



ucore<sup>®</sup>

TSXV: UCU | OTCQX: UURAF  
ucore.com

# Strategic Business Overview

**Establishing North America's Rare Earth Supply Chain**  
*with Western Innovation*

May 27, 2025

# CAUTIONARY NOTES & DISCLAIMERS

*This presentation includes certain statements that may be deemed “forward-looking statements”. All statements in this presentation (other than statements of historical facts) that address future business development, technological development and/or acquisition activities (including any related required financings), timelines, events, or developments that the Company expects, are forward-looking statements. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance or results and actual results or developments may differ materially from those in forward-looking statements. The Company has assumed that it will be able to procure or retain additional partners and/or suppliers, in addition to the wholly owned Innovation Metals Corp. (“IMC”), as suppliers for Ucore’s expected future Strategic Metals Complexes (“SMCs”). Ucore has also assumed that sufficient external funding will be found to prepare a new National Instrument 43-101 (“NI 43-101”) technical report that demonstrates that the Bokan Mountain Rare Earth Element project (“Bokan”) is feasible and economically viable for the production of both REE and co-product metals at the then prevailing market prices based upon assumed customer off-take agreements. Ucore has also assumed that sufficient external funding will be secured to develop the specific engineering plans for the SMCs and their construction. Factors that could cause actual results to differ materially from those in forward-looking statements include, without limitation: IMC failing to protect its intellectual property rights associated with the RapidSX™ technology; the RapidSX™ technology failing to demonstrate commercial viability in large commercial-scale applications; Ucore not being able to procure additional key partners or suppliers for the SMCs; Ucore not being able to raise sufficient funds to fund the specific design and construction of the SMCs and/or the continued commercial rollout of RapidSX™ technology; adverse capital-market conditions; unexpected due-diligence findings; the emergence of alternative superior metallurgy and metal-separation technologies; the inability of Ucore and/or IMC to retain its key staff members; a change in the legislation in Alaska and/or in the support expressed by the Alaska Industrial Development and Export Authority (“AIDEA”) regarding the development of Bokan and/or the Alaska SMC; the availability and procurement of any required interim and/or long-term financing that may be required; and general economic, market or business conditions.*

*For more information about Ucore Rare Metals Inc., please see the information that is available on SEDAR ([www.sedar.com](http://www.sedar.com)). Please also see the risk disclosures that are found in Ucore’s most recent Management Discussion & Analysis document (filed on May 30, 2023).*

*For more information about Ucore’s mineral resources and related technical information regarding the Bokan Project, please see Ucore’s NI 43-101 technical report (a preliminary economic assessment) filed on SEDAR on March 14, 2013, and Ucore’s mineral resource update filed on SEDAR on October 15, 2019. Information about the quantity and grades of the indicated and inferred mineral resources are described in these documents and are available therein. Mineral resources that are not mineral reserves do not have demonstrated economic viability.*

*Qualified Person: Michael L. Schrider, P.E., VP & COO of Ucore, has approved the scientific and technical content of this presentation and is the Qualified Person responsible for its accuracy. Mr. Schrider, is a registered professional engineer in the State of Louisiana, holds a BS degree in engineering from the University of New Orleans and a MEng in mining engineering (mineral process emphasis) from The University of Arizona.*

*Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined by the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this presentation.*

*The securities of the Company have not and will not be registered under the U.S. Securities Act of 1933, as amended (“U.S. Securities Act”) or any state securities law and may not be offered or sold within the United States unless an exemption from the registration requirements of the U.S. Securities Act is available. Accordingly, any offer or sale of securities will only be offered or sold (i) within the United States pursuant to available exemptions from the registration requirements of the U.S. Securities Act in a private placement transaction not involving a public offering and (ii) outside the United States in offshore transactions in accordance with Regulations S of the U.S. Securities Act. Neither the U.S. Securities and Exchange Commission, nor any other U.S. authority, has approved this Presentation. This Presentation does not constitute an offer to sell, or the solicitation of an offer to buy, any securities in the United States.*



# RARE EARTH ELEMENT PERMANENT MAGNETS

*Rare Earth Permanent Magnets are the most efficient means of converting electrical energy to mechanical energy and deliver undisputedly best-in-class EV performance. They are the most dependable/durable and also dominant market share in offshore wind turbines.*

## ***Electric Vehicles (EVs)***

- Essential for EV motor magnets
- Boosts torque, fuel efficiency, and reduces emissions
- Key REEs: neodymium, praseodymium, dysprosium

## ***Wind Energy***

- Vital for turbine generators and magnets
- Growing demand with the rise of renewable energy

## ***Robotics***

- Expected to be the biggest driver of demand for magnet rare earths by 2040

## ***National Security***

- US heavily reliant on China for REEs
- US initiatives: research on recycling and domestic mining



## ROBOTICS - THE LARGEST DRIVER FOR PERMANENT MAGNETS!

By 2040, **the robotics sector** is poised to be one of the top drivers of rare earth element (REE) demand, particularly for neodymium, praseodymium, and dysprosium. These elements are essential for manufacturing high-performance NdFeB (neodymium iron-boron) magnets used in autonomous systems.

### Soaring Growth of Robotics for the Future:

- **Automation Growth:** Robotics will revolutionize industries, enhancing efficiency with intelligent manufacturing.
- **Mobility:** Autonomous transport will reduce congestion and emissions.
- **Hospitality:** Rare earths power advanced motors and sensors will accelerate humanoid robots.
- **Global Adoption:** Robotics will expand across logistic sectors, driving up REE demand.

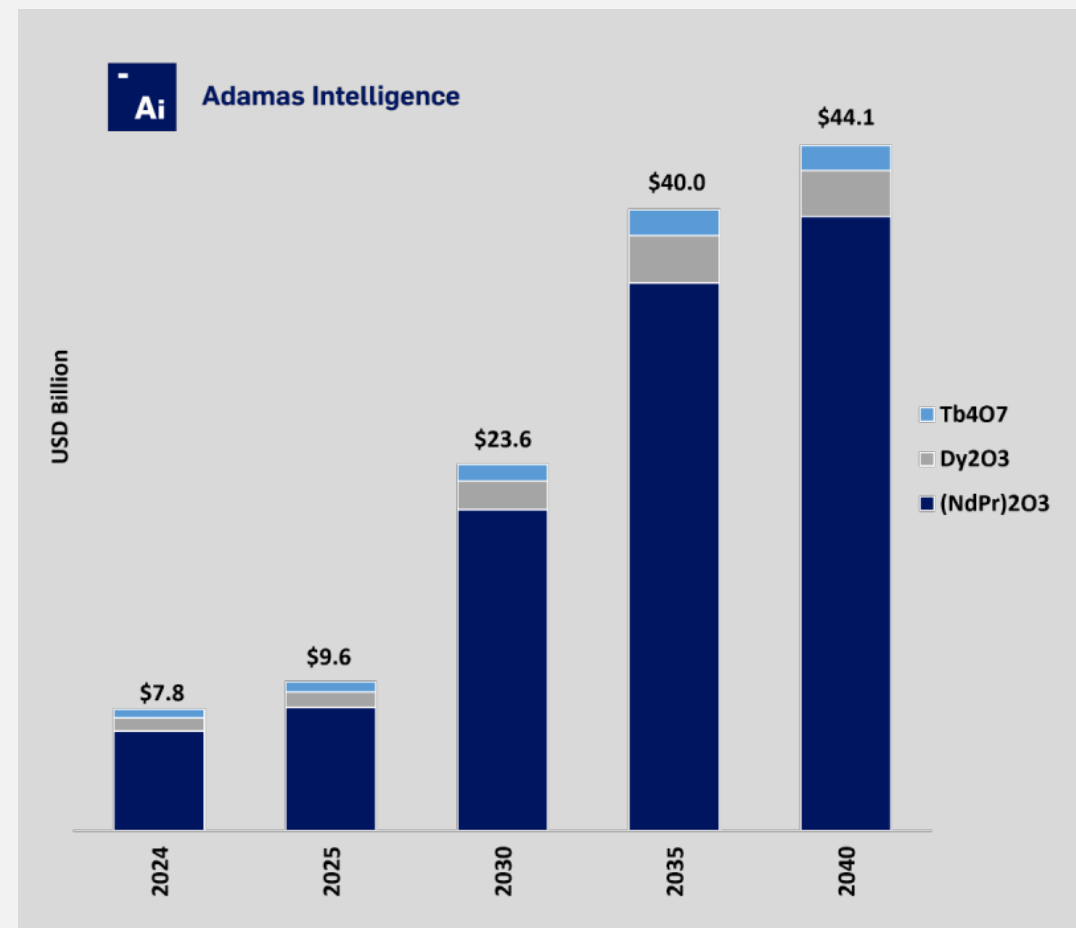
***“Robots are expected to be the biggest driver of demand for magnet rare earths by 2040 ”***

*- Adamas Intelligence*



# SIGNIFICANT RARE EARTH OXIDE SUPPLY INCREASES NEEDED

- *Global magnet rare earth oxide consumption will increase by **200%** by the end of the decade, and more than **five-fold** by **2040**, from **US \$7.8 billion** in 2024 to **US \$44.1 billion** by 2040.*
- *For China alone to close the growing supply gap projected between 2027 and 2040 will require annual production at Bayan Obo to **increase nearly five-fold**, massively depleting the country's reserves.*
- *Conversely, for ex-China suppliers to close the growing supply gap will require the development of another **20 to 30** modest-scale mines by 2040 and significant midstream separation and refining capacity.*



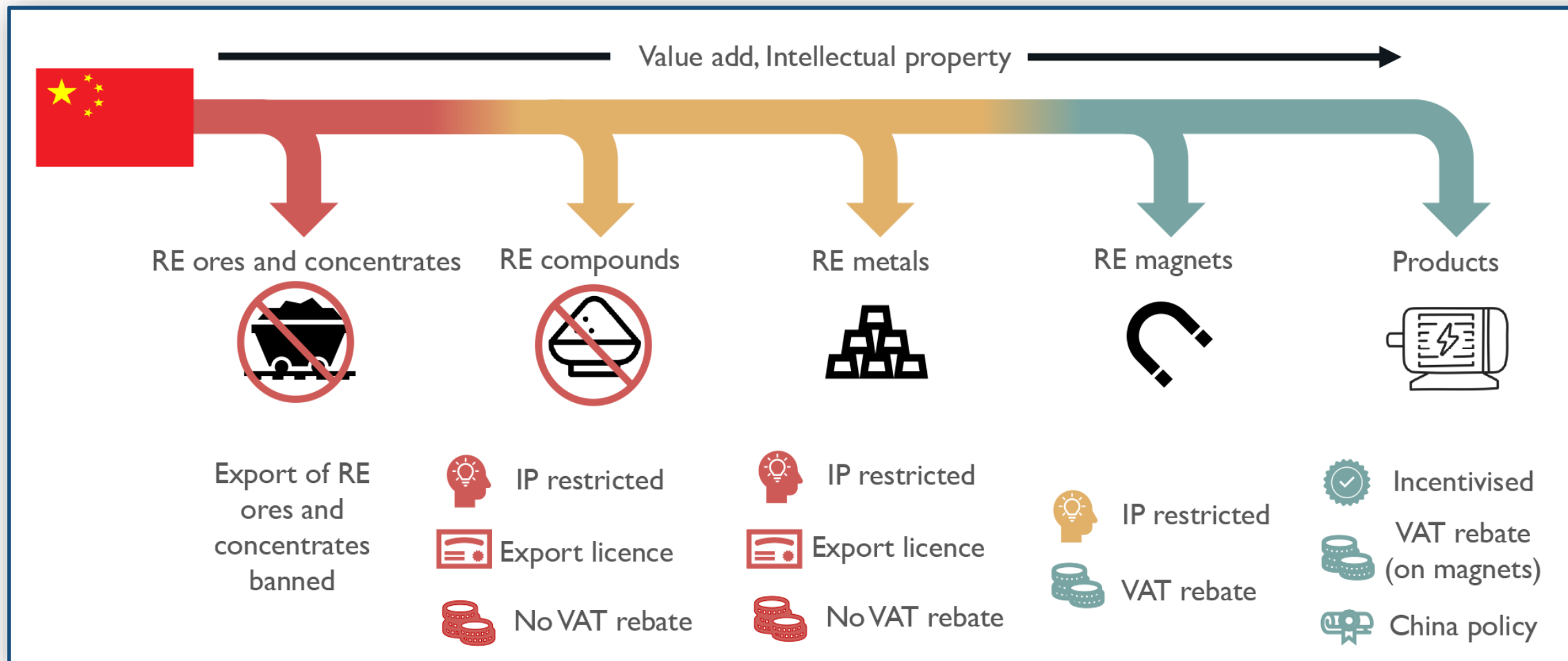
## CHINA BENEFITS FROM MASSIVE SCALE AND 40 YEARS OF UNCONTESTED EXPERTISE DEVELOPMENT

| <b>Regional Share</b> | <b>Mining</b> | <b>Oxides</b>  | <b>Metals<br/>&amp; Aloys</b> | <b>NdFeB<br/>Magnet</b> |
|-----------------------|---------------|----------------|-------------------------------|-------------------------|
| <b>China</b>          | <b>67%</b>    | <b>88%</b>     | <b>92%</b>                    | <b>93%</b>              |
| <b>USA</b>            | <b>10%</b>    | <b>&lt;1 %</b> | <b>0%</b>                     | <b>&lt;1 %</b>          |
| <b>Europe</b>         | <b>0%</b>     | <b>&lt;1 %</b> | <b>&lt;1 %</b>                | <b>&lt;1 %</b>          |
| <b>Australia</b>      | <b>9%</b>     | <b>0%</b>      | <b>0%</b>                     | <b>0%</b>               |
| <b>Japan</b>          | <b>0%</b>     | <b>0%</b>      | <b>7%</b>                     | <b>6%</b>               |
| <b>Other</b>          | <b>14%</b>    | <b>10%</b>     | <b>1%</b>                     | <b>1%</b>               |



# RARE EARTH ELEMENTS

*China's Supply Grip Restricts Ores, Oxides & Technology from Exporting*



# TO SUCCEED, THE WEST MUST INNOVATE

## THE CHALLENGES:

- Lack of **Midstream Refining** and Processing Capacity.
- Primary Extraction often Remotely Located & Domestic Mining **Permits Can Take a Decade**.
- **Heavy Rare Earth Sources** are Controlled by China and Developing Ones Pre-Sold to China.
- Lack of Qualified People for Downstream Processing – **China to Double REPM by 2025**.
- Until Western Producers Can **Demonstrate Ongoing Supply** – OEMs Can't De-Couple!
- **Nascent Recycling Ecosystems** & Low Domestic Feed Quantities.



# RARE EARTH ELEMENT OUTLOOK TO 2030

## The Challenge

- China:
  - mines **60%+ Global REE Resources**
  - manufactures **90%+ Global REE Components**
  - will eventually consume **100% of its Production**
- Minimal North American REE Infrastructure
- REE security of supply has become a western democracy strategic concern



## Outlook 2035:

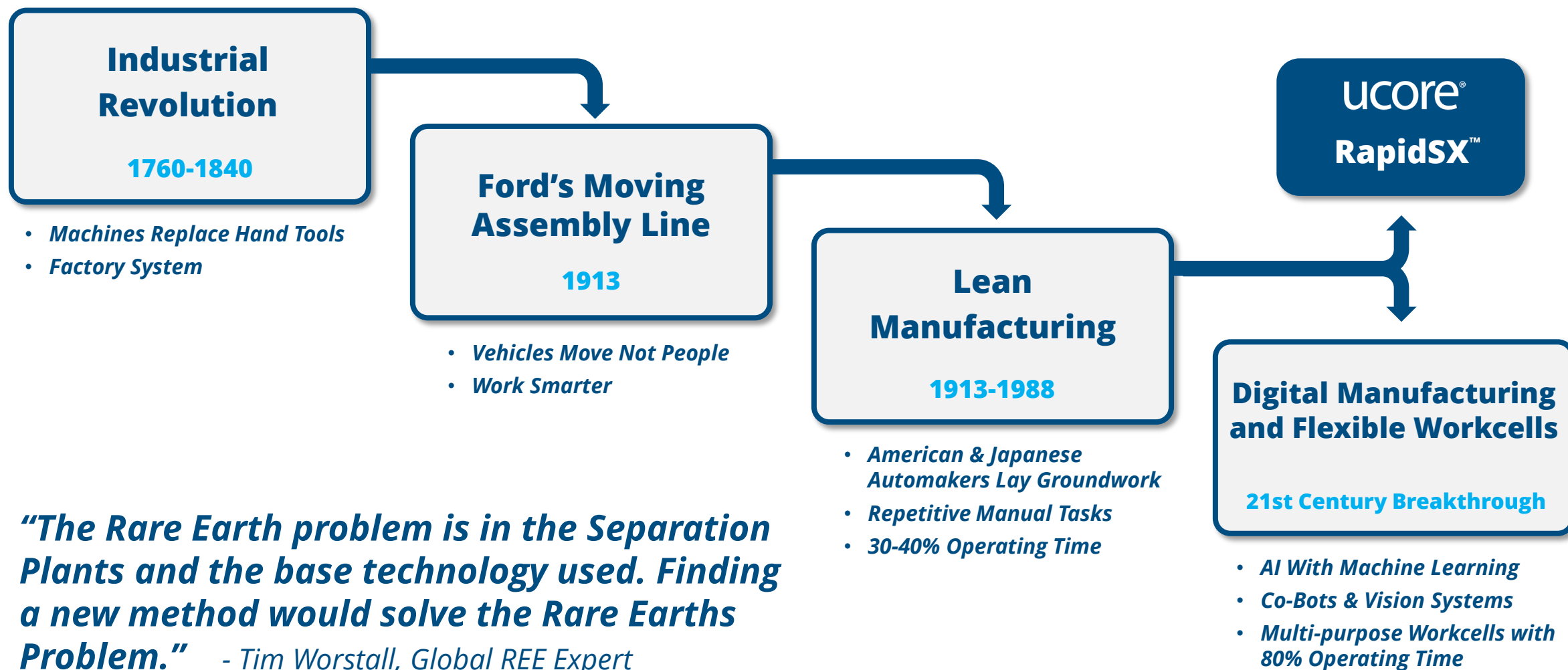
- *With total magnet rare earth oxide demand forecasted to increase at a CAGR of 8.3%, the value of global rare earth oxide consumption will grow to US \$49 Billion by 2035. (Adamas Intelligence)*
- *Goal is based on a combination of self-use and JV refining with feedstock sources*

## The Opportunity



## 2030 Total REO Projections

# INNOVATE THE WAY YOU APPROACH SEPARATION



***“The Rare Earth problem is in the Separation Plants and the base technology used. Finding a new method would solve the Rare Earths Problem.”*** - Tim Worstall, Global REE Expert



# RAPIDSX™ TECHNOLOGY

*RapidSX™ is a Transformative REE Separation Technology*

## Key Advantages vs. Conventional SX

**Columns Utilizes up to 70% Less Floor Space**



**Significant Reduction in CAPEX & Physical/Environmental Footprint**

**Up to 3-7X Faster Throughput**



### Significant OPEX Reduction

- Labor - \$/hour/kg processed
- Power - \$/hour/kg processed
- Reagent Loops - up to 70% savings



**Rapid WIP Inventory Turnover**

**Virtually Feedstock Agnostic - HREE & LREE**

**Closed Loop / Start & Stop Plant**

**The RapidSX™ 80 tpa Commercialization and Demonstration Facility (CDF) Kingston, Ontario**

**Same Proven Chemistry as Solvent Extraction (SX)**  
*Enhanced Through Patent Pending Computerized Column Technology*



# RAPIDSX™ TECHNOLOGY

*HREE and LREE Separation and OEM Qualification Facility*

## **Commercial Demonstration Plant** *Kingston, Ontario*

- *10's of tpa LREE & HREE Processing Utilizing the Same Equipment (A First for North America).*
- *Developing Flowsheets in a demonstration plant is the future of critical minerals processing.*
- *Capable of Processing HREE & LREE Feedstocks derived from Bastnasite, Eudialyte, Ionic Clay, Monazite, Xenotime, and other Mineralization Sources.*



# THE SMC BUSINESS MODEL

*Multiple Planned Strategic Metals Complex Facilities with SMC No. 1 Developed in Louisiana*

## Production Summary:

- **SMC production process** will commence after the installation of **(3) RapidSX™ Machines** focused on early **Tb & Dy production**. Two more Machines will then be added to **complete the Phase 1 Train**.
- Once **Phase 1 Train production starts**, it does not stop for the installation of:
  - the sequential installation of **three RapidSX™ Trains (Phases 2, 3, and 4)** consisting of (5) RapidSX™ Machines each.
  - once a Train is completed, **it is brought into production**
  - each Train is capable of processing **2400 to 3000 tpa of TREO concentrates for NdPr, Tb, and Dy production**
- The facility will also have a **dedicated RapidSX™ Machine** for single-element production of **Pr, Nd, Sm, Gd, et al.**



# GOVERNMENT SUPPORT

## Federal, State and Local Support

*"Clean vehicle EV tax credits can provide up to \$7500 for final assembly in North America"*

*"REE Magnet Manufacturing 2023 tax credit proposes \$30/kg credit if 90% from US producers".*

### US Department of Defense – US \$4M OTA

- Processing tonnes of HREO Feedstock at Commercial Demonstration Facility – Kingston, Ontario, Canada*
- Other Transaction Agreement – Potential Follow-on Award - \$10M*
- Demonstrate capability to deploy Rare Earth Separation Technology in the United States*



### Government of Canada – \$ 4.3 M

- Funding agreement from the Government of Canada for the demonstration of Ucore's RapidSX™ Rare Earth Element Separation Technology Capabilities*
- Ucore will produce high-purity NdPr, Pr and Nd over a 6-month period from 13-15 tonnes of Canadian and US feedstock sources*



# GOVERNMENT SUPPORT

*Federal, State and Local Support*

## State of Louisiana – US \$15M LOI

- *Ongoing financial incentives, including tax incentives, payroll rebates, infrastructure improvements, and other programs*
- *Incentive Package includes US\$ 900k for Infrastructure Improvements*
- *Administered by Louisiana Economic Development*





# FEEDSTOCK PARTNERS

## Feedstock Partnerships

Cyclic  
Materials™

ABx Group



thyssenkrupp



DEFENSE  
METALS

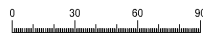
## Prospective Feedstock Availability by Continent



- Discussions & Negotiations at various stages with 25+ US-Friendly feedstock sources
- Significant LREE and HREE sources, resources, and reserves across 6 continents
- Projects are at differing stages of development, with 5 able to supply Louisiana SMC for Q4-2025 commissioning
- Ongoing Due Diligence to ensure reliable long-term supply

# Louisiana SMC Conceptual Design

SCALE: 1" = 30'



|     |      |         |  |             |  |
|-----|------|---------|--|-------------|--|
| 6   |      |         |  |             |  |
| 5   |      |         |  |             |  |
| 4   |      |         |  |             |  |
| 3   |      |         |  |             |  |
| 2   |      |         |  |             |  |
| 1   |      |         |  |             |  |
| 0   |      |         |  |             |  |
| REV | DATE | REVISED |  | DESCRIPTION |  |

|                                                                                                                                                                               |  |                        |  |            |  |       |  |          |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------|--|------------|--|-------|--|----------|--|
| THIS DRAWING IS THE PROPERTY OF MECH-CHEM ASSOCIATES, INC. AND IT IS NOT TO BE COPIED OR USED IN ANY WAY WITHOUT THE EXPRESS WRITTEN PERMISSION OF MECH-CHEM ASSOCIATES, INC. |  |                        |  |            |  |       |  |          |  |
|  Mech-Chem Associates, Inc.<br>Norfolk, Massachusetts                                    |  |                        |  |            |  |       |  |          |  |
| CUSTOMER                                                                                                                                                                      |  | Ucore Rare Metals Inc. |  |            |  |       |  |          |  |
| ADDRESS                                                                                                                                                                       |  | Alexandria, LA         |  |            |  |       |  |          |  |
| SUBJECT                                                                                                                                                                       |  | Building Plan          |  |            |  |       |  |          |  |
| DATE                                                                                                                                                                          |  | PROJECT                |  | DRAWING    |  | SHEET |  | REVISION |  |
| 10/17/23                                                                                                                                                                      |  | 23004                  |  | 23004S01RC |  | S1    |  | 1 OF 1 C |  |





# EXPECTED NEAR TERM DRIVERS

- The **US Department of Defense** awarded a **\$4 M** “Other Transaction Agreement” to Process HREO Feedstock at the Kingston Demo Facility (CDF).
  - An approval for approximately 80% of the completed DOD work is expected in Q1 2025.
  - There has been an approved follow-on award of **US \$10 M** to shift the demo work in Kingston to commercialization for Louisiana and anticipated in Q1 2025.
- Outside of China 90% of the metal/alloy production and magnet making industries reside in **Japan** and **South Korea**. **Multiple visits from major players** from these regions have occurred in 2024. **MOU's with REO samples** are expected to be delivered before the end of Q1 2025 with **MOUs for “offtakes” made known**.
- Opportunities for Ucore to partner and “vertically” integrate further downstream from its separating and refining of REOs are possible.
- Additional flow sheet development and **RapidSX™ technology advancements** with comparisons to traditional SX are planned.
- **Feasibility studies** to support the Strategic Metals Complex (SMC) for Louisiana are underway and will be forthcoming.
- **Definitive Western-world friendly feedstock** arrangements for SMC Louisiana are possible in the **next 3 months**.

## UCORE - A NORTH AMERICAN "FIRST MOVER" WITH A MULTI-PRONGED STRATEGY TO DE-RISK RARE EARTH SUPPLY

- *Derisking not decoupling from Chinese dominance*
- *Operating a Commercial Demonstration LREE & HREE Separation and OEM Product Qualification Plant (The Only HREE Processing Plant in North America)*
- *Deploying Next-Generation RapidSX™ Critical Metals Separation Technology*
- *Aligning Numerous and Geographically Diverse US-Friendly Feedstock Sources*
- *Establishing North America's First Modern LREE & HREE Commercial Separation Facility in Louisiana*
- *Engaging other Jurisdictions for Multiple LREE & HREE Commercial Separation Facilities Over the Next 2-5 years*