

Clean TeQ Ships Scandium Recovery Pilot Plant to ISK in Japan

Clean TeQ has further progressed its scandium strategy by shipping a scandium recovery pilot plant to Japan's Ishihara Sangyo Kaisha Ltd (ISK) titanium dioxide facility in Yokkaichi, near Nagoya. The scandium recovery pilot plant uses Clean TeQ's Clean-iX[®] continuous ion exchange technology and will be commissioned over the next two months with trial campaigns expected in the December quarter. Photos of the plant are attached in the appendix to this announcement.

Clean TeQ's technical team will work with ISK on the initial campaign at Yokkaichi which aims to recover up to 1kg a day of scandium oxide (Sc₂O₃). A successful series of campaigns will lead to commercial and modular scale expansion options being considered next year.

The Clean-iX[®] technology is able to recover and concentrate the trace amounts of scandium which are contained in intermediate process streams of the production process for titanium dioxide (TiO₂), a product which is widely used as a whitening substance in paints and pigments.

Scandium is used in electrolytes for solid oxide fuel cells (SOFC) and in high strength metal alloy applications in the aerospace and sporting industries. The spot price of scandium oxide (Sc₂O₃) has fluctuated between \$2,000-\$8,000/kg in recent years due to limited supplies worldwide. The more universal use of scandium in SOFC's and metal alloys is dependent on the availability of reliable scandium resources coupled to an economic approach to recovery.

Clean TeQ CEO Mr Cory Williams, commented: *"Scandium and graphite have received a lot of public interest of late with their potential to play a key role in the next generation of batteries and fuel cells. We see a number of commercial applications and opportunities using our expertise in ion exchange to recover not only gold, nickel and copper, but also other high value elements such as scandium. The operation of the Clean-iX[®] pilot plant with ISK is an important next step in showcasing our technology and knowhow and to also in the future share in ongoing revenues from the sale of valuable metals from our technology."*

The Clean-iX[®] pilot plant is a modular, fully automated system that is a scaled version of a full scale plant process that extracts metals from solutions. The Clean-iX[®] system uses moving packed bed columns where solutions and resins are contacted in countercurrent flows, the most efficient method of extraction and concentration and which is scalable for small and large solution flow rates.

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Data from the plant will be used to confirm the production cost of scandium oxide and allow for multiple process streams to be trialed. Following piloting, Clean TeQ and ISK will review options for full scale development at Yokkaichi and other titanium dioxide process plants in Japan. Ishihara Sangyo Kaisha Ltd. (ISK) Japan has produced and refined titanium dioxide for various industrial purposes since 1963.



Figure 1: The Yokkaichi site at ISK in Japan where the pilot plant will be constructed.



Figure 2: The pilot plant ready for shipping.

For more information:

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About Clean TeQ Holdings Limited (ASX: CLQ)

Clean TeQ (ASX: CLQ) is a world leader in water treatment and resource recovery technology and the Australian leader in biological air purification. Clean TeQ develops technologies in-house and partners with leading technology suppliers worldwide.

The Company offers a range of business models to potential clients including licensing our technology, building and commissioning complete installations (both transportable and fixed), and building and operating installations in joint ventures, in return for a share of revenues generated through resources recovered. Clean TeQ will also acquire mining assets where its technologies can make exploitation of uneconomic ore bodies or re-processing of tailings profitable.

For more information about Clean TeQ please visit the Company's website at www.cleanteq.com.

About Ishihara Sangyo Kaisha, Ltd (ISK)

ISK is a chemical company providing a range of agrochemicals, titanium dioxide and other chemicals to worldwide markets. ISK has offices and subsidiaries in 13 countries.

For more information please visit the Company's website at www.iskweb.co.jp/eng.

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