

# **Building Critical Supply Chains in Europe**

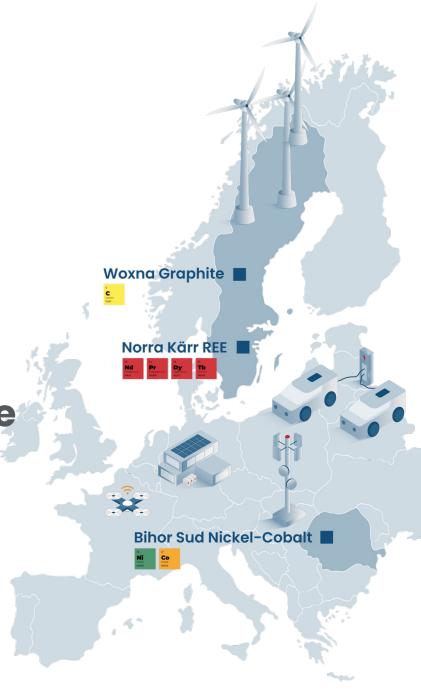
October 2025

TSX.V: LEM

Nasdaq First North: LEMSE

**OTCQB: LEMIF** 

FRA: 7FL



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The Woxna project has never defined a mineral reserve. On June 9, 2021, Leading Edge announced the results of an independent preliminary economic assessment for the development of Woxna (the "2021 Woxna PEA"), the full details of which are included in a technical report entitled "NI 43-101 Technical Report – Woxna Graphite" prepared for Woxna Graphite AB with effective date June 9, 2021 and issue date July 23, 2021, available on Leading Edge's website <a href="www.leadingedgematerials.com">www.leadingedgematerials.com</a> and under its SEDAR profile <a href="www.sedar.ca">www.sedar.ca</a>. The 2021 Woxna PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

On July 22, 2021, Leading Edge announced the results of an independent preliminary economic assessment for the development of Norra Kärr (the "2021 Norra Kärr PEA"), the full details of which are included in a technical report titled "PRELIMINARY ECONOMIC ASSESSMENT OF NORRA KÄRR RARE EARTH DEPOSIT AND POTENTIAL BY-PRODUCTS, SWEDEN" prepared for Leading Edge Materials Corp. with effective date August 18, 2021 and issue date August 19, 2021, available on Leading Edge's website <a href="https://www.leadingedgematerials.com">www.leadingedgematerials.com</a> and under its SEDAR profile <a href="https://www.sedar.ca">www.sedar.ca</a>. The 2021 Norra Kärr PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

This presentation has been prepared by Leading Edge Materials Corp. The scientific, technical and economic information related to the Norra Kärr project has been reviewed and approved by Dr. Rob Bowell of SRK Consulting (UK) Ltd, a chartered chemist of the Royal Society of Chemistry, a chartered geologist of the Geological Society of London, and a Fellow of the Institute of Mining, Metallurgy and Materials, who is an independent Qualified Person under the terms of NI 43-101 for REE deposits. The scientific, technical and economic information related to the Woxna Graphite project has been reviewed and verified by Christopher Stinton of Zenito Limited, BSc (Hons), CEng MIMMM, an independent Qualified Person as defined by NI 43-101.

## **Investment Highlights**

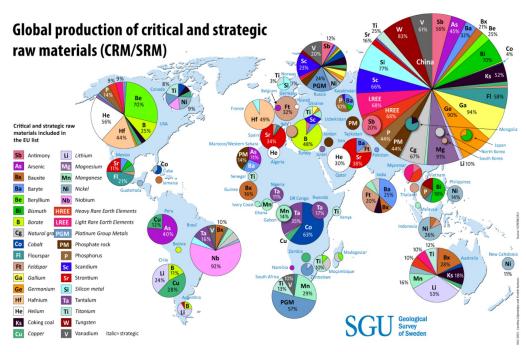


### **Portfolio**

- Critical raw materials (CRMs) with a focus on:
  - heavy rare earth elements (HREEs); and
  - o natural graphite.
- All assets located in the EU, including:
  - 100% owned graphite mine in Sweden;
  - o 100% owned HREE development project in Sweden; and
  - o Polymetallic exploration in Romania.

### **Corporate**

- Highly experienced leadership team.
- Significant Swedish and Insider shareholdings.
- Listed in Toronto and Stockholm.
- Tickers: LEM.V (TSXV), LEMSE (NFN), LEMIF (OTCQB), 7FL (Fra).



Global production of critical and strategic raw materials (CRM/SRM)

# **Addressing Critical Raw Materials Supply**



### Targeting strategically important markets:

- permanent magnets for electric motors, wind turbines;
- batteries for EVs and energy storage; and
- defence applications.

Norra Kärr HREE (100%)

- Europe's most advanced heavy rare earth elements (HREE) project.
- Critically important dysprosium and terbium content.
- Company anticipates a mining lease decision in the fourth quarter of 2025, while pre-feasibility workstreams are currently underway with completion targeted during the first quarter of 2026.
- 2021 PEA estimated production 5,341tpa TREOs including 1,005tpa MagREOs over 26-year Life of Mine.
- Post-tax Net Present Value(10%) of US\$762m, IRR of 26.3% and EBITDA of US\$206m\*.

Woxna Graphite (100%)

- Built and permitted mine and processing plant. Flake concentrate 10,000tpa +94% Cg.
- Potential to increase production to 15,000tpa.
- Testwork ongoing to evaluate potential upgrades to existing plant.
- Focus on developing a new business plan to support a possible restart of production.

Bihor Sud Ni-Co (51% to 90%)

- Project encompasses a historic mining district situated within the highly prospective Tethyan Belt.
- Reappraising highest potential prospects following recent and significant addition of ownership and operational permits for the Avram lancu mine to the exploration area.
- A Competent Person Report is currently in preparation while management simultaneously investigates alternative financing sources to advance the project.



<sup>\*\*</sup> See National Instrument 43-101 report titled "PRELIMINARY ECONOMIC ASSESSMENT OF NORRA KÄRR RARE EARTH DEPOSIT AND POTENTIAL BY-PRODUCTS, SWEDEN" prepared for Leading Edge Materials Corp. with effective date August 18, 2021 and issue date August 19, 2021. See Leading Edge Materials Corp.'s SEDAR profile on www.sedar.ca or <a href="https://www.leadingedgematerials.com">www.leadingedgematerials.com</a> for report and more information. The PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

# Experienced Leadership - Mining & Markets



**Lars-Eric Johansson** 

Chairman



President & CEO Ivanhoe Mines (2006-19)

CFO Kinross Gold Corporation

CFO Noranda Inc CFO Falconbridge

Vice President & CFO Boliden Mineral

**Daniel Major** 

Director



**Present** 

CEO GoviEx Uranium Inc. (TSXV)

Past

Chief Executive and later Non-Executive Chairman of Basic Element Mining and Resource Division in Russia

Mining analyst HSBC Plc and JPM Rio Tinto Rossing Uranium Mine

**Eric Krafft** 

Director



**Present** 

Private investor and largest shareholder. Serves on the boards of numerous private financial holding and ship-owning companies.

Director GoviEx Uranium Inc. (TSXV)

Past

Trafalgar Shipping/Dragon Maritime Corporate Finance at DVB Bank AG

**Kurt Budge** 

**CEO** 



**Past** 

CEO Beowulf Mining plc (AIM, Spotlight Stock

Market)

Sanjay Swarup

CFO



Present

CEO and founder SKS Business Services Ltd

Past

CFO Mandalay Resources (TSX)

Manuela Balaj-Coroiu Company Secretary



Present

Vancouver based chartered governance professional and corporate secretary.

## **Share Information**



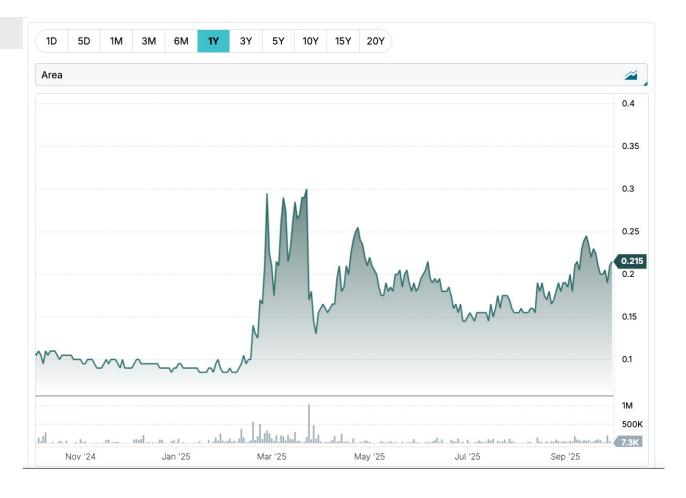
**Tickers:** LEM.V (TSXV), LEMSE (NFN), LEMIF (OTCQB), 7FL (Fra)

**Quote:** CAD 0.215 / SEK 1.40 (30 September 2025)

**Mkt Cap:** CAD 53.7m / SEK 350m

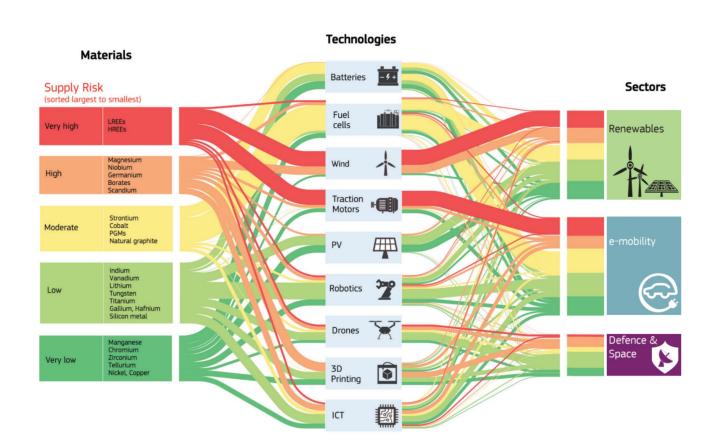
Issued and Outstanding Common Shares         Expiration         Exercise price         Quantity           Apr 26/26         0.195         500,000           Nov 3/27         0.20         700,000           Apr 26/28         0.195         4,200,000           Apr 25/29         0.10         9,650,000           Apr 23/30         0.24         6,850,000           Warrants         Expiration         Exercise Price         Quantity           Aug 23/27         0.225         21,739,130           July 23/28         0.20         34,400,000           Sept 26/28         0.20         6,560,000	Issued and Outstanding Common Shares				Total
Apr 26/26       0.195       500,000         Nov 3/27       0.20       700,000         Apr 26/28       0.195       4,200,000         Apr 25/29       0.10       9,650,000         Apr 23/30       0.24       6,850,000         Warrants       Expiration       Exercise Price       Quantity         Aug 23/27       0.225       21,739,130         July 23/28       0.20       34,400,000					249,950,449
Nov 3/27       0.20       700,000         Apr 26/28       0.195       4,200,000         Apr 25/29       0.10       9,650,000         Apr 23/30       0.24       6,850,000         21,900,000         Warrants       Expiration       Exercise Price       Quantity         Aug 23/27       0.225       21,739,130         July 23/28       0.20       34,400,000	Stock Options	Expiration	Exercise price	Quantity	
Apr 26/28       0.195       4,200,000         Apr 25/29       0.10       9,650,000         Apr 23/30       0.24       6,850,000         21,900,000         Warrants       Expiration       Exercise Price       Quantity         Aug 23/27       0.225       21,739,130         July 23/28       0.20       34,400,000		Apr 26/26	0.195	500,000	
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July 23/28 0.20 34,400,000	Warrants	Expiration	Exercise Price	Quantity	
		Aug 23/27	0.225	21,739,130	
Sept 26/28 0.20 6,560,000					
		July 23/28	0.20	34,400,000	
Aug 14/29 0.32 17,738,500					
80,437,630		Sept 26/28	0.20	6,560,000	
Fully Diluted: 352,288,07		Sept 26/28	0.20	6,560,000	80,437,630

## LEM.V (TSXV) 12 months



## **Critical Raw Materials**





### **Economic Importance**

- CRMs are directly linked to technologies such as batteries and permanent magnets that are critical for growth industries like renewables, energy storage and e-mobility, and defence applications.
- Regional CRM production creates an autonomous EU, enables the energy transition and provides security.

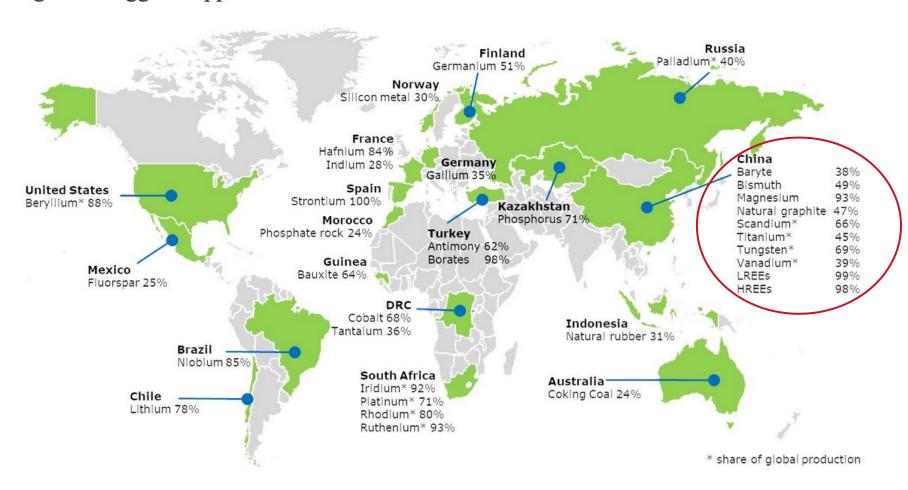
### **Supply Risk**

- EU is dependent on imports of CRMs.
- A few single countries dominate the CRM supply chain which leaves the EU vulnerable to supply disruptions.

## ...the EU's overdependencies



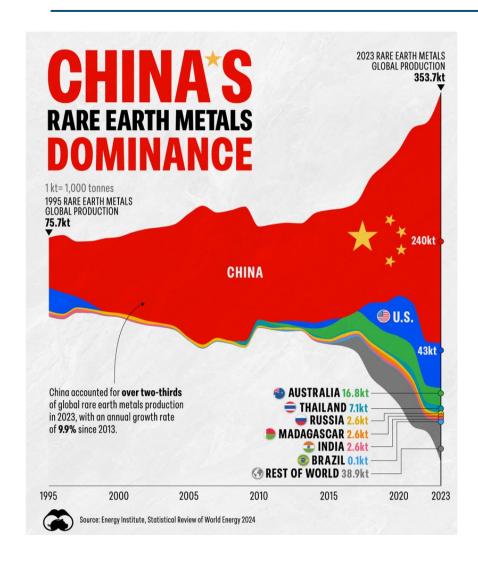
Figure 1: biggest supplier countries of CRMs to the EU



Source: European Commission report on the 2020 criticality assessment

## Geopolitical spotlight on CRMs









https://www.visualcapitalist.com/visualizing-global-rare-earth-metals-production-1995-2023/

https://www.energyinst.org/\_\_data/assets/pdf\_file/0006/1542714/684\_EI\_S tat Review V16 DIGITAL.pdf

Source: https://hcss.nl/report/strategic-raw-materials-for-defence/





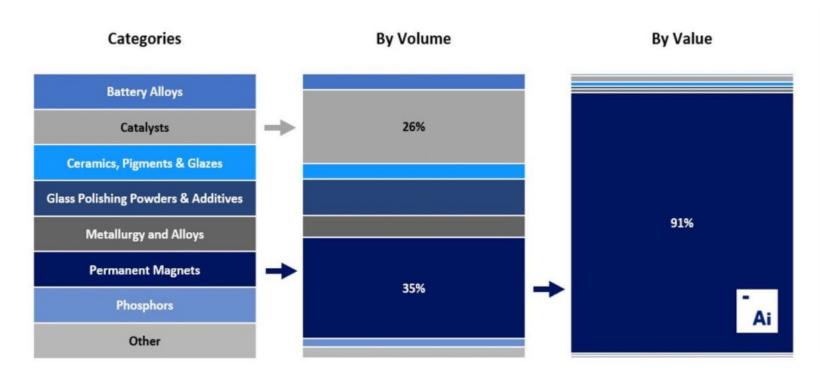
Norra Kärr HREE Project

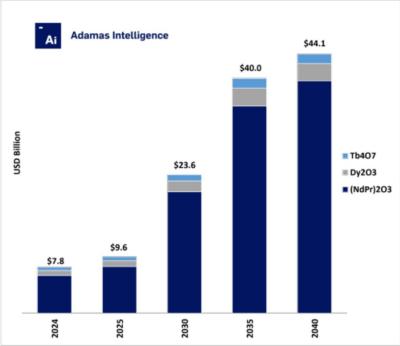
# Importance of HREEs for permanent magnets





Adamas Intelligence forecasts that the value of global magnet rare earth oxide consumption will increase more than five-fold by 2040, from US \$7.8 billion this year (2024) to US \$44.1 billion by 2040.





## From European Dependency to Self-Reliance



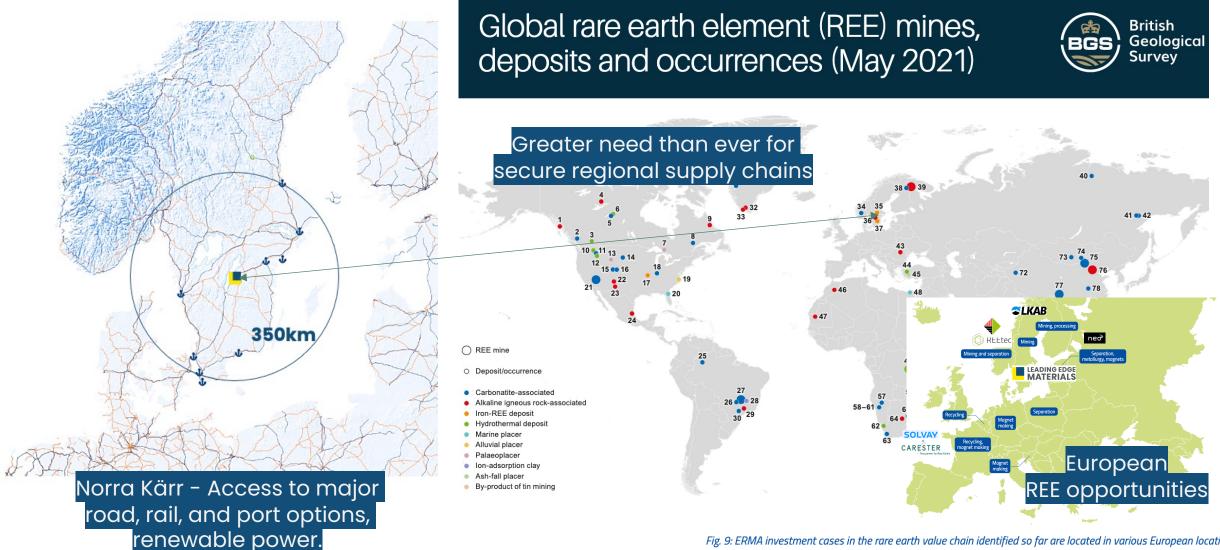


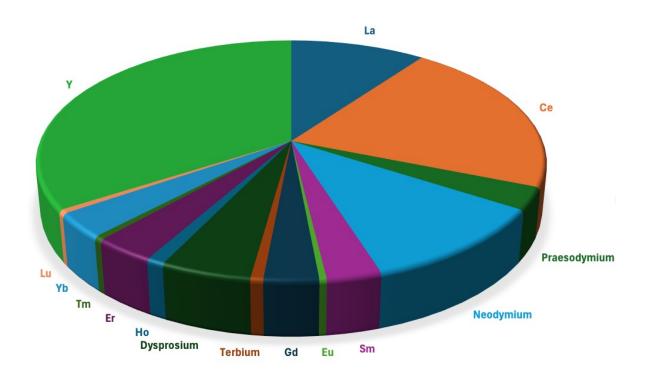
Fig. 9: ERMA investment cases in the rare earth value chain identified so far are located in various European locations https://www.eit.europa.eu/sites/default/files/2021\_09-24\_ree\_cluster\_report2.pdf

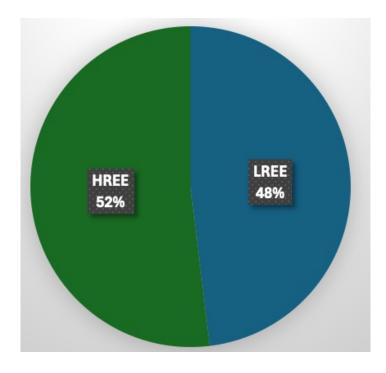
# Heavy Rare Earths in Europe's Hand



### Norra Karr Mineral Resource Statement (SRK, 18 August 2021)\*

Mineral Resource	Tonnes	TREO	ZrO <sub>2</sub>	Nb <sub>2</sub> O <sub>5</sub>	Nepheline Syenite
Classification	(Mt)	(%)	(%)	(%)	(%)
Inferred	110	0.5	1.7	0.05	65





<sup>\*</sup> See National Instrument 43-101 report titled "PRELIMINARY ECONOMIC ASSESSMENT OF NORRA KÄRR RARE EARTH DEPOSIT AND POTENTIAL BY-PRODUCTS, SWEDEN" prepared for Leading Edge Materials Corp. with effective date August 18, 2021 and issue date August 19, 2021. See Leading Edge Materials Corp. 's SEDAR profile on www.sedar.ca or <a href="www.leadingedgematerials.com">www.leadingedgematerials.com</a> for report and more information. The PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

# Mission-Critical for European Defence



### **DoD** refers to US Department of Defence

Element	Applications
Scandium	Metal alloys for the aerospace industry.
Yttrium	Ceramics, metal alloys, lasers, fuel efficiency, microwave communication for satellite industries, color televisions, computer monitors, temperature sensors. Used by <b>DoD</b> in targeting and weapon systems and communication devices. Defined by DOE as critical in the short- and mid-term based on projected supply risks and importance to clean energy technologies.
Lanthanum	Batteries, catalysts for petroleum refining, electric car batteries, hightech digital cameras, video cameras, laptop batteries, X-ray films, lasers. Used by <b>DoD</b> in communication devices. Defined by DOE as near critical in the short-term based on projected supply risks and importance to clean energy technologies.
Cerium	Catalysts, polishing, metal alloys, lens polishes (for glass, television faceplates, mirrors, optical glass, silicon microprocessors, and disk drives). Defined by DOE as near critical in the short-term based on projected supply risks and importance to clean energy technologies.
Cerium Praseodymium	faceplates, mirrors, optical glass, silicon microprocessors, and disk drives). Defined by DOE as near critical in the short-term based on
	faceplates, mirrors, optical glass, silicon microprocessors, and disk drives). Defined by DOE as near critical in the short-term based on projected supply risks and importance to clean energy technologies.  Improved magnet corrosion resistance, pigment, searchlights, airport signal lenses, photographic filters. Used by <b>DOD</b> in guidance and

Element	Applications	
Samarium	High-temperature magnets, reactor control rods. Used by <b>DoD</b> in guidance and control systems and electric motors.	
Europium	Liquid crystal displays (LCDs), fluorescent lighting, glass additives. Used by <b>DoD</b> in targeting and weapon systems and communication devices. Defined by DOE as critical in the short- and mid-term based on projected supply risks and importance to clean energy technologies.	
Gadolinium	Magnetic resonance imaging contrast agent, glass additives	
Terbium	Phosphors for lighting and display. Used by <b>DoD</b> in guidance and control systems, targeting and weapon systems, and electric motors. Defined by DOE as critical in the short- and mid-term based on projected supply risks and importance to clean energy technologies.	
Dysprosium	High-power magnets, lasers. Used by <b>DoD</b> in guidance and control systems and electric motors. Defined by DOE as critical in the short- and mid-term based on projected supply risks and importance to clean energy technologies.	
Holmium	Highest power magnets known.	
Erbium	Lasers, glass colorant.	
Thulium	High-power magnets.	
Ytterbium	Fiber-optic technology, solar panels, alloys (stainless steel), lasers, radiation source for portable X-ray units.	
Lutetium	X-ray phosphors.	

(Adapted from US DOE, 2011)

# Norra Kärr - Technical and permitting history



#### 2009

Exploration Permit granted

### 2013

Mining Lease granted with support of the Mining Inspectorate and County Administrative Board

#### 2015

NI 43-101 Pre-Feasibility Study completed

#### 2019

County
Administrative
Board
demands
N2000 permit
prior to Mining
Lease granting

#### 2021

Mining
Inspectorate
rejects Mining
Lease application
due to no N2000
permit



















#### 2012

Scoping Study completed

2014

Mining Lease upheld by Government after appeal

#### 2016

Mining Lease reverted to application by the Supreme Administrative Court

#### 2020

Exploration Permit extended to 2025

# Norra Kärr – Last 5 years



### 2023

Company prepares N2000 permit application

### 2024

EU adapts Critical Raw Materials Act (CRMA) and calls for Strategic Project Applications.



#### 2021

Parliament majority votes for government to propose legislation that N2000 permit should be a pre-requisite for Mining Lease



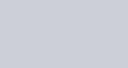
### 2021

New Scoping Study published - 65% reduction in area, simplified mining operation at mine site and enhanced sustainability credentials.



#### 2022

Exploration Permit extended until 2026



December 2024 - Company submitted new Mining Lease application and associated Environmental Impact Assessment.

#### 2024

Government removes requirement for N2000 permit before a Mining Lease can be granted

## Norra Kärr 2021 PEA\* vs 2015 PFS



- Only mining, crushing, grinding and magnetic separation on site.
- 65 percent reduction in land area compared to previous concession application.
- 20-30 percent reduction in water demand on site, and no process water discharge.
- Closed loop process water system and controlled storm/groundwater management on site.
- Targeting 100% of extracted materials to be sold as products, compared to less than 1 percent in the previous concession application.
- Potential for further improvement using waste rock for construction materials and aegirine for pigment or block colouring.
- Chemical processing will take place at an existing industrial location (to be determined) not at Norra Kärr.
- No part of the operation involves direct contact with Lake Vättern or nearby Natura 2000 areas.

Project fundamentally redesigned from the version granted a Mining Lease in 2013 – Reduced environmental impact, increased sustainability.

<sup>\*</sup> See National Instrument 43-101 report titled "PRELIMINARY ECONOMIC ASSESSMENT OF NORRA KÄRR RARE EARTH DEPOSIT AND POTENTIAL BY-PRODUCTS, SWEDEN" prepared for Leading Edge Materials Corp. with effective date August 18, 2021 and issue date August 19, 2021. See Leading Edge Materials Corp.'s SEDAR profile on www.sedar.ca or <a href="www.leadingedgematerials.com">www.leadingedgematerials.com</a> for report and more information. The PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

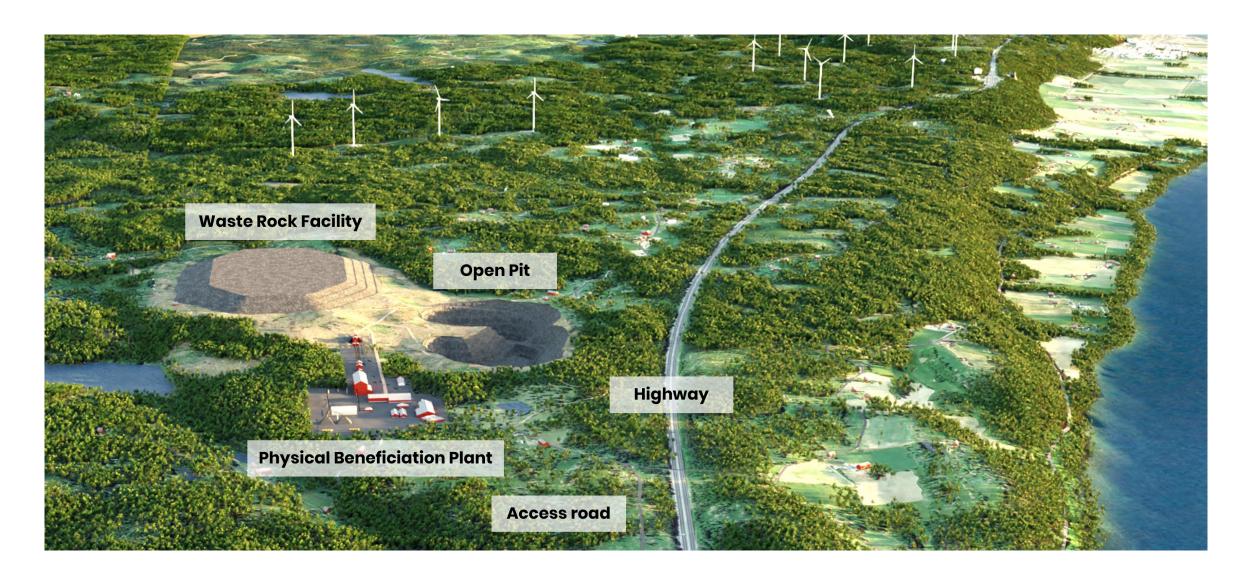
## 65% reduction in land area





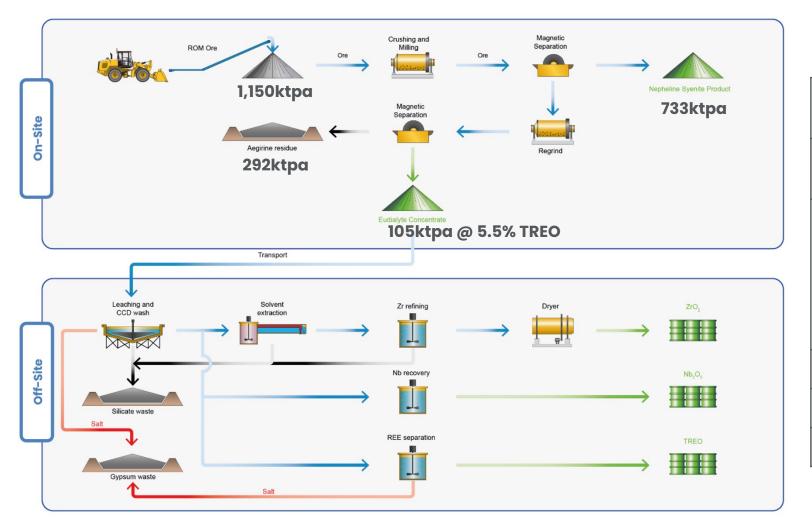
# Simplified operations





# Norra Kärr 2021 PEA\* - Operational Highlights





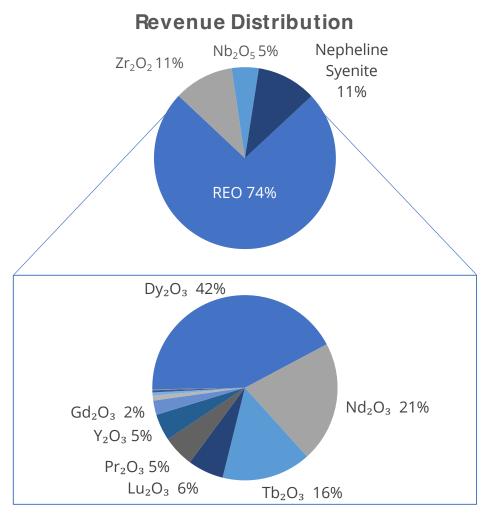
Life of Mine (LOM)	26 years
Mining rate Strip Ratio	1.15 Mtpa 0.32
TREOs Including MagREOs (Nd, Pr, Dy, Tb)	$5,341 \text{ tpa}$ $1,005 \text{ tpa}$ $Dy_2O_3 248t$ $Tb_2O_3 36t$ $Nd_2O_3 578t$ $Pr_2O_3 143t$
Nepheline Syenite	732,885 tpa
Zirconium Oxide	10,200 tpa
Niobium Oxide	525tpa

<sup>\*</sup> See National Instrument 43-101 report titled "PRELIMINARY ECONOMIC ASSESSMENT OF NORRA KÄRR RARE EARTH DEPOSIT AND POTENTIAL BY-PRODUCTS, SWEDEN" prepared for Leading Edge Materials Corp. with effective date August 18, 2021 and issue date August 19, 2021. See Leading Edge Materials Corp. 's SEDAR profile on www.sedar.ca or <a href="www.leadingedgematerials.com">www.leadingedgematerials.com</a> for report and more information. The PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

# Norra Kärr 2021 PEA\* – Financial Highlights



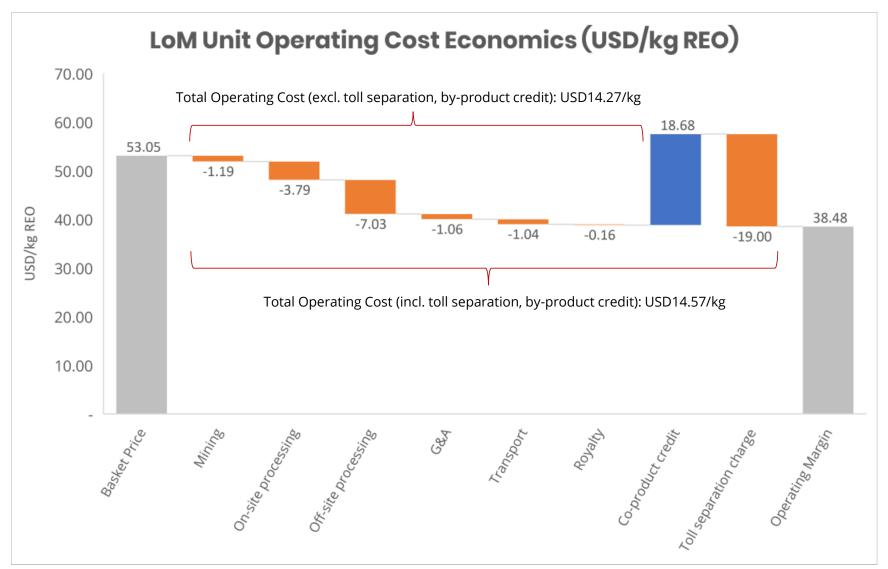
Post-tax Net Present Value (NPV <sub>10</sub> )	\$762M
Post-tax Internal Rate of Return (IRR)	26.3%
Accumulated LoM project revenues	\$9,962M
Average annual EBITDA	\$206M
Initial Capital Expenditures (CAPEX)	\$487M (Mine \$165m; and Off-site Processing \$323m).
Pre-tax Payback Period from first production	5.1 years
LoM average gross basket price	\$53/kg of mixed REO product



<sup>\*</sup> See National Instrument 43-101 report titled "PRELIMINARY ECONOMIC ASSESSMENT OF NORRA KÄRR RARE EARTH DEPOSIT AND POTENTIAL BY-PRODUCTS, SWEDEN" prepared for Leading Edge Materials Corp. with effective date August 18, 2021 and issue date August 19, 2021. See Leading Edge Materials Corp.'s SEDAR profile on www.sedar.ca or <a href="www.leadingedgematerials.com">www.leadingedgematerials.com</a> for report and more information. The PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

# Norra Kärr 2021 PEA\* - Operating Costs





<sup>\*</sup> See National Instrument 43-101 report titled "PRELIMINARY ECONOMIC ASSESSMENT OF NORRA KÄRR RARE EARTH DEPOSIT AND POTENTIAL BY-PRODUCTS, SWEDEN" prepared for Leading Edge Materials Corp. with effective date August 18, 2021 and issue date August 19, 2021. See Leading Edge Materials Corp.'s SEDAR profile on www.sedar.ca or <a href="https://www.leadingedgematerials.com">www.leadingedgematerials.com</a> for report and more information. The PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

## Norra Kärr – Sustainability advantage



## Comparison of dysprosium production from different resources by life cycle assessment

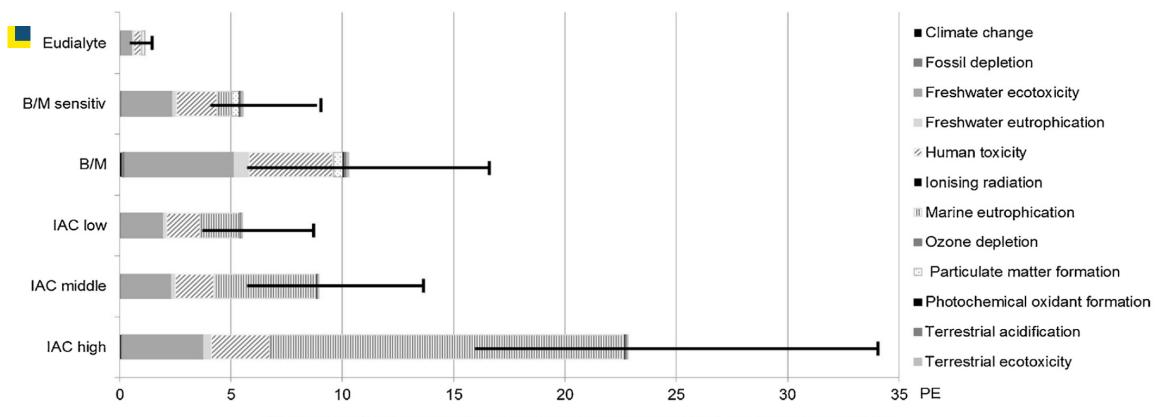
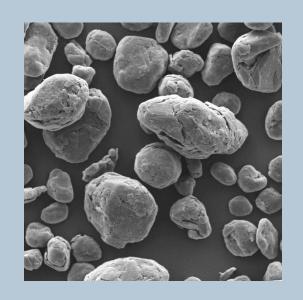


Fig. 3. Normalised impacts of process chains in person equivalents per kg Dy with deviation.

Source: 'Comparison of dysprosium production from different resources by life cycle assessment', co-authored by Petra Zapp, Josefine Marx, Andrea Schreiber, Bernd Friedrich, Daniel Venkaul and published in Resources (Conservation and Recycling, Volume 130, 2018, Pages 248-259)







Woxna Graphite



# Europe's Defence Industries Graphite Dependency



### Supply risk for critical raw materials in military applications



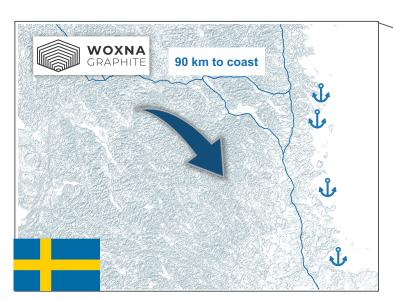
## **Europe's Battery Industry**



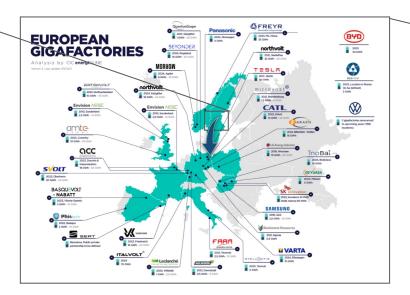
Flake Graphite production needs \$7.5B capex to meet 2035 battery demand. (Benchmark Minerals) International Energy Agency's Sustainable
Development Scenario (SDS) base case projects the
mineral demand for battery storage-related
materials to increase drastically by 2040 compared to
2020. For manganese, nickel cobalt, graphite, and
lithium the projected 2040 estimates range between
eight and forty times the 2020 demand.\*

In 2023, China produced about 70% of global supplies of natural flake graphite and almost all the spherical graphite used in anodes for lithiumion batteries.

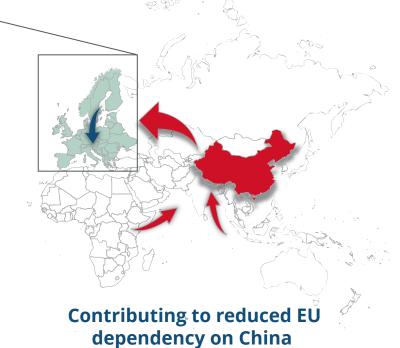
(Benchmark Minerals)



Woxna is built. Excellent access - roads, ports - to markets.



**Proximity to Gigafactory developments in Europe** 



<sup>\*</sup>https://erma.eu/app/uploads/2023/07/e33fa4d1.pdf

## **Woxna Graphite Anode PEA\***



## **Financial Highlights**

- Post-tax Net Present Value (NPV 8%) of \$248m
- Post-tax IRR of 37.4%
- Accumulated project revenues of \$1,425m
- Average annual EBITDA of \$49m
- Initial Capital Expenditures (CAPEX) of \$121m

## **Operational Highlights**

- Life of Mine (LOM) is 15 years
- LOM average annual plant feed of 159,967 tonnes
- LOM average annual CSPG product 7,435 tonnes

### **Mineral Resource Estimate**

**Source: ReedLeyton 2021** 

Property	Classification of Mineral Resource	Tonnes (Mt)	Grade C (%)
Kringel	Measured	0.96	9.21
	Indicated	1.65	9.09
	Measured + Indicated	2.61	9.13
	Inferred	0.39	8.72

**Notes:** Inconsistencies in totals are due to rounding; 4% Cg mill cut-off grade applied for reporting purposes constrained within the MPlan 2021 pitshell; Reported according to CIM Definition Standards 2011; Reported according to CIM Mineral Exploration Best Practice Guidelines (Nov 2018); No geological losses applied; Default Density of 2.7 t/m³ applied to in situ, then Density of 2.82 t/m³ applied to Type A Graphite and Density of 2.86 t/m³ applied to Type B Graphite for Gropabo and Mattsmyra; and Default Density for Kringel remained at 2.7 t/m³; The previous Mineral Resource Estimates for the Project were developed without the constraint of an applied mine plan and open-pit shell. In the light of more rigorous compliance requirements, the Mineral Resources were reported by ReedLeyton within the constraints of the PEA mine plan as a means of demonstrating "reasonable prospects for economic extraction" as required by numerous international reporting codes. No new exploration data was included in the reporting process; Effective date of Mineral Resource Estimate is June 9, 2021; and Mineral resources are not mineral reserves and do not have demonstrated economic viability;

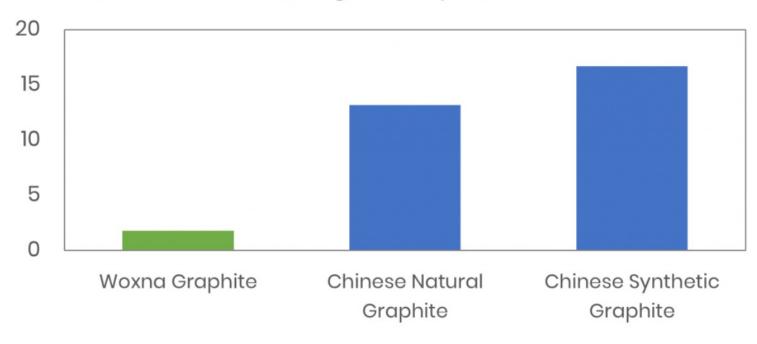
<sup>\*</sup> See National Instrument 43-101 report entitled "NI 43-101 Technical Report – Woxna Graphite" prepared for Woxna Graphite AB with effective date June 9, 2021 and issue date July 23, 2021. See Leading Edge Materials Corp.'s SEDAR profile on www.sedar.ca or <a href="https://www.leadingedgematerials.com">www.leadingedgematerials.com</a> for report and more information. The PEA is preliminary in nature, it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

# Sustainability leadership\*



# Coated spherical purified graphite produced from Woxna has 85-90% lower impact than the market dominant Chinese alternatives

kg CO2 eq.



- 1 tonne of coated spherical purified graphite ("CSPG") produced from Woxna natural graphite is forecast to have an impact of 1.8 tonnes CO2 eq.
- LCA study completed to ISO-104040:2006 and ISO-14044:2006 standards and used a cradle-to-gate approach.

<sup>\*</sup> See news release dated June 21, 2021: https://leadingedgematerials.com/leading-edge-materials-announces-preliminary-life-cycle-assessment-results-on-woxna-graphite-project/





# Cobalt-Nickel exploration in the Tethyan Belt

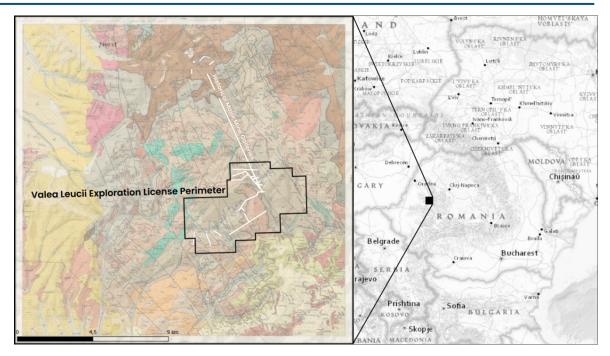


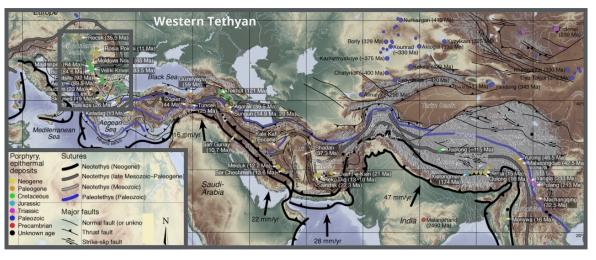
### **Overview**

- JV from 2018 with 51% ownership with potential to move to 90%.
   Local JV partner operates a Dolomite mine in the area offering shared resources and local knowledge.
- Located in the upper Cretaceous metallogenic belt, part of the Tethyan Belt in a historic mining area with several historic mines, one being a significant uranium mine.
- Initial prospecting campaign and sampling from past mine workings indicates potential for high grade nickel-cobalt mineralization.

## **Opportunity**

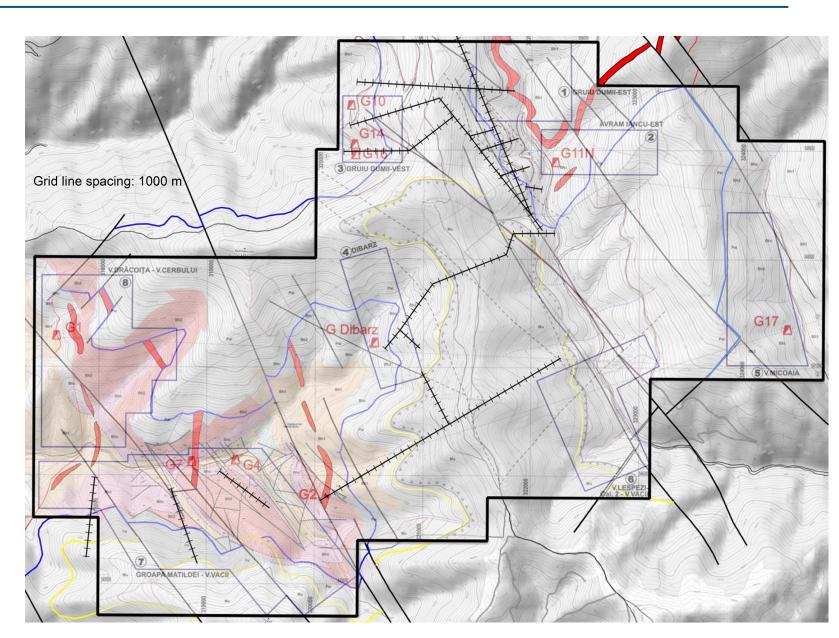
- Bihor Sud is relatively isolated site whilst the road and power network is well developed due to prior mining and forestry. No permanent residences lie within 5km of the Exploration License boundary.
- Exclusive five-year exploration license was granted on 12 May 2022, moving the project towards pre-submitted exploration program. A two year-extension is possible.
- Romania is a historic mining country with rich opportunities but is one of Europe's economically weaker nations which should attract interest from strategic investors.





# **Historic Mining Camp**

- Tens of kilometers of galleries are developed in the license area, previously targeting and mining uranium in replacement orebodies on carbonate.
- A separate mineralization phase yielded Co-Ni-bodies, which was ignored because the responsible division of 1960-90s Romanian state mining only targeted what was then called "strategic metals", which did not include Co and Ni.
- Extensive Co-Ni-mineralization has been reported from the galleries, especially in the north (area with G10-G16 on the map).
- LEM achieved first the opening of galleries G4 and G7 in the southwestern license area, followed by G2 in Spring 2024.
- Waste dump samples suggested the presence of Co-Ni chiefly in G7, but also Zn-Pb-Cu-Ag mineralization in G4. High-grade Zn-Pb-Cu-Ag has reportedly been mined from G. Dibarz, which forms a near-term target of exploration.



# Visible polymetallic mineralization





Left: Stringers of silvery-golden Co-Ni mineralization in low grade metamorphic sediments (gray) from the waste dump of G7.

Right: Cu-rich sample from previously mined Zn-Cu-Pb-Ag deposit in the license area.



## Underground – In situ Co-Ni mineralization

- On 23 January 2023, the Company reported having entered historic galleries G7 and G4 head of schedule because of stringently following all applicable procedures.
- Systematic chip sampling confirms in-situ high grade Co-Ni-Au in G7 and Cu-Zn-Pb-Ag mineralization in G4 within +150 m and 350 m gallery segments, respectively.
- G7 highlights include 6.7% Cobalt,
   29.7% Nickel, 15.65 g/t Au with about half of the chip samples exceeding
   0.44% Nickel equivalent.
- Co-Ni-Au mineralization occurs on shallow-dipping foliation in schists, on fault cleavage, and in late-state veins cutting the other mineralization styles.
- Although high-grade, the Cu-Zn-Pb-Ag veins in G4 were found to be too thin and discontinuous, not forming a target for further exploration.

Below: Powdery, greenish nickel oxide minerals on the wall of G7 and rocks on the gallery floor. Yellow magnetic pen for scale.





Left: Powdery, pinkish cobalt oxide mineral on foliation in graphitic schist. Individual Co-oxide mineral grains are about 1 mm across.

Below: Pinkish cobalt oxide mineral weathering from schists. Hammer for scale.



## Bihor Sud – G2 Potential

### **Observations in G2**

- A preliminary visit in the secured G2 gallery system yielded Co-Ni and Pb-Zn-Ag zones of significant extent.
- In the first 1,600 m, a several meters thick carbonate level was found pervasively altered and mineralized in several places on a +100 m scale as far as exposed underground.
- Hand-held XRF-data shows Pb-Zn grades of several percent along with significant silver grades in the altered carbonates.

### **2025 tasks**

- 4 additional geologists started on site January 2025.
- New drill rig on site. Drilling started February 2025.
- Mapping and sampling of Co-Ni and Zn-Pb-Ag-mineralized zones detected visually and by hand-held XRF in G2.
- Drilling in G2 underway targeting polymetallic mineralization.
- Opening of further galleries to the north of G2 and establishing a safe work environment inside.



Altered and pervasively Zn-Pb-Ag-mineralized carbonate (gray) in G2, exhibiting partial oxidation of accompanying Fe-sulphide (ocre).



# **Road ahead**

## Summary



## Norra Kärr - Momentum Building Across All Fronts

- Permitting milestone Mining Inspectorate decision anticipated Q4 2025
- Technical advancement Comprehensive PFS workstreams targeting H1 2026 completion
- Added commercial potential Industrial minerals, particularly nepheline syenite, being assessed
- Strategic funding opportunity EU 2nd Call for Strategic Project Applications

## Woxna Graphite – Europe Needs Graphite

- Foundation in place Existing infrastructure and graphite resources
- Asset optimization Evaluating plant upgrades to produce high-grade flake graphite concentrate
- Enhanced business plan Security of supply to meet European market demand

## Bihor Sud – Reviewing Exploration Priorities

- Technical validation Competent Person Report (CPR) will consolidate works completed to date and allow a reappraisal of exploration priorities
- CPR will support investigation of alternative financing sources to advance the project







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