ALASKA LEADS, AMERICA DOMINATES:

ALASKA CRITICAL MINERAL ACCELERATOR

CRITICAL MINERALS FOR A SECURE FUTURE

ALASKA CRITICAL MINERAL ACCELERATOR

National Science Foundation Engine: ACMA

Alaska State Senate Resource Committee

February 25, 2026

Lee Ann Munk, CEO/PI
Lance Miller, Co-PI/Advisory Board Chair
Steve Masterman, Co-PI, Interim Director of R&D

UAF UNIVERSITY OF ALASKA FAIRBANKS

GEOPHYSICAL INSTITUTE University of Alaska Fairbanks

ALASKA CRITICAL MINERAL ACCELERATOR

NSF Regional Innovation Engines Program - Alaska

- **What it is:** A statewide economic development program to grow and sustain **innovation** through **place-based** R&D, utilizing **science and technology** as the central driver for **Alaska's economic competitiveness.**

- **What it does:** Stimulate the economy through **industry-driven** R&D, **industry technology adoption, business creation**, **workforce development**, and **job retention/creation**.

- Alaska Critical Mineral Accelerator will bring **$160M** in federal funding to Alaska for the minerals and mining sector.

Multi-Sector Leadership Team

Lee Ann Munk,
Director, UAF Alaska
Critical Minerals Collaborative (ACMC)
CEO/PI

Steven Masterman,
Dep. Director UAF ACMC
Co-PI/ Interim Director R&D

Christi Bell,
Strategy and Innovation Officer, UAF ACMC
COO
Interim Director T2P and WFD

ENGINE CORE PARTNERS

Lance Miller, VP Natural Resources
NANA Regional Corp.
Co-PI/Advisory Board Chair

Liz Dennett, Founder and CEO
Endolith Mining
Co-PI, Sr. Advisor R&D and Innovation

Project Partners

UNIVERSITIES

- University of Alaska — Many Traditions One Alaska
- Colorado School of Mines

NONPROFIT

- Alaska Miners Association
- Launch Alaska
- Resource Development Council — Growing Alaska Through Responsible Resource Development
- Alaska Resource Education
- Fairbanks Economic Development Corporation
- Alaska Workforce Alliance
- Alaska Safety Alliance

FEDERAL GOVERNMENT

- USGS — science for a changing world
- Department of Energy, United States of America
- Ted Stevens Center for Arctic Security Studies
- Los Alamos National Laboratory — Est. 1943
- CMI — Critical Materials Innovation Hub
- Ames Laboratory
- National Laboratory of the Rockies
- INL — Idaho National Laboratory
- Pacific Northwest National Laboratory

STATE OF ALASKA

- State of Alaska — Division of Geological & Geophysical Surveys

ALASKA NATIVE CORPS.

- Doyon Limited
- Arctic Slope Regional Corporation
- NANA
- Bering Straits Native Corporation
- Aleut

VENTURE CAPITAL

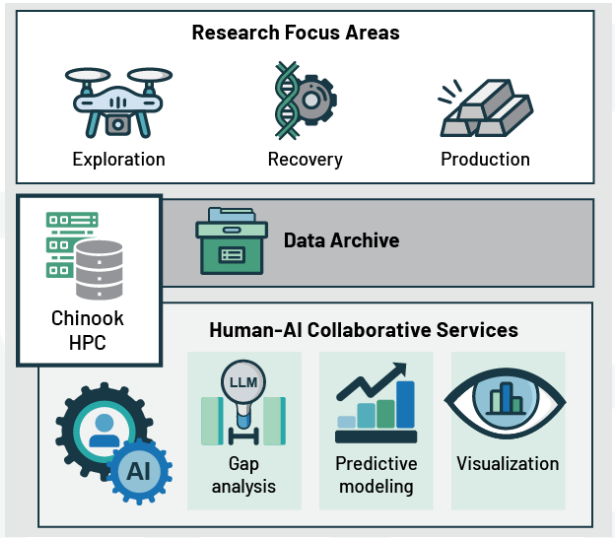
- Nomadic — Venture Partners
- Cantos
- McKinley Management, LLC
- Pipeline Capital Partners
- gener8tor

INDUSTRY

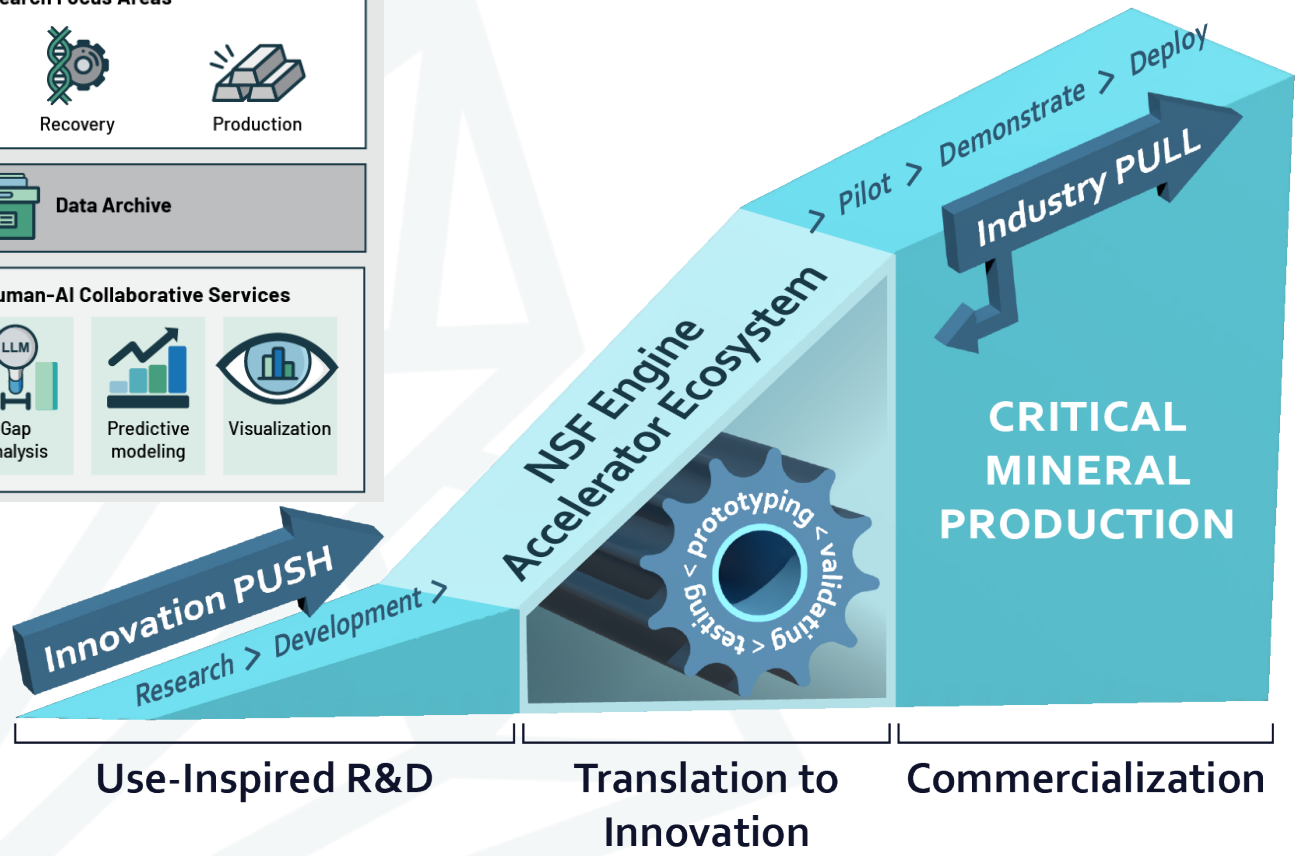
- Teck
- Red Dog Mine
- Northern Star Resources Limited
- Trilogy Metals Inc
- Ambler Metals
- MDF Global
- Alaska Energy Metals
- endolith
- Lost River Mining
- Graphite One
- VectOres

R&D, Technology Translation, and Workforce

Use-Inspired R&D



Translation to Practice



Workforce Development

ALASKA CRITICAL MINERAL ACCELERATOR

Alaska Legislative Co-Investment for Engine

- National Science Foundation Engine Opportunity = **$160M** over 10 years
- Alaska State Legislature Sustaining Support = **$3M/year** (**$30M** over 10 years) beginning FY27
- **$190M** of total investment (85% from federal and 15% from state)
- Initial 2-year partner/mining sector contributions = **$300M**
- Engine requires a 10x ROI, **$1.6B total** over the 10-yr period

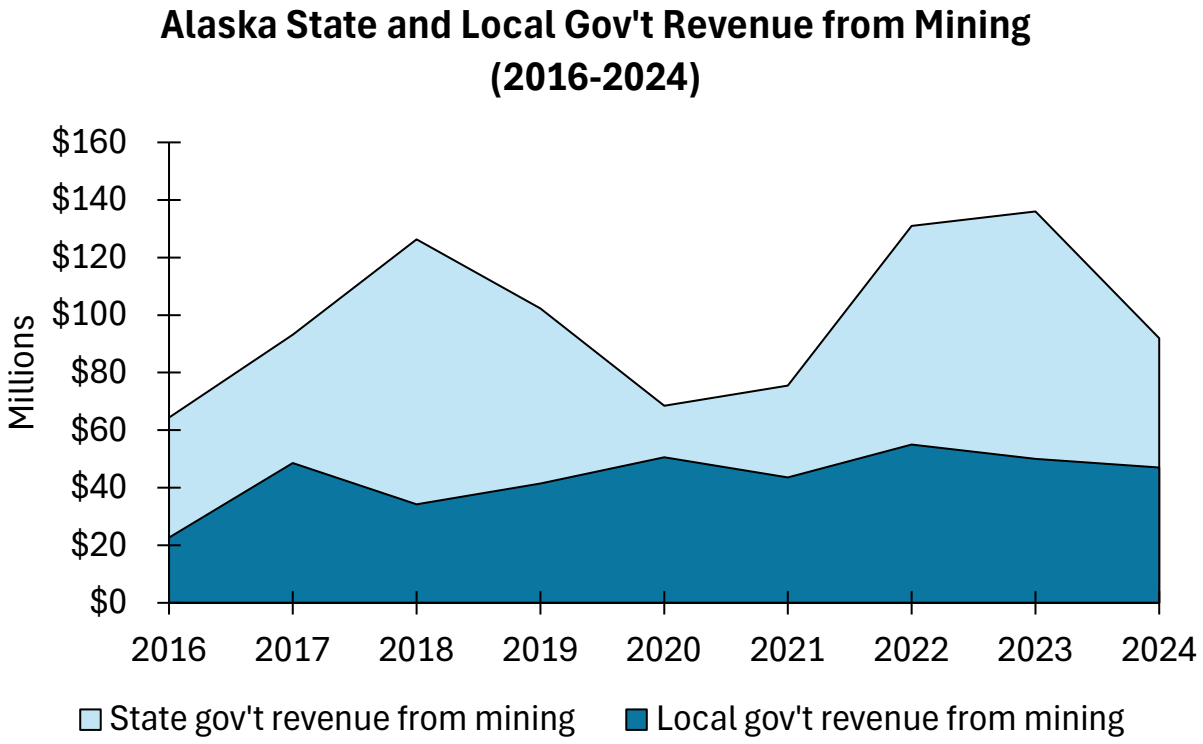
ALASKA CRITICAL MINERAL ACCELERATOR

State Funds Will Support

- Applied research solving **industry-defined mine-site challenges** while creating new and sustained entrepreneurial engagements
- Ph.D. **students and workforce trainees** supporting Alaska projects and operations
- Technology deployment pathways that **improve efficiency and production timelines**
- Attracting **new businesses** to Alaska
- **Workforce development, job retention, and new career pathways**

Return to State of Alaska

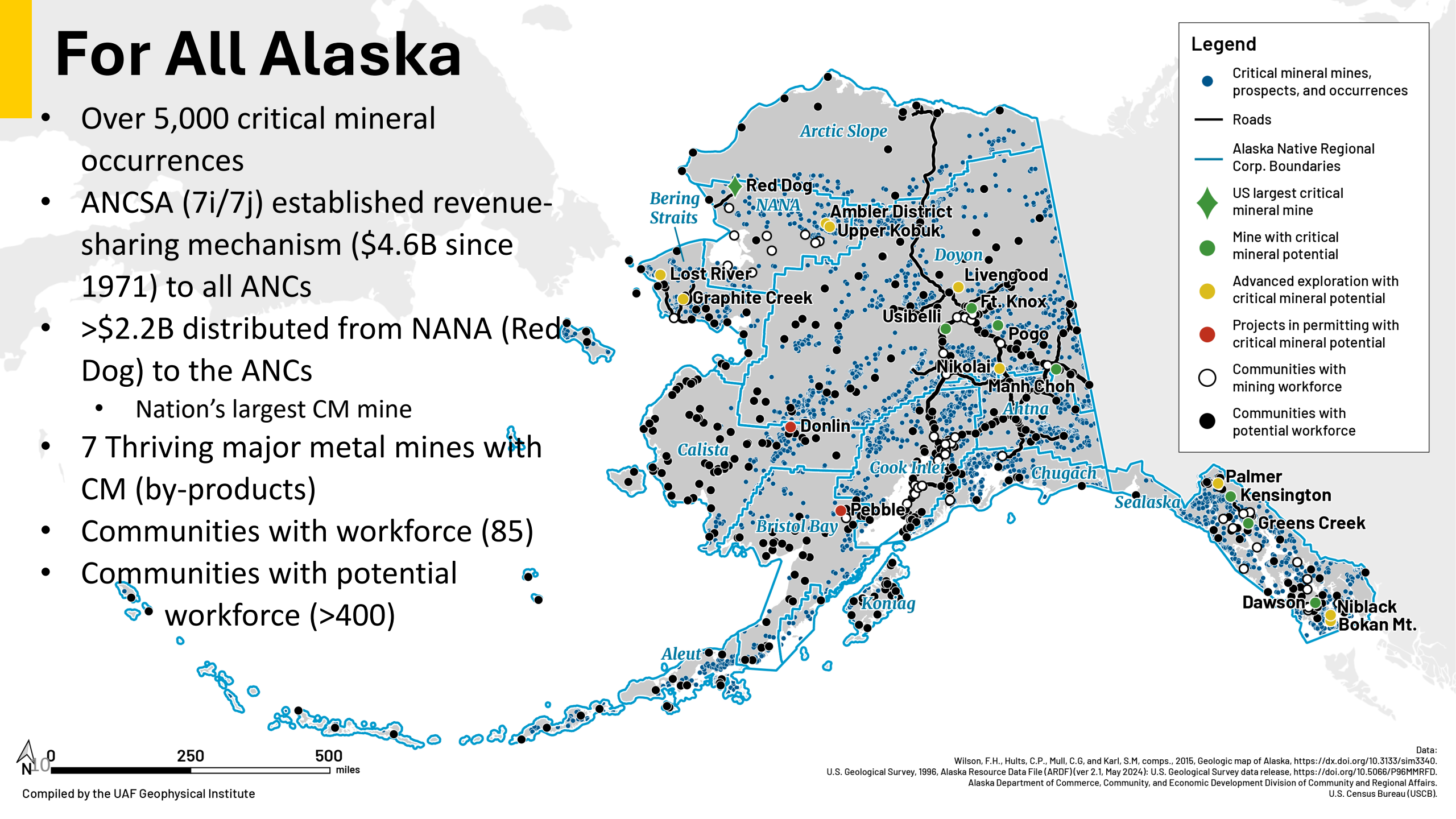
- Strengthened **innovation capacity** of **revenue streams** by:
  - Increasing **production** efficiency
  - Expanding **mineral output from Alaska**
  - Supporting **Alaska hire**, growing in-state **professional capacity,** and **procurement**
  - Accelerating **responsible development**
- Enhanced **mining investment**
  - ~$100M average in State revenue
  - ~$47M average in local revenue
- ANCSA (7i/7j) established revenue-sharing mechanism
- **A vibrant mining industry for generations**



ALASKA CRITICAL MINERAL ACCELERATOR

For All Alaska

- Over 5,000 critical mineral occurrences
- ANCSA (7i/7j) established revenue-sharing mechanism ($4.6B since 1971) to all ANCs
- >$2.2B distributed from NANA (Red Dog) to the ANCs
  - Nation's largest CM mine
- 7 Thriving major metal mines with CM (by-products)
- Communities with workforce (85)
- Communities with potential workforce (>400)



Compiled by the UAF Geophysical Institute

Data:
Wilson, F.H., Hults, C.P., Mull, C.G, and Karl, S.M, comps., 2015, Geologic map of Alaska, https://dx.doi.org/10.3133/sim3340.
U.S. Geological Survey, 1996, Alaska Resource Data File (ARDF) (ver 2.1, May 2024): U.S. Geological Survey data release, https://doi.org/10.5066/P96MMRFD.
Alaska Department of Commerce, Community, and Economic Development Division of Community and Regional Affairs.
U.S. Census Bureau (USCB).

Bottom Line for Alaska

*A State of Alaska investment of **$3M/yr** ($30M over 10 years) leverages a minimum of **$460M** in NSF and partner contributions for a*

15x return on investment

- Alaska leads the nation in mineral potential (**56/60** critical minerals, **largest CM mine** – Red Dog Mine)
- Yet there is no holistic program in Alaska for critical minerals; **ACMA will fill this gap**
- **Now is Alaska's time!**

ALASKA CRITICAL MINERAL ACCELERATOR

ACCELERATING INNOVATION

CREATING OPPORTUNITY

ak-cm-accelerator.alaska.edu

ALASKA CRITICAL MINERAL ACCELERATOR

ACMA Vision and Mission

- **Vision**: Catalyze Alaska's world-class critical mineral innovation ecosystem—driven by cutting-edge research and commercialization—to secure national supply chains, position the U.S. as a global leader, and create jobs.

- **Mission**: Increase domestic critical mineral production through innovation, cost-reducing technologies, and more efficient methods that enable scalable economic participation for all Alaskans.

State and Federal Timeline – Critical Minerals

2011/2012

- CM Summit at UAF

2017/2018

- **EO 13187** Fed Strategy CM Supply Chain
- USGS publishes 1st CM list
- **$10M** added to USGS for Earth MRI

2020-2022

- **EO 13953** Threat to Domestic Supply
- **EO 14017** America's Supply
- Infrastructure, Innovation and Jobs Act

2022/2023

- Alaska Critical Minerals – A Strategic National Imperative – **UAF meeting**
- **$7.5M** to UA for CM R&D from SOA
- DOE publishes list of CM
- DOE funds CORE-CM Phase 1 at UAF **$2M**

State and Federal Timeline – Critical Minerals (cont.)

2024

- SB118 Strategic Plan for Critical and Essential Minerals
- DOE ARPAe funded at UAF **$2M**
- UAF launches the Alaska Critical Minerals Collaborative

2025

- **EO 14156** National Energy Emergency
- **EO 14154** Unleashing U.S. Energy
- **EO 14153** Unleashing AK Resources
- Immediate Measures to Increase American Mineral Production
- DOE funds CORE-CM Phase 2 at UAF **$9M**
- USGS updates CM list

2025/2026

- UAF submits invited proposal for **$160M** to NSF – Alaska Critical Mineral Accelerator with letters of support from AK Legislature, Gov Dunleavy, and Congressional Del.
- **ACMA is one of 15 finalists**
- **Expecting funding in FY27**
- UAF submits another **$80-90M** in proposals to DoE

State of Alaska Funding for Critical Minerals (2023-2026) – $7.8M

Science and Engineering

- Advancing Mineral Exploration and Discovery
- New Methods of Mineral Characterization
- Enhancing Recovery and Extraction

Workforce Development

- New Technologies in Underground Mine Training
- High School Mine Training, Safety, Operations Programs
- Online mining course

Social and Economic

- Permitting Process and Timelines
- Environmental Compliance
- CM Metal Markets

Sustainability

- Formation of ACMC
- Other State and Federal funding
  - DoE CORE-CM **($9M funded)**
  - DoE ARPAe **($2M funded**)
  - NSF Engine **($160M pending)**
  - Other DoE grants **($80M submitted**)

University of Alaska R&D – record high R&D and national ranking

- In FY24 **$273.3M** in R&D expenditures ($246.3 UAF, $24.6 UAA, 2.4 UAS)
  - 14% increase from FY23
  - 55% increase over the past five years
  - 90% of total at UAF
- Top federal sponsors ~45% of total research expenditures
  - NSF $55.1M
  - DoD $39.6M
  - NASA $28.2M

National rankings:

- UAF is in the top 15% of all universities in R&D and No. 86 among public universities
- UAF ranks No.17 in NASA-sponsored and No. 43 in NSF-sponsored R&D
- In **geosciences** R&D, UAF ranks **5th in R&D** and is one of two national programs ranked in top 15
- UA accounts for **99%** of all academic R&D expenditures in Alaska and conducts more research than Vermont, Maine, Idaho, Wyoming, and South Dakota universities combined.

Source: https://www.alaska.edu/news/system/2026-ua-reports-record-research-development-expenditures-f24.php

NSF Engine Review Process

June 2024
300
LOIs submitted

August 2024
264
Preliminary proposals submitted

October 2024
71
Invited to submit full proposals

April 2025
UAF
Full proposal submitted

July 2025
29
Virtual site visit

September 2025
15
Invited for Site Visit
Capitol Hill Event

NSF ACMA Site Visit
Feb 11-12, 2026

NSF Engines **Cohort 1** & 15 finalists of **Cohort 2** event on Capitol Hill