Molecular Recognition Technology
Green Chemistry for Securing Strategic Minerals
Cautionary Notes and Disclaimers

This presentation contains "forward-looking statements" which include, but are not limited to, statements related to how, where, when and why Ucore Rare Metals Inc. (the “Company”) plans to explore, develop and finance its mineral exploration properties and any related businesses, properties or assets that the Company or its subsidiaries may develop. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "potential", "scheduled", "anticipates", "continues", "expects" or "does not expect", "is expected", "scheduled", "targeted", "planned", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be" or "will not be" taken, reached or result, "will occur" or "be achieved". Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking statements. Forward-looking statements are based on assumptions management believes to be reasonable at the time such statements are made. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. Factors that may cause actual results to differ materially from expected results described in forward-looking statements include, but are not limited to: commodity prices; capital market conditions, available funding, environmental situations, regulatory approvals and permitting, mineralogy and metallurgy challenges, reliance on key personnel, technological innovations, the need for continued cooperation and performance of the parties to the Company’s transactions and agreements, as well as those risk factors set out in the Company's current Annual Information Form, Management's Discussion and Analysis and other disclosure documents available under the Company's profile at www.SEDAR.com. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Such forward-looking statements have been provided for the purpose of assisting investors in understanding the Company's plans and objectives and may not be appropriate for other purposes. Accordingly, readers and viewers should not place undue or unskeptical reliance on forward-looking statements. The Company does not undertake to update any forward-looking statements that are contained herein, except in accordance with applicable securities laws.
TSX-V:UCU | OTCQX:UURAF

Market Cap $87M
52 Week High $0.44
52 Week Low $0.20

TSX-V:UCU
YTD +63.83%

JAN 2016  FEB 2016  APR 2016  MAY 2016
Molecular Recognition Technology

- Nobel Prize Winning Technology
  - Pedersen, Cram & Lehn (1987)

- IBC Advanced Technologies (IBC)
  - 27 years in business (1988 launch)
  - World’s largest purveyor of MRT to the mining industry

- SuperLig®
  - Extensively proven
  - 40+ installations on 5 continents
  - Industries include Rare Earths, PGMs and Copper
  - Existing customers include Asarco, Impala, Tanaka
Jack Lifton on Ucore/IBC MRT alliance
Technology Metals Research

- Ucore Acquired Exclusive World Rights
- "Evolutionary" Technology
- Scalable & Widely Proven
- On-Demand Inventory
- Grade No Longer an Issue
- Unlocks Tailings Resources
- Can Accept Test Material Globally
Critical Minerals and the US Economy

Supply Risk vs Economic Importance

[Diagram showing a scatter plot with various minerals plotted on a grid indicating supply risk vs economic importance.]
MRT Pilot Plant Production

- MRT Columns
- pH Adjustment
- Precipitation
- Filtration
- Treated PLS
- Control Interface

SuperLig® 1
Pilot Plant Conceptual 3D Schematic
Molecular Recognition Technology Features

- **Highly Selective**
  - Separation of individual REE: >99%
  - REE recovery: >99%

- **Fast & Cost Efficient**
  - Proprietary SuperLig® manufacturing processes
  - Compact, rapid, low metal inventories, dilute acid, minimal waste
  - Far fewer stages and more efficient than solvent extraction

- **Scalable**
  - Routinely scaled from laboratory to commercial operations
  - Well-established chemical engineering procedures

- **Green Technology**
  - No solvents
  - Simple chemicals
  - Self-contained
SuperLig®1 Pilot Plant Update

• Completion of construction, and the commencement of initial testing is underway
• SuperLig®1 will be the first of its kind, as an MRT plant dedicated to the separation and refining of REE’s and associated valuable metals
• The facility is fully modular in design, with the ability to install larger or smaller columns and customized SuperLig® substrate as required, depending on the skew and the quantity of the feedstock being tested
• SuperLig®1 is capable of accepting REE mixed concentrates not just from Bastnaesite, Monazite and Xenotime-based deposits the world over, but from a wide range of tailings and process-flow facilities as well
• The next phase production ready facility will be capable of refining non-REE metals as required, including PGM’s, Lithium, Cobalt, Scandium and numerous other specialty metals
LIGANDS

- Ligands are customized molecules that attract specific elements
- SuperLig® particles use specialized ligands
- Ligands are covalently attached to SuperLig® particles
- SuperLig® particles fill the column to selectively extract REE
• SuperLig® particles are loaded rapidly as PLS flows through column
  • Particles selectively extract the REE
  • Reaction kinetics are much faster than a standard solvent extraction (SX) process
  • REE remain in column
  • Loaded REE are ready for immediate elution
- Weak acidic solution is used to elute pure REE from column
- Process yields high purity REE Solution
- REE is precipitated from eluant solution as high purity REE carbonate
- >99% of contained REE recovered from the PLS
Ucore’s Strategy for Securing Non-Chinese HREO

Feedstock Sources & Offtakes
Sourcing Materials for EV Batteries

LITHIUM
- Lithium Brine Deposits

COBALT
- Copper Nickel Mining

MRT
- Preliminary Processing
- Processed Materials
- Electrodes
- Cells
- Battery Packs

Lithium & Cobalt

UCORE Rare Metals
Catalytic Converters

- UPGRADE PGM CONTENT
  - PREPARATION: CRUSHING, MILLING CALCINATION
  - PRELIMINARY PROCESSING
  - MRT
  - SEPARATE PGMs: Palladium, Platinum, Rhodium
  - PGM PURIFICATION
  - SMELTING
  - END OF LIFE CATALYTIC CONVERTERS

NEW CATALYTIC CONVERTERS

- NOX (nitrogen oxide)
- CO (carbon oxide)
- CO2 (carbon dioxide)
- H2O (water)
- HC (hydrocarbons)

Major Reactions:
- CO + 1/2 O2 → CO2
- H2 + O2 → H2O
- CO + NOX → CO2 + N2

Catalytic Active Material: Alumina Oxide - Al2O3, Cerium Oxide - CeO2, Rare Earth Stabilizers - Pt, Pd, Rh

Heat Shield
- Position for Oxygen Sensor Plug

Exhaust Gas
- HC (hydrocarbons)
- CO (carbon monoxide)
- NOX (nitrogen oxide)

Tailpipe Emissions
- CO2 (carbon dioxide)
- N2 (nitrogen)
Global MRT Processing Centers

Strategic Positioning Plan

3 Year Strategic Outlook

Phase 1 – Q1 2016 (Complete)
Complete Pilot Plant Construction in Utah

Phase 2 - 2017
Develop Global Processing Operations in North America to service offtake partners

Phase 3 - 2020
Expansion to strategic locations to service key global clients.

- Creating New Results For Global 1000 Clients with a Lean Systems Approach
- Value Creation For End Customers
- Strategically Located to Service Developing REE Mines & Target Operations with High TREO from Process Operations & Tailings
- Low Cap-Ex & Low Op-Ex REE Processing Plants positioned for Open water Access
- Green Chemistry Promoting Sustainability at the Molecular Level
Tanaka Kinkinzoku Kogyo, K.K.

Case Study

• Largest precious metals group in Asia
• TKK has successfully used IBC’s MRT products for Platinum Group Metals (PGM) refining since mid-90’s
• IBC’s subsidiary, SepraMet (Houston, TX), supplies Pd salt to TKK in Japan
Asarco (Grupo Mexico)

Case Study

- Second largest copper refinery in the world
- Located in Amarillo, Texas
- MRT used successfully for copper electrolyte purification since mid-2000’s
- MRT system extracts bismuth from copper electrolyte as pure by-product
Fukushima Daiichi Nuclear Power Plant Case Study

- “Demonstration Project for Seawater Purification Technologies” under the “Validation of Technologies for Contaminated Water Management Project” for the clean-up of Fukushima Bay in Japan
- IBC was the only wholly non-Japanese company to receive the highly competitive subsidy award, which is administered by Mitsubishi Research Institute on behalf of the Japanese Government
- Under the award (completed 3/31/2015), IBC successfully demonstrated the selective removal of Strontium (Sr) and Cesium (Cs), two radioactive elements, from contaminated seawater
- IBC demonstrated that its SuperLig® products could achieve the target levels of sea water purification in 200 days
Adamas Intelligence provides strategic advice and ongoing intelligence on the most critical sectors in the mining and metals industry.

Adamas Intelligence was engaged by Ucore Rare Metals to provide an independent outlook on the market for rare earth elements as well as Lithium, PGMs and Cobalt from 2015 through 2025.

Adamas Intelligence
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Global Demand

Forecasted global TREO demand for permanent magnets from 2015 to 2020

Demand for NdFeB magnets in end-use products such as windmills, electric motors, electric bikes and external hard disk drives to increase significantly.
Global Demand

Forecasted global TREO demand by region from 2015 through 2020

Represents CAGR of 3.8% with China outpacing all other regions globally due to existing supply infrastructure
Global Demand
Forecasted global and Chinese TREO and HREO production from 2015 to 2020

- Global TREO peaks in 2018 with Lynas in full production
- 2018 to 2020 global TREO declines due to reduced Chinese illegal mining and vigilant quotas
- Presently 50% of global HREO production comes from illegal mining in China
Global Demand
Forecasted TREO supply and demand from 2020 through 2025

- “From 2020 to 2025 it is projected that TREO demand will be faster than the previous 5 years as many emerging technologies are poised to grow rapidly”
- No new mines are close to production by 2018 as global REE prices are artificially depressed but they are drastically needed.