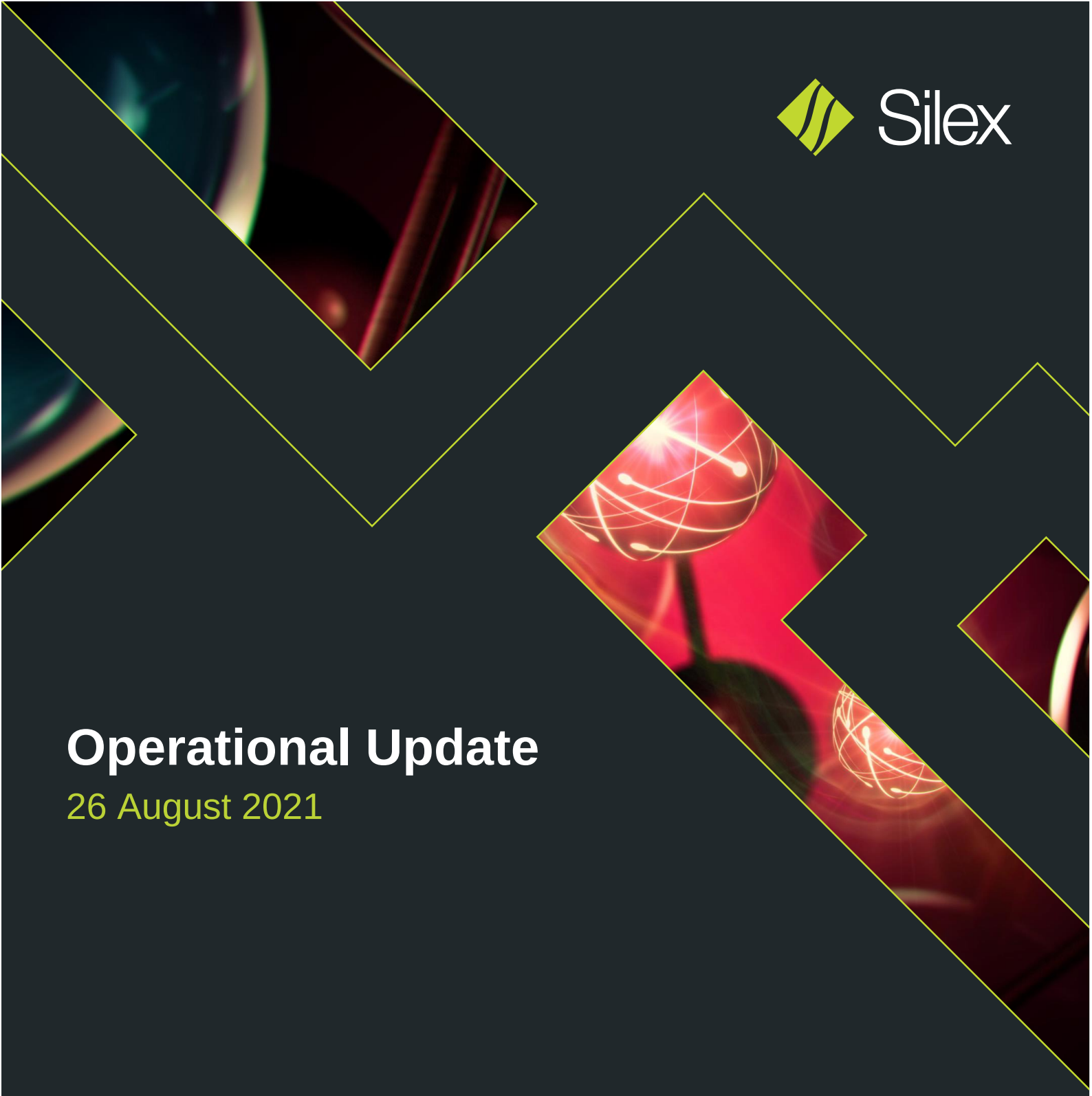

Operational Update

26 August 2021

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Highlights for the year ended 30 June 2021

- Engineering and scale-up activities and building the team gathered momentum following the successful completion of the acquisition of SILEX technology licensee Global Laser Enrichment LLC (GLE) on 31 January 2021, which resulted in Silex acquiring a 51% majority interest in GLE, and Canada's Cameco Corporation increasing its interest from 24% to 49%;
- Appointments of a new GLE Chief Executive Officer (Mr Stephen Long) and new GLE Chief Commercial Officer (Mr James Dobchuk) were announced on 16 August 2021 and 15 June 2021 respectively;
- Several new engineering hires were made for both the GLE technology team in Wilmington, North Carolina and for the Silex technology team in Lucas Heights, Sydney, with more new hires expected over the coming year;
- GLE's path to market is underpinned by the Paducah commercial opportunity which is akin to a 'Tier 1' uranium resource, capable of producing around 5 million pounds of uranium per year for three decades, which would rank in the top ten of current uranium mines by production volume;
- GLE is also undertaking an internal assessment of the opportunity to produce High Assay Low Enriched Uranium (HALEU), a key fuel for next generation Small Modular Reactors (SMR's) which are being developed by several organisations around the world for commercial deployment starting from around 2030;
- The Company achieved a key milestone for the Zero-Spin Silicon (ZS-Si) project, by completing construction of the prototype silicon laser enrichment facility – a pivotal step in the second stage of the project. Testing with the prototype facility will be conducted over the coming months, with Stage 2 of the ZS-Si project scheduled for completion by the end of CY2021;
- IQE announced the achievement of a key demonstration milestone for its new high frequency (RF) filter for 5G devices (called IQepiMo™) which is built on the cREO® technology platform. Trials of IQE's new RF filter device completed to date with customers and partners have indicated significant device performance improvement;
- Good progress overall has been achieved in both the uranium and silicon projects at Lucas Heights, despite the impacts of the COVID-19 pandemic, which to date has caused some minor delays. We continue to monitor the situation and all NSW Government Health Orders to ensure all our activities remain fully compliant. The health, well-being and safety of our people is our highest priority.

Our Strategy

We are focused on the commercialisation of our innovative SILEX laser isotope separation technology across multiple markets.

The execution of our strategy is through the following activities:

- Taking a leading role in the SILEX uranium enrichment technology commercialisation program through our ownership of a 51% interest in exclusive licensee GLE;
- Building our path to market in the US through the Paducah uranium production opportunity, which is underpinned by GLE's agreement with the US Department of Energy (DOE);
- Developing the SILEX technology for the production of enriched silicon in the form of Zero-Spin Silicon – a key material required for quantum computer chip fabrication; and
- Undertaking an assessment of additional potential applications of the SILEX technology in fields such as medical radioisotopes.

SILEX Uranium Enrichment Technology

The SILEX technology is the only third-generation laser-based uranium enrichment technology under commercial development today. Subject to the successful completion of the commercialisation project, market conditions and other factors, the SILEX technology could become a major contributor to nuclear fuel production for the world's current and future nuclear reactor fleet, through the production of uranium in three different forms:

- ***natural grade uranium (U_{nat}):*** via enrichment of DOE inventories of depleted tails through the Paducah Laser Enrichment Facility (PLEF) project - producing uranium at natural U^{235} assay of ~ 0.7%;

- ***low enriched uranium (LEU):*** for use as fuel in today's conventional nuclear power reactors – which require fuel with U^{235} assays of between 3% and 5%; and

- ***high assay LEU (HALEU):*** a customised fuel for next generation Small Modular Reactors (SMR's) currently under development – several of which require fuel with U^{235} assays of between 5% and 19.9%.

Uranium production and enrichment are the two largest value drivers of the current nuclear fuel cycle, accounting for up to 70% of the value of a fuel bundle. Importantly, commercialisation of the SILEX uranium enrichment technology through licensee GLE could enable the SILEX technology to become a unique, multi-purpose nuclear fuel production platform for existing and emerging nuclear power generation systems, including as a potential producer of HALEU.

Silex's 51% interest in SILEX technology Licensee - GLE:

The GLE acquisition was completed on 31 January 2021 following conclusion of the US Government (USG) approval process, resulting in Silex acquiring a 51% interest in GLE and Cameco increasing its interest from 24% to 49%. Silex and Cameco have also negotiated terms for an option for Cameco to purchase from Silex at fair market value, an additional 26% interest in GLE, potentially increasing their interest to 75% (subject to USG approvals). This option can be exercised by Cameco from two years from completion of the transaction (i.e., from 31 January 2023) up until the date 30 months after the technology is satisfactorily demonstrated at full commercial pilot scale (anticipated to be in the mid-2020's). This option underscores the support and strength that Cameco, as one of the world's leading uranium and nuclear fuel suppliers, brings to GLE and the commercialisation program.

The GLE acquisition included a site lease enabling GLE to complete the SILEX technology commercialisation program at the Test Loop facility in Wilmington, North Carolina. This program will culminate with the full-scale demonstration of the SILEX uranium enrichment technology with a pilot plant facility, currently being built at the Wilmington site.

Key commercial terms under the existing SILEX uranium enrichment technology license agreement between Silex and GLE remain in place. This includes a perpetual royalty payable to Silex of at least 7% on GLE's enrichment SWU revenues from the use of the SILEX technology for production of natural and enriched uranium and additionally, US$20 million in commercialisation milestone payments.

GLE's Paducah 'Tier 1' Uranium Production Project:

The Paducah commercial project opportunity is an ideal path to market for the SILEX technology and GLE. Underpinning this opportunity is the Sales Agreement between GLE and the US Department of Energy (DOE) which provides GLE access to large stockpiles of depleted uranium tails inventories owned by the DOE.

The Paducah commercial project opportunity will involve GLE constructing the proposed 'Paducah Laser Enrichment Facility' (PLEF) utilising the SILEX technology to enrich the DOE tails inventories which have been stored in the form of depleted uranium hexafluoride (UF_6 - containing U^{235} assays of between 0.25% to 0.4%) to produce natural grade uranium (assay of ~0.71%). Subject to completion of the technology commercialisation project, regulatory approvals, financing and prevailing market conditions, it is anticipated the PLEF will commence commercial operations from the late 2020's.

Production of natural grade uranium at the PLEF would continue over three decades, with the output sold into the global uranium market at a production rate equivalent to a uranium mine producing an annual output of around 5 million pounds of uranium oxide, which would rank in the top ten of today's uranium mines by production volume. Preliminary analysis by Silex of the PLEF project indicates it could rank as a 'Tier 1' uranium resource based on estimates of the long-life and low cost of production.

Nuclear Power Outlook and Market Update:

There are a number of important decisions and details to be agreed at the 26th Conference of the Parties to the UN Framework Convention on Climate Change (COP26) to be held in Glasgow in November 2021. These are the result of negotiations that were started at COP21, which was held in Paris in 2015. The negotiations in Paris culminated in pledges by participating countries to limit global warming to well below 2 degrees and aiming for 1.5 degrees. The pledges are what is now commonly referred to as the Paris Agreement. In response, there are many countries which have prioritised government policy initiatives relating to tackling climate change and ensuring energy security, stating that nuclear power should form a meaningful part of their energy mix in the future.

According to the World Nuclear Association, there are currently 443 operable nuclear reactors globally and 56 reactors under construction. Today's operating reactor fleet currently generate ~10% of the world's electricity supply. Nuclear today plays a key role in the supply of carbon-free base load electricity and is anticipated to play an increasing role in the energy mix as countries around the world strive to meet ambitious net zero targets.

The US is the world's largest producer of nuclear power with 93 operable reactors, currently accounting for more than 30% of worldwide nuclear generation of electricity. Despite bold nuclear construction programs in China, India and the Middle East, the US is expected to remain the largest nuclear power generator for many years to come. There is also growing interest and significant investment being made into the development of emerging advanced reactor and small modular reactor technologies.

The outlook in the markets for nuclear fuel continue to improve with increasing concerns regarding security of supply over the longer term. The uranium spot price is currently ~US$33/lb, having increased in recent years from a low of US$18/lb. The term price of enrichment has also improved significantly in recent years and increased more than 15% to ~US$60/SWU in the last 12 months. The improvements in the prices of the various components of nuclear fuel reflect the recent filling of the demand gap that resulted from the forced and premature nuclear reactor shutdowns that have occurred since Fukushima in March 2011. With respect to uranium production, there have also been reductions to primary production in recent years, including disruptions in response to COVID-19 that continue to bear on the market.

With significant growth forecasted in nuclear power generation around the world and the ever-increasing awareness of the adverse effects of climate change, we remain encouraged by the opportunities emerging for the SILEX technology and GLE in the global nuclear industry. We believe the SILEX technology - the only third-generation laser enrichment technology being commercialised in the world today, can help make nuclear power a more efficient and cost-effective solution for carbon-free base load electricity generation.

Zero-Spin Silicon for Quantum Computing Processor Chips

In December 2019, Silex launched a new R&D project in conjunction with project partners Silicon Quantum Computing Pty Ltd (SQC) and UNSW Sydney (UNSW), to develop a process for the commercial production of high-purity 'Zero-Spin Silicon' (ZS-Si) using a variant of the SILEX laser isotope separation (LIS) technology. 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.

We remain confident the SILEX LIS technology has the potential to efficiently produce ZS-Si and provide a secure supply for project partner and initial customer SQC, in support of its world-leading silicon-based quantum computing technology being developed in conjunction with UNSW. The three-year project is due for completion at the end of CY2022 and will cost around $8m in total. The project was awarded a $3m Federal Government funding grant from the CRC-P in February 2020, with SQC contributing another $1.8m including $900k in equity and $900k in advanced ZS-Si purchases.

Stage 2: Validation of the SILEX technology and scalability for ZS-Si production:

In May 2021, Silex announced the successful completion of another key milestone in the project, involving the completion of construction of the Stage 2 Prototype Demonstration Facility. This facility includes scaled-up gas-handling, process reactor and laser systems which will be deployed in tests to demonstrate the scalability and efficiency of the SILEX LIS technology for production of high-purity ZS-Si. The Stage 2 testing program remains broadly on track to be completed by the end of CY2021.

Stage 3: Full demonstration for ZS-Si production at commercial pilot scale:

The third stage, scheduled to be conducted during CY2022, will culminate with the planned production of initial commercial quantities of ZS-Si from a SILEX pilot production facility and a detailed techno-economic assessment of the ZS-Si business case. The first commercial quantities of ZS-Si produced from the pilot facility will be purchased by SQC under an Offtake Agreement executed in December 2019. Silex will retain ownership of the ZS-Si production technology and related Intellectual Property developed through the project.

Quantum Computing and ZS-Si Outlook:

Quantum computers are expected to be thousands of times more powerful than the most advanced of today's conventional computers, opening new frontiers and opportunities in many industries, including medicine, artificial intelligence, cybersecurity and global financial systems. Many countries around the world are investing heavily in the development of quantum computing technology, with governments and key corporates (such as Intel, IBM, Google, Microsoft and others) vying for leadership in this emerging strategic industry.

Current methods for production of enriched silicon are limited and costly with only a few kilograms produced annually, mostly using gas centrifuge technology. Should the ZS-Si project be successful, it could potentially enable Australia to establish itself as a world-leader in ZS-Si production. If the market for ZS-Si evolves, this could create a new value-added export market. As the ZS-Si project progresses, Silex will engage with other potential customers, possibly including some global computer chip manufacturers who are also developing silicon quantum computing technology.

cREO® Semiconductor Technology

Silex's cREO® technology was purchased by UK-based IQE in 2018. IQE is the global leader in the design and manufacture of advanced semiconductor wafer products used in many of today's advanced semiconductor devices and is a key player in the emerging 5G wireless technologies market.

In November 2020, IQE announced the successful development of a new high frequency (RF) filter product (called IQepiMo™) which is built on the cREO® template technology. Following several months of customer and partner device trials, IQE announced in February 2021 the achievement of a key demonstration milestone for IQepiMo™ with significant improvement in the performance of its 5G filter device measured at the high-end frequency range, compared to incumbent technology. This represents encouraging progress towards managing high frequency signals in 5G devices such as mobile handsets.

Minimum annual royalties have been payable by IQE since CY2019 with the CY2020 minimum royalty of US$400k being received in February 2021. In addition, a perpetual royalty of at least 3% will be payable to Silex on the sale of any IQE products that utilise the cREO® technology.

Workplace Health and Safety and COVID-19

Throughout FY2021, we continued to focus on the health, safety and well-being of our team members across all sites and we reported no lost time injuries or reportable incidents. However, there continues to be significant uncertainty associated with the potential impact of the ongoing COVID-19 pandemic. Although full-time operations were maintained at the Company's Lucas Heights facility for most of FY2021, consideration of the continuing impact of the pandemic and efforts to safely minimise disruptions to the Company's activities is ongoing. Above all else, the health, safety and well-being of our people is paramount.

Financial Overview

For the year ended 30 June 2021, the Company had net cash expenditure of $4.3m, which included the receipt of $3.9m (US$3m) from the sale of 30% of the Company's shareholding in IQE Plc. As at 30 June 2021, the Company had net assets of ~$22.1m, including ~$14.1m in cash and approximately ~$5.8m in IQE shares.

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 research and development 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 uranium market conditions and therefore remains subject to associated risks.

Silex is also in the early stages of pursuing 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 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 ownership of subsidiary Translucent Inc. The cREO® technology developed by Translucent has been acquired by IQE Plc based in the UK. IQE is progressing the cREO® technology towards commercial deployment for 5G mobile handset filter applications. The outcome of IQE's commercialisation program is also 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, 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; the results of the 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 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; results from IQE's commercialisation program and the market demand for cREO® products; actions taken by the Company's commercialisation partners that could adversely affect the technology development programs; and the outcomes of various strategies and projects undertaken by the Company.