

Ucore Recaps its 2021 Rare Earth Supply Chain Groundwork Accomplishments and Outlines Direction for 2022

written by Raj Shah | January 20, 2022

January 20, 2022 ([Source](#)) – [Ucore Rare Metals Inc. \(TSXV: UCU\) \(OTCQX: UURAF\)](#) (“Ucore” or the “Company”) is pleased to provide the following overview of its 2021 North American rare earth element (“REE”) supply chain groundwork activities, accomplishments and continuing planned direction for 2022.

“Ucore has a very definitive vision and plan for an independent and comprehensive North American rare earth element supply chain,” stated **Pat Ryan, P.Eng., Ucore Chairman and CEO**. *“To accomplish this, the fundamental component is the ability to have, first and foremost, operating commercial-scale rare earth separation plants. The ability to separate rare earth elements into oxides does not exist in North America today and is, therefore, the central objective of Ucore.”*

“This advancing capacity plan will then support the various downstream relationships that have been cultivated over this past year with prospective offtake OEMs and emerging ex-China metal, alloy, and magnet producers.”

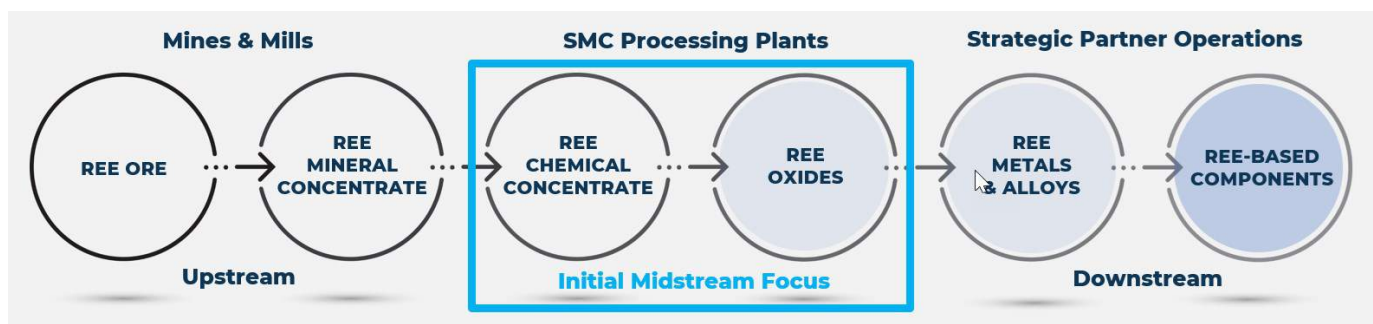


Figure 1 – Ucore's Vision and Plan of a North American REE Supply Chain

With this primary purpose (as also outlined in [Ucore's 12 May 2021 news release](#)), the [Ucore Team](#) aggressively progressed its corporate goals towards establishing this supply chain groundwork (**see Figure 1**) comprised of *four all-important business objectives*, namely:

A. *Commercializing Innovation Metal Corp.'s ("**IMC**") RapidSX™ technology for commercial deployment into the Company's planned SMCs. Conducting Alaska SMC financing, engineering, permitting and community/stakeholder engagement activities for the near-term implementation of critical midstream processing of REOs as outlined in its [ALASKA2023 plan](#) and the Company's broader international ambitions:*

1) Continuing **financial and strategic support to IMC for their commercial development of the RapidSX™ technology platform** as outlined in [Ucore's 29 December 2021 news release](#) and summarized as follows:

a) Independent third-party expert evaluation testing of RapidSX™ technology is complete, and the independent report describing the findings is expected in January 2022.

b) RapidSX™ hardware design and the commercial demonstration plant engineering layout are complete.

c) Procurement of components and construction of the commercial demonstration plant ("**Demo Plant**") are well underway.

d) The current target for the Demo Plant completion is the end of Q1-2022, with commissioning and operation during an initial test campaign to commence shortly after that.

e) IMC is performing early-stage RapidSX™ integration

engineering for the Alaska SMC Project:

i) Including the inclusion of prospective Alaska SMC mixed REE chemical concentrate (“**MREC**”) feedstocks into the planned Demo Plant testing schedule.

2) Continuing the **development of the Alaska SMC Project**, including but not limited to:

a) Financing Initiatives:

i) Establishing a Memorandum of Agreement (“**MOA**”) with Alaska’s [Southeast Conference](#) (“**SEC**”) to establish a joint enterprise (known as the Natural Resource Development Complex (“**NRDC**”)) facility in Ketchikan, Alaska, to house Ucore’s Alaska SMC plant under a long-term lease arrangement:

(1) Up to 80% of the initial development funds for this facility (i.e. land and building) may be available through access to SEC’s existing state and federal grant economic development funding programs.

ii) Completing a 2021 Alaska Industrial Development and Export Authority (“**AIDEA**”) due diligence process and continuing towards approval of a \$3.5M financing package – expected in Q1-2022. Including stakeholder engagement and community consultation with:

(1) [Ketchikan Gateway Borough](#)

(2) [Southeast Conference](#)

(3) [Alaska Senator Burt Stedman](#)

(4) [Alaska Representative Dan Ortiz](#)

iii) A May 2021 pre-application meeting with the Department of Energy’s (“**DOE**”) Loan Programs Office (“**LPO**”) [Advanced](#)

[Technology Vehicles Manufacturing Loan Program](#) with formal submission of application expected in H1-2022.

iv) Continuing to work with [J.A. Green & Company](#) and the Alaska federal congressional delegation on various US government critical metals development opportunities.

b) Engineering Initiatives:

i) In 2021 Ucore continued its ongoing engagement with [Mech-Chem Associates, Inc.](#) to commence the specific engineering requirements for the Alaska SMC in conjunction with IMC's engineering personnel. This work will continue throughout 2022 and will ultimately conclude with the development of a contract design package suitable to execute a design/build construction contract.

c) Permitting Initiatives:

i) The retention of a permitting consultant in September 2021 to develop an initial permitting scope for the Alaska SMC.

d) Community/Stakeholder Engagement Initiatives:

i) A September 2021 partnering with the [University of Alaska Fairbanks](#) ("**UAF**") and the [Alaska Department of Natural Resources Division of Geological & Geophysical Surveys](#) ("**DGGS**") to join their recently awarded DOE project and efforts towards [Bringing Alaska's Carbon Ore, Rare Earth and Critical Minerals Potential into Perspective.](#)

ii) October 2021 discussions with the [University of Alaska Southeast](#) campuses regarding the potential development of a specific workforce development training curriculum to support Ucore's employment needs in Ketchikan, Alaska. Further discussions are scheduled for March 2022.

iii) Various consultations throughout 2021 with the [Ketchikan Gateway Borough](#) Mayor, Manager, Planner and certain Assembly members with planned continued interaction as engineering and planning efforts materialize.

3) Exploring the potential of **developing an SMC in Canada:**

a) November 2021 and January 2022 meetings with the Canadian government to examine the expansion of the SMC concept into Canada. Further discussions are planned as Ucore envisions a greater need for REO production in North America.

B. *Identifying and securing multiple upstream sources of US-allied chemical concentrate feedstocks (both light REE ("**LREE**") and heavy REE ("**HREE**") to provide inputs for processing at the Alaska SMC and other potential SMCs:*

1) Pursuing **relationships and agreements with existing and/or near-term producers of MRECs**, consisting of:

a) [Executing a Memorandum of Understanding \("**MOU**"\) with Vital Metals](#) in October 2021 for the supply of MREC, including product testing in December 2021 & January 2022. A definitive agreement is expected to be agreed upon in H1-2022.

b) Engaging in active discussions with several other sources of feedstocks; conversations are at various stages from early-stage to executed non-binding letters of intent ("**LOI**") and/or MOUs.

C. *Developing downstream customers, including those in the emerging North American automotive electric vehicle market, that have defined REO specifications with pre-defined quantities to support targeted production plans. Together with Ucore's cultivation of relationships with emerging rare earth metal/alloy suppliers outside of China necessary to support permanent magnet manufacturers.*

1) **Pre-purchase & supply agreements** for Alaska SMC REO products:

a) Under a confidentiality agreement, a 2021 engagement with an international automotive OEM and their engineering consultant to conduct a due diligence review of the Alaska SMC development plan. The due diligence was successfully concluded, and discussions continue.

b) Engaging in active offtake (for REOs and/or metals/alloys) pre-purchase & supply agreement discussions with several international companies; conversations are at various stages from early-stage to executed non-binding LOIs and/or MOUs.

2) **Expanding and cultivating the market** for the “other” REOs:

a) A 2022 Company objective with UAF is to explore alternative uses for some of the “other” REOs (specifically lanthanum, cerium, and yttrium), which make up a significant percentage of worldwide MREC feedstocks.

3) **Metals/Alloys and Magnet making initiatives** with prospective partners:

a) A 2022 objective for the Company is to expand current relationships to explore North American metal/alloy and magnet-making opportunities with the offtake of REOs from Ucore SMCs – this is necessary to ensure a truly domestic rare earth supply chain.

D. *Accelerating the development of the Bokan Project as a vital US supply chain component to provide a long-term secure source of HREEs; the most expensive and scarce inputs of the permanent magnet metals.*

1) Continuing to progress the development of Bokan consisting of:

a) An April 2021 commencement of the mill flowsheet design development at [SGS Canada Inc. \(Lakefield\)](#) (“**SGS**”) to include the potential recovery of the co-products beryllium, zirconium, niobium and hafnium along with an optimized REE recovery. This test work is approximately two-thirds complete and will ultimately lead to:

i) a finalized flow sheet design to allow the commencement of pilot-scale testing from Bokan mineralized material (obtained previously and in Summer 2022) to generate an optimized mineral concentrate;

ii) followed by the generation of an MREC for testing at IMC’s Commercialization and Development Facility (“**CDF**”) in Kingston, Ontario, Canada, as part of a planned pre-feasibility study (“**PFS**”) and/or feasibility study (“**FS**”).

b) A Spring 2021 initiation of additional fieldwork exploration at Bokan to further upgrade the National Instrument 43-101 (“**NI 43-101**”) HREE mineral resource. The work is designed to convert a significant percentage of the currently ‘indicated’ resource to ‘measured.’ Secondly, the Company will obtain ≈50 tonnes of additional mineralized material to facilitate the above-noted testing at SGS.

i) In September 2021, Ucore and [Aurora Geosciences](#) conducted field mapping in preparation for the planned work.

ii) The State of Alaska issued a 5-year land use permit for the commercial moorage of a marine vessel in September 2021.

iii) The USFS issued a 1-year permit for the [Surface Exploration Project Plan of Operations in November 2021](#), and the work is expected to commence in May 2022.

c) The retention of a permitting consultant in September 2021 to

develop an updated scope of required permits for Bokan.

*"There is currently no commercial rare earth element processing to oxides, no conversion of oxides to metals/alloys, and no fabrication of rare earth permanent magnets derived from neodymium [NdFeB magnets] in North America," **stated Mike Schrider, P.E., Ucore VP & COO.** "Ucore is diligently racing to change this narrative and has been fortunate to collaborate with other potential partners with a similar vision of a post internal combustion engine world and the importance of the supply of these critical metals to this new EV economy.*

*"An independent North American rare earth element supply chain is essential to ensuring a robust economy founded on manufacturing. **Ucore and its prospective Alaska SMC partners are determined to achieve this with the production of rare earth oxides in 2024 through the plan presented in this news release.**"*

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About Ucore Rare Metals Inc.

Ucore is focused on rare- and critical-metals resources, extraction, beneficiation, and separation technologies with the potential for production, growth, and scalability. Ucore has a 100% ownership stake in the Bokan-Dotson Ridge Rare Earth Element Project in Southeast Alaska, USA. Ucore's vision and plan is to become a leading advanced technology company, providing best-in-class metal separation products and services to the mining and mineral extraction industry.

Through strategic partnerships, Ucore's vision includes disrupting the People's Republic of China's control of the US REE supply chain through the development of a heavy-rare-earth processing facility – the Alaska Strategic Metals Complex in Southeast Alaska and the long-term development of Ucore's heavy-

rare-earth-element mineral-resource property located at Bokan Mountain on Prince of Wales Island, Alaska.

Ucore is listed on the TSXV under the trading symbol “UCU” and in the United States on the OTC Markets’ OTCQX® Best Market under the ticker symbol “UURAF.”

For further information, please visit www.ucore.com.

About Innovation Metals Corp.

IMC has developed the proprietary RapidSX™ process, for the low-cost separation and purification of rare-earth elements, Ni, Co, Li and other technology metals, via an accelerated form of solvent extraction. IMC is commercializing this approach for a number of metals to help enable mining and metal-recycling companies to compete in today’s global marketplace. IMC is a wholly owned subsidiary of Ucore Rare Metals Inc.

For more information, please visit www.innovationmetals.com.

About the RapidSX™ Technology

IMC developed the RapidSX separation technology with early-stage assistance from the United States Department of Defense (“**US DoD**”), later resulting in the production of commercial-grade, separated rare-earth oxides at the pilot scale. RapidSX combines the time-proven chemistry of conventional solvent extraction (“**SX**”) with a new column-based platform, which significantly reduces time to completion and plant footprint, as well as potentially lowering capital and operating costs. SX is the international rare-earth-element (“**REE**”) industry’s standard commercial separation technology and is currently used by 100% of all REE producers worldwide for bulk commercial separation of both heavy and light REEs. Utilizing similar chemistry to conventional SX, RapidSX is not a “new” technology but

represents a significant improvement on the well-established, well-understood, proven conventional SX separation technology preferred by REE producers.

Forward-Looking Statements

This press release includes certain statements that may be deemed “forward-looking statements” regarding, among other things, the Company’s ALASKA2023 Business Plan as well as the upcoming prospective financing activities involving the Company and AIDEA. All statements in this release (other than statements of historical facts) that address future business development, technological development and/or acquisition activities (including any related required financings), timelines, litigation outcomes, 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. In regard to the disclosure in the “About Ucore Rare Metals Inc.” section above, the Company has assumed that it will be able to procure or retain additional partners and/or suppliers, in addition to IMC, as suppliers for Ucore’s expected future Alaska Strategic Metals Complex (“Alaska SMC”). 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 Elements project (“Bokan”) is feasible and economically viable for the production of both REE and co-product metals and the then prevailing market prices based upon assumed customer offtake agreements. Ucore has also assumed that sufficient external funding will be secured to develop the specific engineering plans for the Alaska SMC and its construction. Factors that could cause actual results to differ

materially from those in forward-looking statements include, without limitation: Innovation Metals Corp. ("IMC") failing to protect its intellectual property rights in RapidSX™; RapidSX failing to demonstrate commercial viability in large commercial-scale applications; Ucore not being able to procure additional key partners or suppliers for the Alaska SMC; Ucore not being able to raise sufficient funds to fund the specific design and construction of the Alaska SMC and/or the continued development of RapidSX; 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.

Neither the TSXV nor its Regulation Services Provider (as that term is defined by the TSXV) accept responsibility for the adequacy or accuracy of this release.

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