

Syerston Scandium Project

A paradigm shift for a strategic metal

Investor Presentation – February 2015

Clean TeQ Holdings Limited (ASX: CLQ)

Disclaimer and Important information

Certain statements in this presentation are forward looking statements. By their nature, forward looking statements involve a number of risks, uncertainties or assumptions that could cause actual results or events to differ materially from those expressed or implied by the forward looking statements. These risks, uncertainties or assumptions could adversely affect the outcome and financial effects of the plans and events described herein. Forward looking statements contained in this presentation regarding past trends or activities should not be taken as representation that such trends or activities will continue in the future. You should not place undue reliance on forward looking statements, which apply only as of the date of this presentation.

The Syerston Scandium Project is at the Scoping Study phase and although reasonable care has been taken to ensure that the facts in this presentation are accurate and/or that the opinions expressed are fair and reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness.

Actual results and developments of projects and scandium market development may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors.

This presentation does not constitute or form part of any offer or invitation to sell, or any solicitation of any offer to purchase any shares in the Company, nor shall it or any part of it or the fact of its distribution form the basis of, or be relied on in connection with, any contract or commitment or investment decisions relating thereto, nor does it constitute a recommendation regarding the shares of the Company. Past performance cannot be relied upon as a guide to future performance.

All amounts including "$" or "A$" are in reference to Australian Dollars unless stated otherwise.

The information in this document that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Sharron Sylvester, who is a Registered Professional Geoscientist (10125) and Member (2512) of the Australian Institute of Geoscientists, and a full time employee of OreWin Pty Ltd. Sharron Sylvester has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Sharron Sylvester, who is a consultant to the Company, consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

For further details on the content of this presentation, please refer to the ASX releases dated 24th November 2014 and 23rd January 2015.

Clean TeQ Corporate Summary | ASX : CLQ

Issued Capital As at 6 February 2015	
Year Listed	2007
Shares	300.1 M
Options	8.5 M
Convertible Notes	40.7 M
Fully Diluted Capital	349.3 M
Share Price (6 February)	13.0c
Market Capitalisation (undiluted)	$39.0 M

Shareholders	
Total shareholders	1,956
Top 10	35.9%
Board & Management	9.1%

Cash and Debt	
Cash on Hand – 31 Dec 2014	$3.5M
Short Term Debt – 31 Dec 2014	$2M
Convertible Notes – 31 Dec 2014	$4.1M

6 Month Price Chart

Clean TeQ Management Team | Metals

CHAIRMAN & CEO - Sam Riggall

Sam is a graduate in law and commerce and an MBA from Melbourne University. He was previously Executive Vice President of Business Development and Strategic Planning at Ivanhoe Mines Ltd. Prior to that Sam worked in a variety of roles in Rio Tinto for over a decade covering project generation and evaluation, business development and capital market transactions.

FOUNDER & CIO - Peter Voigt

Peter Voigt is a graduate in chemistry and a MAppSc from Royal Melbourne Institute of Technology. Peter established Clean TeQ in 1990 and became a director of the Company on 10 September 2007 and CEO in 2010. In November 2013 Peter moved to become the Chief of Innovation and Executive Director.

CLEAN TEQ METALS GM - John Carr

John Carr is a graduate in chemical engineering from Melbourne University and an MBA from Deakin University. John has previously worked as a process engineer for Rio Tinto. John is General Manager and has spent almost 8 years with the company developing its technologies for metal extraction and water treatment.

CFO - Ben Stockdale

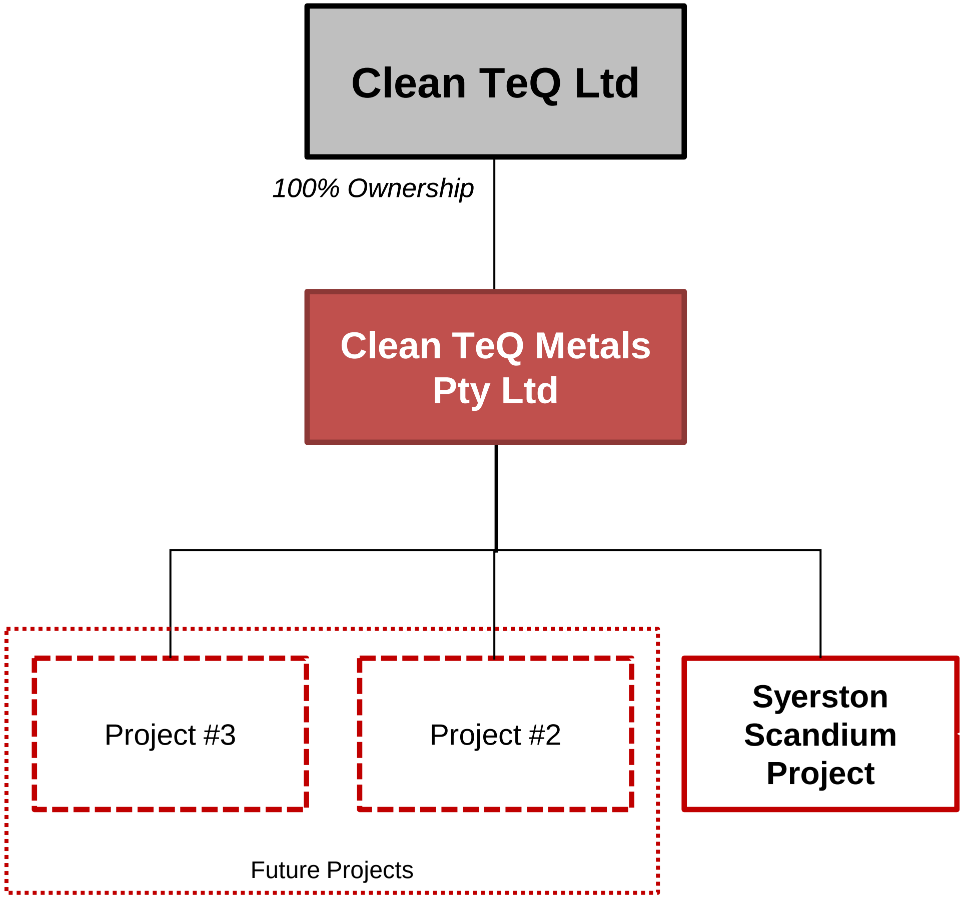
Ben Stockdale is a financial and commercial executive with extensive mining industry experience including project and corporate debt and equity financing, mergers and acquisitions and metals marketing and logistics. Over the past 16 years Ben has held a number of executive roles at public and private mining companies including Oxiana Limited, Citadel Resource Group and Unity Mining. Ben is a graduate in commerce from Melbourne University.

Clean TeQ Corporate Summary | Key Milestones

The following represents the key milestones for Clean TeQ:

Date	Milestone
1989	Company founded - Focused on biological air treatment (Clean Air Techniq Pty Ltd)
1989-2000	Company grows to largest odour control company in Australia
2000	Worldwide exclusive license for ARRICT's continuous ion exchange technology
2000-2007	Development of Clean-iX ion exchange technology for metal recovery and water treatment
2007	Company IPO on Australian Stock Exchange (ASX)
2008	License sold to BHPB for nickel and cobalt recovery
2009-2012	Further development work in uranium, gold and REE's
2012	Letter of Intent signed with ISK for scandium recovery from TiO_2 and Investment by Nippon Gas
2013	Investment by Robert Friedland
2014	Air business partially divested to allow focus on Metals and Water divisions
2014	Clean TeQ Metals formed (September) and Syerston Scandium Project acquired (November)

Clean TeQ Metals | Structure



- Clean TeQ Metals ("CTM") formed to focus on direct investment, licensing and development of assets utilising its technologies.
- Targeting projects where:
  - CLQ's IP and expertise will provide a **value uplift;**
  - Mining asset is geologically de-risked but **requires process innovation**;
  - Clean TeQ is able to take a managing role, through **direct investment or acquisition**.
- First project acquired: **Syerston Scandium Project.**

Strategic Metals | Key Ingredients

What makes a metal….

Limited Supply

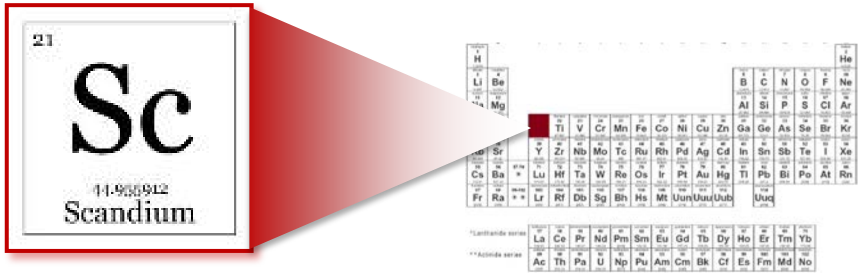
Large Change in Material Properties

New Materials, New Uses

New vision of the future

...a catalyst for disruptive change?

Scandium | The Next Strategic Metal



- Scandium, or Scandium Oxide (Sc_2O_3) as it is commonly marketed, has enormous potential to play a key role in the emerging aerospace, transport and energy sectors.
- While relatively abundant in the earth's crust, it is extremely rare to find concentrated occurrences for economic extraction.
- The scandium market will be made through:
  - Long term sustainable supply
  - Low production cost
  - R&D partnerships focused on process and design innovation

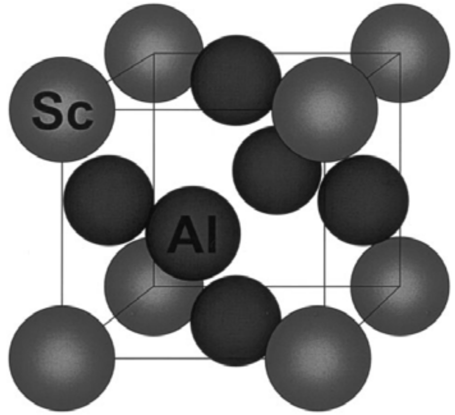
Al-Sc Alloys | Future Materials

Aluminium alloys with scandium

Alloy System	Alloy	Potential Sc %	Current Applications
1xxx	Pure Al	0.2-0.4%	Packaging, electrical conductors
2xxx	Al-Cu	0.01-0.06%	Structural aerospace
3xxx	Al-Mn	0.1-0.26%	Beverage cans, cooking utensils, heat exchangers, architectural
4xxx	Al-Si	-	Welding wires
5xxx	Al-Mg	0.05-0.5%	Beverage cans, architectural, marine and automotive
6xxx	Al-Mg-Si	0.1-0.26%	Structural applications
7xxx	Al-Zn-Mg	0.1-0.26%	Aerospace and automotive structures
Al-Li	Al-Li-Sc	0.02-0.14%	Aerospace

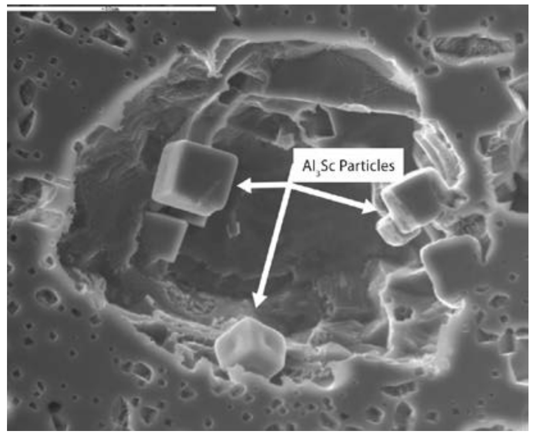
Source: Hydro Aluminium R&D Sunndal

Atomic arrangement of Sc in Al_3Sc phase:



Source: Hydro Aluminium R&D Sunndal

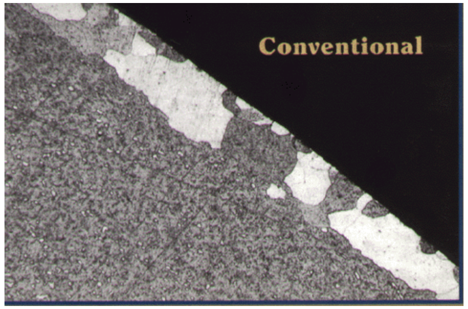
SEM Micrograph of Al_3Sc:

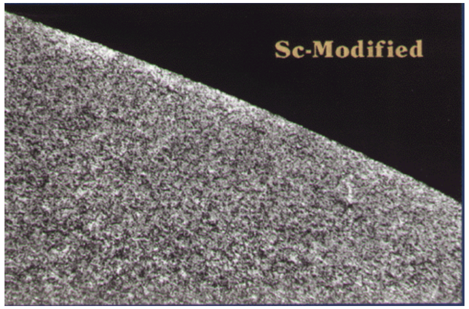


Source: AMG

Al-Sc Alloys | Aerospace and Automotive

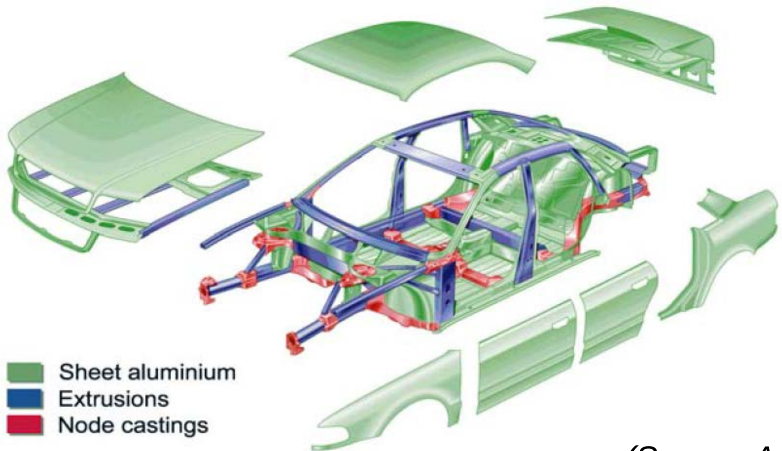
Grain Refinement:





(Source: scandium.org)

Applications of Aluminium and alloys to light vehicles:



(Source: Audi)

- Aluminium-Scandium (Al-Sc) alloys have the following benefits:
  - **Grain refinement:** smaller evenly shaped grains : increased strength
  - **Superplasticity**: Al-Sc alloys can be subjected to higher stresses to form more complex shapes
  - **Precipitation hardening:** Al-Sc alloys are significantly harder
  - Higher **corrosion resistance** and thermal and electrical **conductivity**
  - Increased **weldability** with no loss in strength
- Example: Al-Sc benefits to aircraft:
  - **15% manufacturing cost reduction**
  - **15% weight reduction**

Al-Sc Alloys | Aerospace and Automotive

Commercial Aerospace

New Airplanes to be delivered by 2032:

(Source: Boeing)

Total: 35,280

Average Aluminium content per aircraft:

- Boeing: 51 tonnes
- Airbus: 43 tonnes
- **Average: 47 tonnes**

(source: USGS)

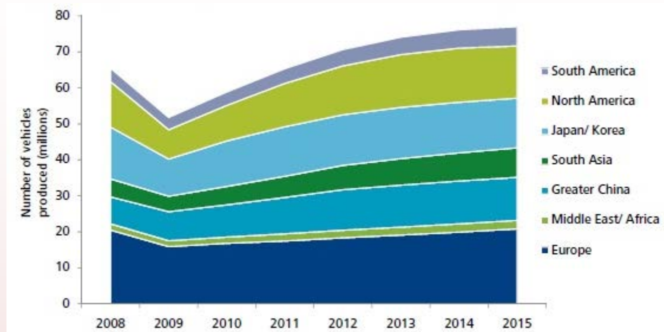
Total Al Consumption: 1,658,160 tonnes by 2032

Assuming 0.2% Sc in all aircraft aluminium and 50% uptake in the market:

Sc market potential: 1,660 tonnes by 2032
or **98 tonnes per annum of scandium**
or **150 tonnes per annum of scandium oxide**

Commercial Automotive

New Light Vehicles 2010-2015 (millions of units):



2015 Total: 75M

(Source: CSM Worldwide)

Average Aluminium content per light vehicle:

- World Average: 0.159 tonnes

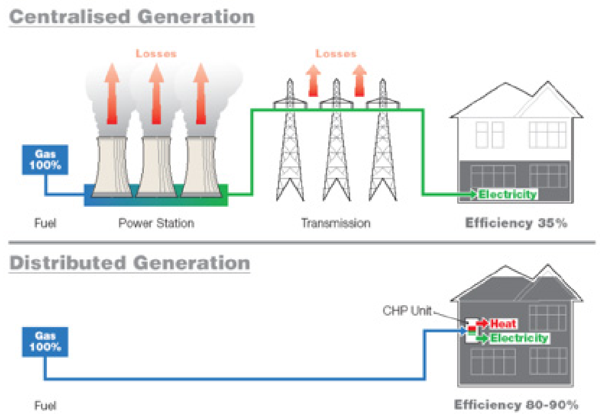
(source: Ducker Worldwide & The Aluminium Association)

Total Al Consumption: ~12,000,000 tonnes p.a.

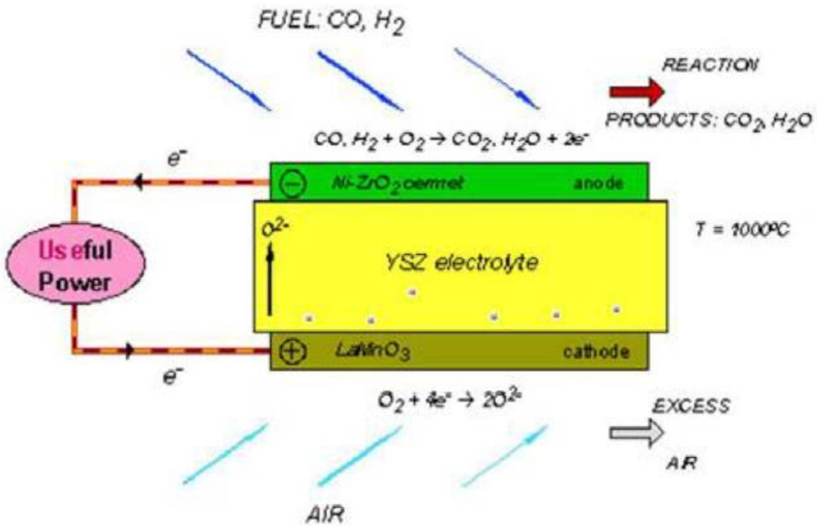
Assuming 0.2% Sc in all light vehicle aluminium and 10% uptake in the market:

Sc market potential:
2,400 tonnes per annum of scandium
or **3,650 tonnes per annum of scandium oxide**

Solid Oxide Fuel Cells | Energy Production



(Source: SOFC Power)



Source: Public information. QYResearch Scandium Oxide Research Center; Nov, 2014

- Solid Oxide Fuel Cells (SOFC's) convert gas into **electricity, heat and water**
- SOFC's use hard ceramic materials as the electrolyte – normally yttrium-stabilised zirconium
- **Sc-stabilised zirconium** electrolyte allows for operation at much lower temperatures and extends operating life:
  - Lower production and operating cost
- 85% energy efficient (with heat recycle)
- Large potential for low cost "green" energy
- Decentralised energy production
- The main Sc-based SOFC producer, Bloom Energy, is predicting a Sc_2O_3 demand of **40tpa over the next 5 years**

(Source: Kaiser Research Centre)

Additive Layer Manufacturing | Future Manufacturing

- Additive Layer Manufacturing (ALP): 3D printing of component parts
- Complex geometries and unique shapes formed.
- Minimising waste, reducing cost of production.
- Produced directly from computer aided design (CAD) applications.
- Al-Sc alloys highly applicable to this emerging industry due to its:
  - High mechanical strength
  - Fast cooling rate
  - High level of geometric freedom.
- Potential to be used in several different applications and industries.

- 3D printed part (EADS-Airbus):

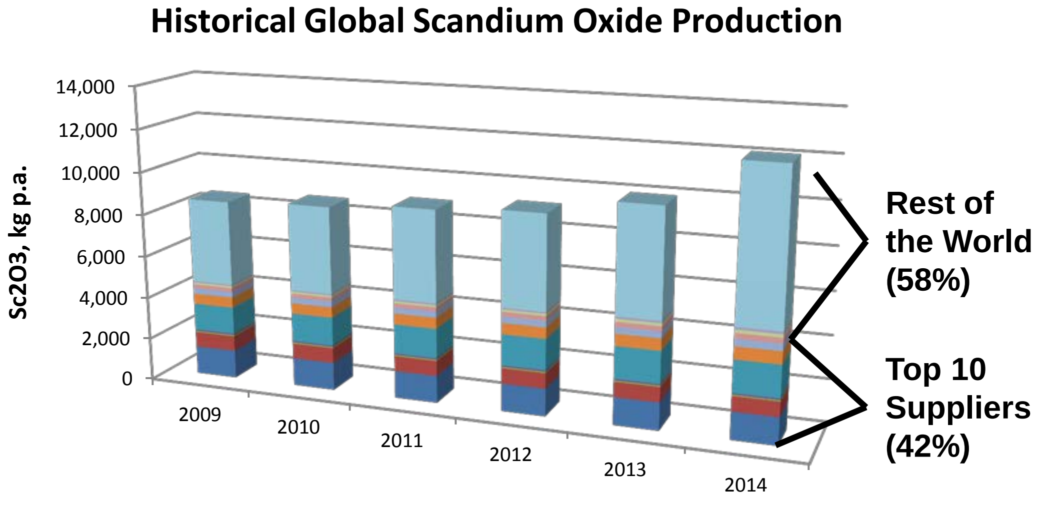
- 3D printed heat exchange plate:

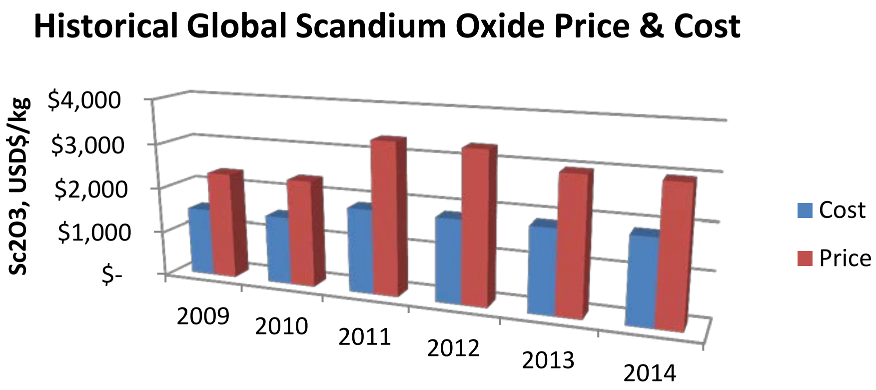
Scandium | Other Emerging Applications

- Emerging industries which can grow the scandium market…
  - **High voltage tension wire** – high efficiency transmission lines due to Sc-Al alloys having high electrical conductivity
  - **Sporting equipment** – baseball bats, golf clubs, lacrosse sticks, bicycle frames
  - **High intensity lamps** – scandium-based lamps provide light which most resembles sunlight.

…if the correct price point of scandium is reached.

Scandium | Current Supply Issues





(Source: QY Research Scandium Oxide Research Centre)

- Main source: by-products or stockpiles
- Due to limited supply and high production costs, the total global consumption ranges from **5-12tpa**
- **Supply is heavily fragmented**, as by-product streams generally only contain **low concentrations of scandium** (~10-30ppm Sc)
- Therefore multiple sources are required to produce large amounts of scandium.
- 2014 Averages (per kg SC_2O_3):
  - – Price: **USD$2,800-3,800/kg**
  - – Production cost: **USD$1,600-1,800/kg**
- A long term, low cost supply of SC_2O_3 is required to satisfy potential demand

Scandium | Key Industry Issues

Requirements to establish a scandium market:

1. **A large source of high grade scandium**
   - Australian high grade scandium resources are geologically unique and represent the best long term supply source for multiple industries, with >30,000t of Sc resources (100+ years of demand) identified to date
2. **A step change in Sc_2O_3 pricing**
   - Low grades/concentrations combined with conventional technologies (HPAL & SX) result in higher costs of production.
   - When scandium is used in Al alloys, its pricing dictates uptake and value in use analysis for the added functionality it delivers
3. **Customer willingness support new development with offtake**
   - Customers and suppliers must work in partnership to develop new resources and markets for scandium

Scandium | Syerston Scandium Project

1. Long Term Supply:

Clean TeQ Metals ("CTM") has acquired the Syerston Project in New South Wales, Australia. Syerston is potentially the largest and highest grade scandium deposit in the world.

2. Lowest Production Cost:

Using our proprietary technology, CTM is targeting Sc_2O_3 supply at a significantly lower cost of production.

3. Offtake:

Leveraging existing networks into the aerospace market, there is the potential to establish a credible long term offtake partner for high tonnage Sc_2O_3.

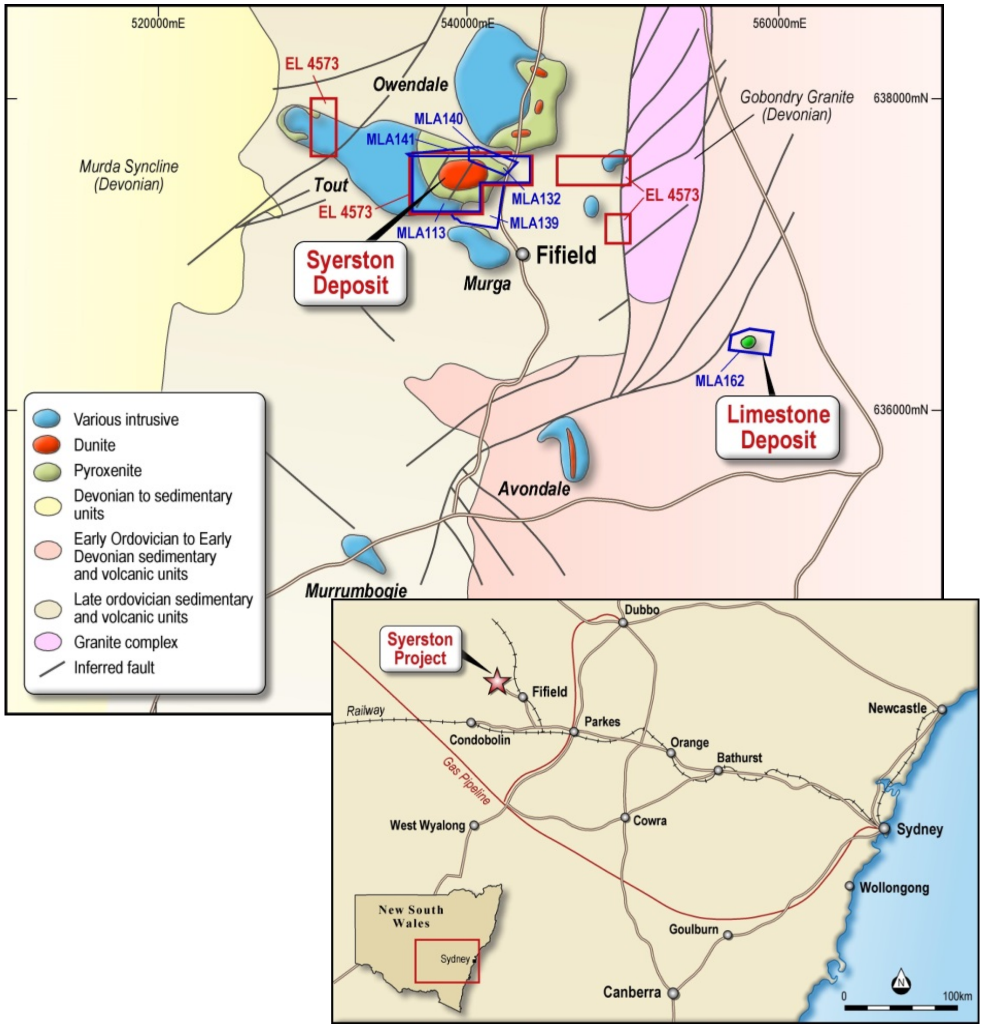
The Syerston Project will be the "market maker" for scandium.

Syerston | Acquisition Structure

- CTM has acquired the Syerston Project with the following structure:
  - CTM has acquired 100% of the shares of Ivanplats Holding Company Pty Ltd ("IHC") from Ivanhoe Mines subsidiary *Australia Nickel and Platinum Holding Co P/L*.
  - IHC's wholly owned subsidiary, Ivanplats Syerston Pty Ltd ("ISPL") owns the Syerston Scandium Project in NSW.
  - CTM has purchased the company for:
    - $1M of CLQ scrip at a 5 day VWAP;
    - $100k in cash; and
    - $100k of in-kind development via a metallurgical test work program (almost complete).
  - The Agreement also includes a 2.5% royalty on net revenue for metals sold from the Project.

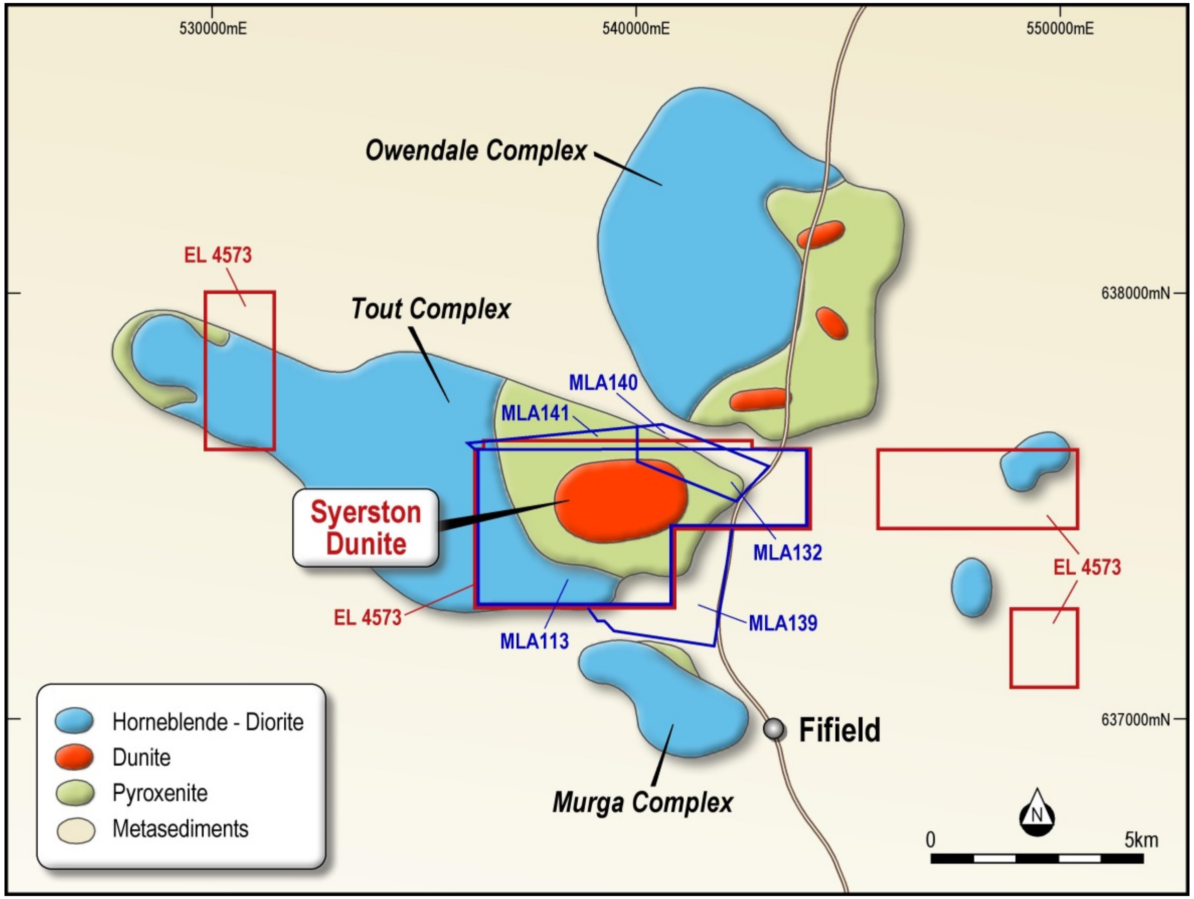
(Please see ASX release dated 24/11/2014 for further details on the agreement.)

Syerston | Project Location & History



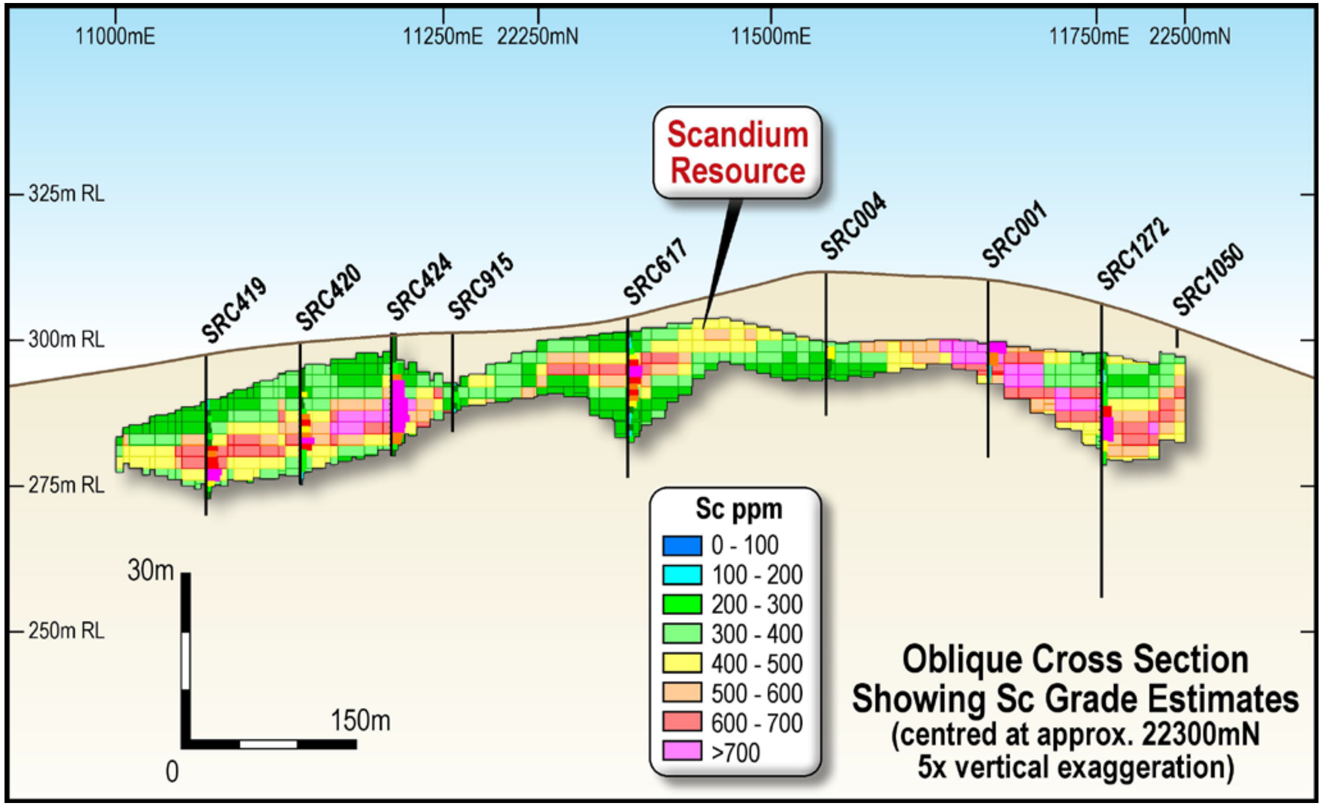
- The Syerston Project consists of:
  - An Exploration License (EL 4573);
  - Mining Lease Applications (MLA 113, 132, 139, 140, 141 & 162 [limestone deposit]);
  - Freehold land over portion of project area;
  - Established bore field south of Project; and
  - Project development consent in place.
- Extensive drilling and development to date:
  - 2000: Black Range Minerals completed a feasibility study for Ni/Co, including 725 RC drill holes and 9 bulk met samples.
  - 2004: Ivanhoe Mines completed another feasibility study for Ni/Co after acquiring the project from Black Range, including an additional 117 RC drill holes
  - 2014: Additional 14 drill holes drilled in prospective scandium zone.

Syerston | Project Geology



- Deposit hosted within a tertiary aged lateritic weathered profile.
- The Tout Ultramafic Complex underlies the Project, with the central dunite core rich in nickel, cobalt and platiniods.
- Deposit thickness of 35-40m at the core, thinning out laterally
- The scandium-rich mineralisation occurs:
  - on the periphery of the large dunite complex.
  - at shallow depths, ranging from 0-30m.
  - Particularly high-grade scandium zones have been highlighted on the Project.

Syerston | Project Geology



- **Key Points:**
  1. Shallow resource amenable to low cost open cut mining.
  2. High grade zones for selective mining in early years of operation.
  3. Potential resource upgrade through assaying shallow depths.

Syerston | Scandium Mineral Resource

Measured, Indicated and Inferred Scandium Resource (JORC 2012):

*Scandium cut-off of **300ppm** Sc:*

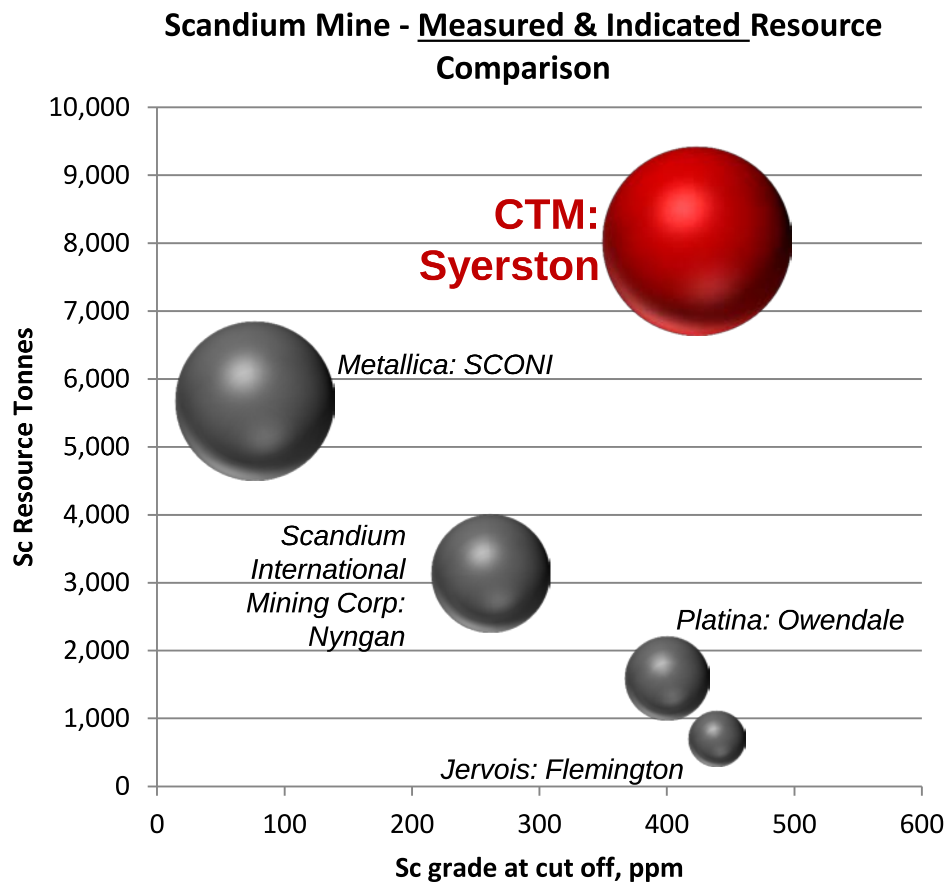
Category	Tonnage, Mt	Sc Grade, ppm	Sc Tonnes	Sc_2O_3 Equiv Tonnes*
Measured	1.1	411	465	712
Indicated	17.9	424	7,570	11,583
Inferred	6.4	386	2,480	3,795
Total	**25.4**	**414**	**10,516**	**16,089**

*Scandium cut-off of **600ppm** Sc:*

Category	Tonnage, Mt	Sc Grade, ppm	Sc Tonnes	Sc_2O_3 Equiv Tonnes*
Measured	0.1	686	62	95
Indicated	1.1	667	701	1,073
Inferred	0.1	630	55	84
Total	**1.2**	**666**	**818**	**1,252**

** Sc multiplied by 1.53 to convert to Sc_2O_3.*

(Please see ASX release dated 23/01/2015 for further details on the scandium resource statement.)

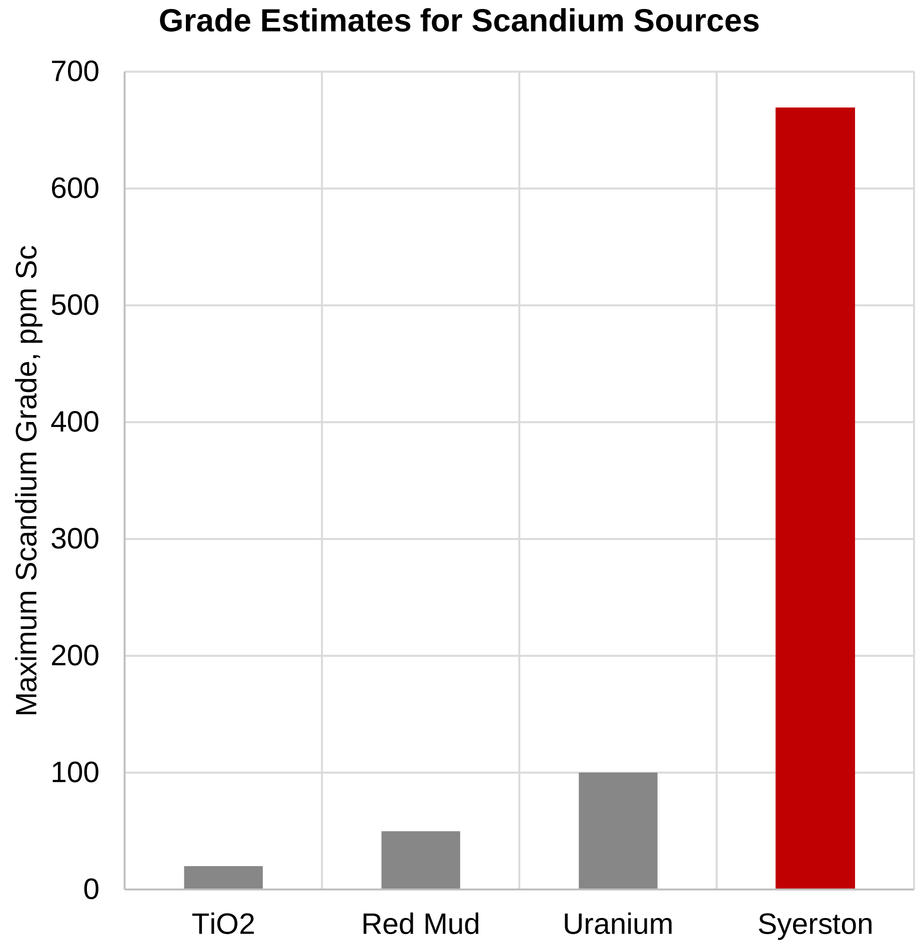


Notes:

- *Syerston and Owendale cut off 300ppm Sc*
- *Flemington cut off 200ppm Sc*
- *Nyngan cut off 100ppm Sc*
- *SCONI cut off based on NiEq >0.7%*

Syerston | Grade is King….

- Other scandium sources range from 10-100ppm Sc.
- Scandium production from these sources are limited by:
  - Throughput of material
  - Relative operating costs to recover low-grade material.
- The Syerston project has grades 6-30 times conventional scandium sources,
- This will allow for a much lower unit cost of production of scandium at Syerston.



Syerston | Fast Track Development Path

- Sufficient resource definition for Feasibility Study (Measured & Indicated)
  - Includes high grade zones for first years of operation.

- Development Consent in place, with Mining Lease Applications (MLA) currently over project area.
  - Includes all environmental approvals etc.
  - Significant reduction in permitting/approvals time and cost.
  - Most likely only development consent modification required for scandium mine.

- Established borefield with allocation for mine requirement and expansion
  - As water is scarce in the region, this provides a significant advantage over other projects, as there is no large scale water sources available in the area.

Syerston | Established Borefields

"Eastern" borefield

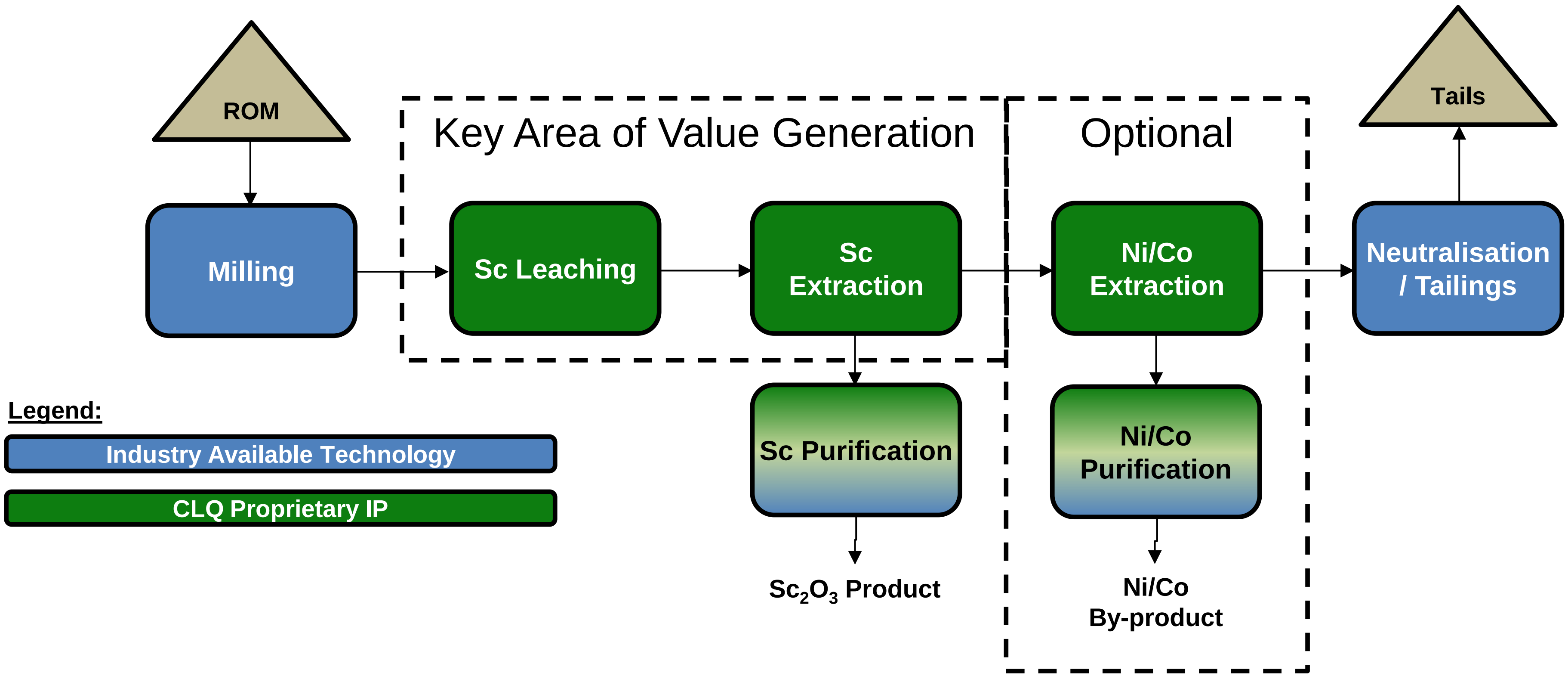
"Western" borefield

Syerston | Development Timeline

Year	2014	2015				2016				2017			
Stage	Q 4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Initial Resource Statement	√												
Metallurgical Bench Scale Testwork	√												
Scoping Study													
Feasibility Study Piloting													
Feasibility Study													
Offtake Agreement Finalisation													
Project Funding													
Design & Construction													
Commissioning													

- Key Activities in the next 3 months:
  - Preliminary negotiations of offtake agreement
  - Scoping study finalised
  - **Potential for timeline compression depending on funding considerations**

Syerston | Scandium Flow Sheet



Two key unit processes with largest impact on capital and operating cost:

1. Scandium Leaching
2. Scandium Extraction

Syerston | Scandium Flow Sheet

Leaching

- Two "industry standards" for sulphuric acid:
  - Atmospheric Leaching (AL) – Low capital but **high acid consumption**
  - High Pressure Acid Leaching (HPAL) – Low acid consumption but **high capital cost**
- Optimised approach required to provide a lower cost of production.

Extraction

- Countercurrent Decantation (CCDs)
  - Difficult to separate solids and liquids from leached laterite ores – **high capex**
  - Sc dilution by washing and Sc soluble losses in CCD underflow – **lower recovery**
- Solvent extraction (SX)
  - Inefficient at low metal concentrations (e.g. scandium leach) – **higher opex**
  - Requires clean liquors

Clean TeQ Technology | A Brief History of Clean-iX®

60 Year Development Path for Metal Leaching, Extraction and Recovery technologies:

<table>
<tr><th>Date</th><th>Event</th><th>Clean-iX®</th></tr>
<tr><td>1951</td><td>All Russian Research Institute of Chemical Technology (ARRICT) founded</td><td rowspan="3">Continuous Ion Exchange (CCIX) base technology development</td></tr>
<tr><td>1951-2000</td><td>ARRICT supplies the Russian nuclear industry, defence production and economy with uranium</td></tr>
<tr><td>1951-2000</td><td>Separation and purification research and development within ARRICT - ion exchange resins and processes, solvent extraction and membrane technology The commercial arm of ARRICT (Sorbextro) is formed in the 1990’s.</td></tr>
<tr><td>1989</td><td>Clean TeQ founded</td><td></td></tr>
<tr><td>2002</td><td>ARRICT, Sorbextro & Clean TeQ Agreement-to commercialise this unique separation and purification technology in the Western world.</td><td rowspan="2">Clean-iX®
Clean TeQ’s In-house metal recovery technology development</td></tr>
<tr><td>2002-2015</td><td>Australian R&D results in patents for new ion exchange resins and innovative technical processes. Commercialisation of Clean-iX® into the mining industry</td></tr>
</table>

Clean TeQ Technology | A Proven Track Record







Base Technology Development (ARRICT):

- Over 30 full scale operations over 40 years for uranium and gold recovery.

Clean-iX® Development:

- 2006: Proven extraction of **Scandium** from laterite ore
- 2008: License to **BHPB** for **Nickel** and **Cobalt** recovery, focused on laterite ore.
- 2009: Demonstrated on alkaline and hyper-saline **Uranium** recovery
- 2010: Demonstrated on **Gold** recovery from thiosulphate leach solutions
- 2014: Piloting for low grade **Scandium** recovery from TiO_2 process streams

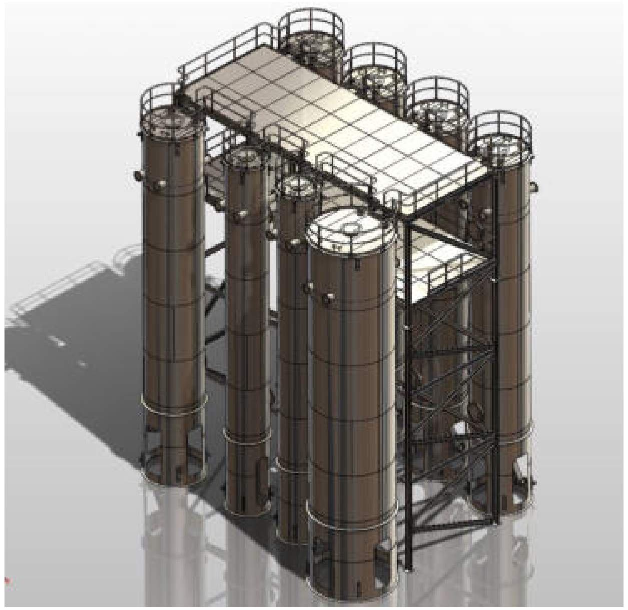
CLQ has filed over **10 patents** and has invested **over A$15M on R&D**.

Clean TeQ Technology | The Clean-iX® Process

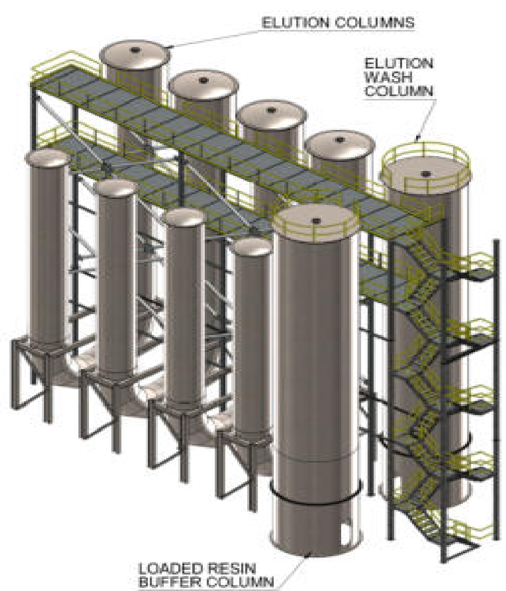
- Platform technology for leaching, extraction and elution of metals.
- Clean TeQ has built on 40 years of R&D and commercial operation to develop a process specific for scandium extraction from laterite ores.

Resin-in-Pulp (cRIP) or Resin-in-Leach (cRIL)

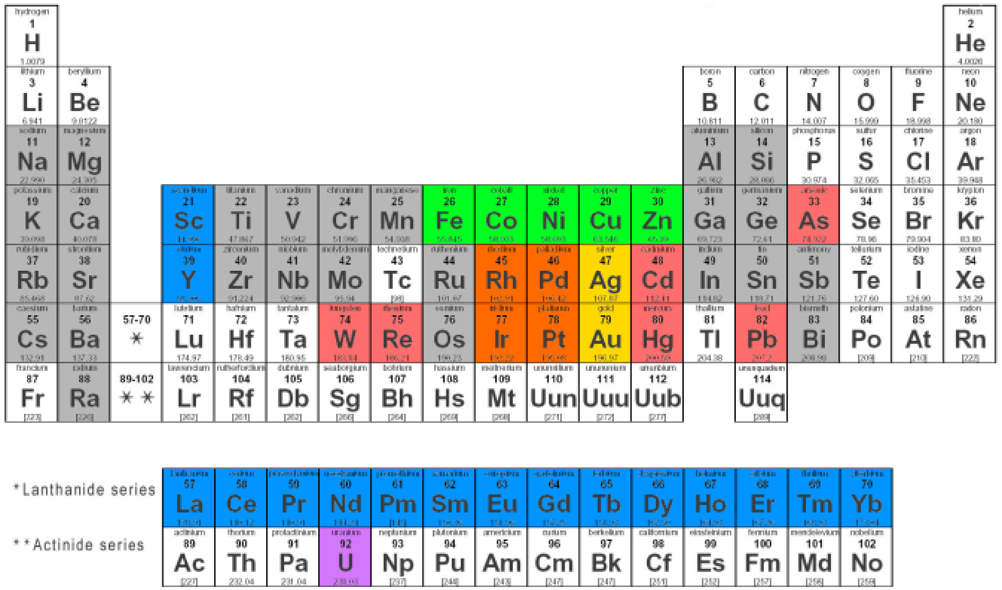
Resin-in-Column (cLX)



Elution and Concentration



Clean TeQ Technology | Clean-iX® Benefits

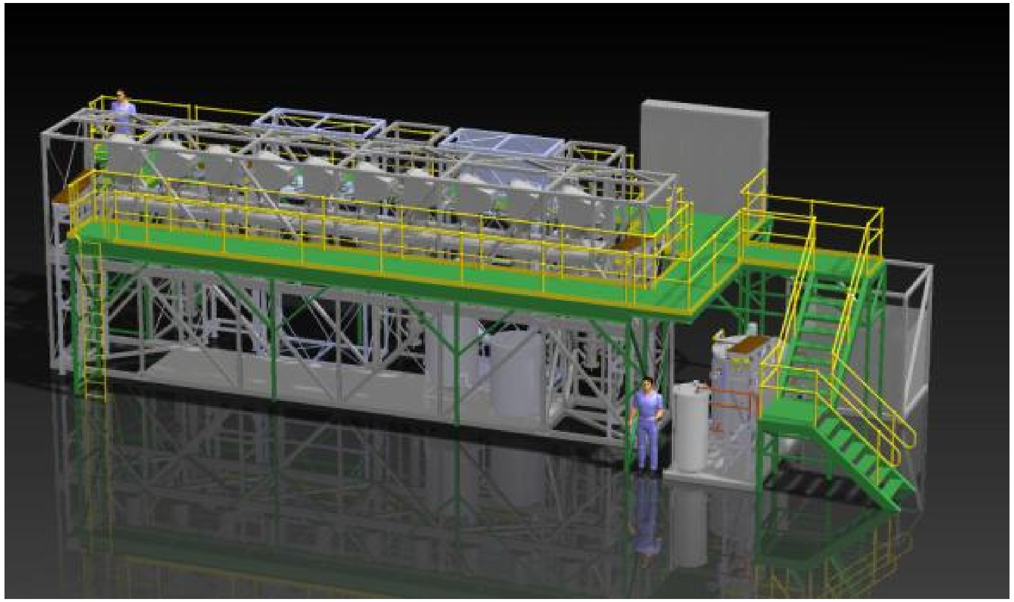


Target Metals:

- Base Metals
- Rare Earth Elements
- Platinum Group Metals
- Radioactive Elements
- Precious Metals

- Clean-iX® combines the processes of:
  - Leaching
  - Extraction
  - Elution/Desorption
- Clean-iX® recovers single or multiple metals.
- **Key Advantages:**
  - Higher metal recovery
  - High selectivity for target metals, reducing system size and reagents
  - Multiple metal products produced from one process
- **Benefits compared to conventional routes:**
  - Simplification of process flow sheet reducing capital costs
  - High efficiency extraction and reagent utilisation, reducing operating costs

Clean TeQ Technology | Demonstration Plant



- Clean TeQ owns a laterite Resin-In-Pulp system and may be utilised for Feasibility Study testwork
- Processes include:
  - Resin-in-Pulp (up to 10 contactors)
  - Elution
  - Neutralisation
- Fully automated with high level of process control.
- Containerisable and skid-mounted for easy assembly, either on site or at testing facilities.

Clean TeQ Metals | A Step Ahead of the Rest

- Potentially highest grade and largest scandium resource in the world with potential for further resource upside.
- Key development milestones in place (MLA's, development consent, borefield).
- Next generation technology for low cost scandium extraction and recovery.
- Experienced development team.

CleanTeQ metals

Ferntree Business Park, 2 Acacia Place
Notting Hill, Victoria, Australia 3168

Tel : +61 3 9797 6700
Email: info@cleanteq.com
Web: cleanteq.com/metals

Creating environmental and economic outcomes for sustainable mining and processing.