Opportunity*’.

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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¹ Technology Readiness Level 6 (TRL-6) as defined in DOE Technology Readiness Assessment Guide ‘DOE G 413.3-4A’ and as verified by an independent third-party qualified engineering firm.

² US Department of Energy

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 '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 plant 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 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.