

Silex Systems - Operational Update

25 August 2017

Highlights

- Execution of Silex's business strategy, including securing a path to commercialisation for our core asset, the SILEX laser based uranium enrichment technology, was the primary focus of the Company during the year in review;
- Silex remains confident that a recovery in the markets for uranium and enriched uranium will prevail by the mid-2020's, as forecast by several market analysts, and that this will create favourable conditions for the commercial introduction of the SILEX technology;
- Silex continues to lead the investor search activities for the restructure of GE-Hitachi Global Laser Enrichment LLC (GLE), the exclusive licensee of the SILEX technology. Discussions and due diligence activities are progressing with a number of parties;
- The SILEX technology commercialisation project continues to progress in accordance with plans at both the Wilmington Test Loop facility and at the Lucas Heights laser development facility with several more technology deliverables achieved during the year;
- Preliminary activities continue in support of GLE's planned Paducah, Kentucky project, which would see the establishment of the first commercial SILEX enrichment plant. Silex regards this project as pivotal to the successful introduction of the SILEX technology;
- The commercialisation program for the Company's cREO™ technology continues to be advanced by exclusive licensee, UK-based IQE Plc, with good progress in meeting target development milestones;
- The Company's current cash reserves are approximately \$41.5 million.

Our Strategy

In recent years, the Company has refocused its resources and attention to our core asset, the SILEX laser based uranium enrichment technology. We remain 100% committed to the SILEX technology and its successful commercialisation in collaboration with exclusive licensee GE-Hitachi Global Laser Enrichment LLC (GLE). We intend to continue to protect our core asset and position ourselves to participate in the forecasted recovery of the global market for nuclear fuel in the mid-2020's.

Central to the execution of our strategy are the following:

- efforts to increase Silex's involvement with GLE – potentially as a significant shareholder;
- increased presence in the US, the target market for deployment of the SILEX technology;
- ongoing evaluation of new opportunities to participate in the nuclear fuel cycle;
- retention of our talent and maintaining our Sydney facility as a centre of innovation; and
- focus on effective cost management to ensure the most efficient use of cash reserves.

SILEX Uranium Enrichment Project

The GLE Restructure:

The search for new investors required to enable the restructure of licensee GLE has continued, despite the backdrop of challenging market conditions that have prevailed in the nuclear industry since the Fukushima accident in 2011. Silex continues to lead the investor outreach activities, targeting companies who can support the commercialisation of the SILEX technology and backing GLE's transition to market.

Under the provisions of a Term Sheet signed by Silex and GE-Hitachi Nuclear Energy (GEH) on 29 April 2016, Silex holds an exclusive, assignable option over GEH's 76% equity stake in GLE. We anticipate a further extension of this Term Sheet, which expires on 31 August, to be agreed shortly between Silex and GEH.

At the time of writing, a number of parties continue to assess the GLE investment opportunity and are progressing with various due diligence activities. Meanwhile, Silex continues to consider the option to acquire an equity interest in GLE, which would provide greater visibility into, and participation in the technology commercialisation program going forward. Silex believes that GLE is the best vehicle to take the SILEX technology to market, based on the preservation of the highly skilled engineering team and several key assets, most notably the Test Loop facility in Wilmington, North Carolina (NC) which will underpin GLE's value going forward.

The SILEX Technology Commercialisation Program:

The SILEX technology represents a unique third-generation laser-based solution for production of two key components of nuclear power reactor fuel:

- natural grade uranium via re-enrichment of tails inventories (i.e. the Paducah commercial plant project); and
- enriched uranium for use as fuel in today's conventional nuclear power reactors - in the form of low enriched uranium (LEU), as well as customised fuel for the next generation fleet of advanced small modular reactors (SMR's) - in the form of high assay LEU.

The SILEX technology maturation program continues to advance at both the GLE, Wilmington, NC and Silex, Sydney project sites, with several engineering scale-up and economic validation deliverables achieved during the year. Activities at the Test Loop facility in Wilmington included the commissioning and demonstration of key process equipment components which resulted in the confirmation of significant efficiency improvements and the potential to lower operating and capital costs. Laser system development activities in Sydney included the commissioning and demonstration of a prototype production-scale laser system and the development of associated control systems, all of which will be combined for a major integrated demonstration of the prototype commercial technology to be conducted in Wilmington in the 2020 timeframe.

The Paducah Project Opportunity:

In parallel to the technology maturation program, preliminary business development activities to support GLE's planned Paducah project continue to progress at a modest pace in line with the current market conditions.

Pursuant to the signing of the agreement between GLE and the US Department of Energy (DOE) in November 2016, the Paducah commercial opportunity is viewed as an ideal path to market for the SILEX technology. The opportunity allows for the construction and deployment of the first SILEX laser enrichment facility to process around 300,000 metric tons of depleted uranium (tails) stockpiles owned by the DOE.

The tails re-enrichment would occur over a period of 40 years or more, resulting in the production of natural grade uranium which could then be sold into the expanding global uranium market. At a nominal production rate of around 2,000 metric tons of natural grade uranium hexafluoride (UF₆) per year (subject to applicable regulations), this project would rank as a large 'Tier 1' uranium mine by today's standards.

Translucent – cREO™ Technology

Silex subsidiary Translucent Inc developed a novel set of semiconductor materials known as 'crystalline Rare Earth Oxides' (cREO™) for application to the manufacturing of next generation devices in the semiconductor, digital communications and power electronics industries. An exclusive License and Assignment Agreement was signed with UK-based IQE Plc (LON:IQE) on 15 September 2015. IQE is the global leader in the design and manufacture of advanced semiconductor wafer products. A license payment of ~US\$1.4 million was paid to Translucent in IQE shares in March 2016, which with the increase in IQE's share price since, are worth approximately US\$8.5 million at the time of writing.

The cREO™ technology was transferred in late 2015 to IQE's Greensboro, North Carolina manufacturing facility for the completion of product development and commercialisation activities during a 30-month option period ending in March 2018. Should IQE elect to exercise the right to purchase the technology within this period, a further payment of a US\$5 million will be made. The potential commercial applications that IQE have identified for the technology may result in an attractive perpetual royalty stream of between 3% and 6% of revenues generated by IQE from use of the cREO™ technology.

IQE have continued to make good progress and are meeting target development milestones for initial products utilising the cREO™ materials. The product development program involves using two of Translucent's production reactors to produce various cREO™ templates on silicon wafers for trialling within the IQE Group and select commercial partners, with initial focus on wireless communications devices and power electronics devices. In light of this progress, IQE has determined a good route to commercialisation within a 2 to 3 year timeframe.

Further information on the Company's activities can be found on the Silex website: www.silex.com.au or by calling +61 2 9704 8888.

Forward Looking Statements and Business Risks:

Silex Systems is a research and development Company whose primary asset is the SILEX laser uranium enrichment technology, originally developed at the Company's technology facility in Sydney, Australia. The SILEX technology, licensed exclusively to GE-Hitachi Global Laser Enrichment LLC (GLE) in the USA, is currently in the engineering scale-up stage and plans for commercial deployment remain speculative and high risk.

Silex also has an interest in a unique semiconductor technology known as 'cREO™' through its ownership of subsidiary Translucent Inc. The cREO™ technology is exclusively licensed to IQE Plc based in the UK. IQE is progressing the cREO™ technology towards commercial deployment in various advanced semiconductor products. The outcome of IQE's commercialisation program remains subject to technology and market risks.

The commercial potential of these two technologies is currently uncertain. Accordingly, the statements in this announcement regarding the future of the SILEX technology, the cREO™ technology and any associated commercial prospects are forward looking and actual results could be materially different from those expressed or implied by such forward looking statements as a result of various risk factors.

Some risk factors that could affect future results and commercial prospects include, but are not limited to: the outcome of the GLE restructure; results from the SILEX uranium enrichment engineering development program being conducted jointly by the Company and GLE; the demand for natural uranium and enriched uranium; the time taken to develop the SILEX technology; the potential development of competing technologies; the potential for third party claims against the Company's ownership of Intellectual Property; the potential impact of government regulations or policies in the USA, Australia or elsewhere; results from IQE's commercialisation program and the demand for cREO™ products; and the outcomes of various commercialisation strategies undertaken by the Company and/or its Licensees GLE and IQE.

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