

Nord Precious Metals Secures MICA Investment to Scale Critical Minerals Production from Tailings

written by Raj Shah | June 23, 2025

Re-20x hydrometallurgical system addresses arsenic barrier to battery metals recovery

June 23, 2025 ([Source](#)) – Nord Precious Metals Mining Inc. (TSX-V: NTH | OTCQB: CCWOF | FRANKFURT: 4T9B) announced today it has secured \$200,000 in funding from the Mining Innovation Commercialization Accelerator (MICA) Network to advance its Re-20x technology from Technology Readiness Level 6 to TRL 7, positioning the system for commercial deployment and licensing opportunities.

The funding, part of MICA's fourth Call for Proposals [announced on June 15th](#) in Toronto, will support a 1,000-hour pilot demonstration at Nord's Temiskaming Testing Labs (TTL) facility in Cobalt, Ontario. This real-world operational environment will generate the performance data required to bridge what the industry terms the "valley of death" – the critical transition from validated technology to commercial viability.

"The mining sector has a fundamental arsenic problem that [constrains global mineral processing capacity](#)," said Frank J. Basa, B.Eng., CEO of Nord Precious Metals. "Current solutions either avoid arsenic-bearing feeds entirely or incur prohibitive disposal costs. Re-20x is able to process arsenic-bearing feeds and represents a paradigm shift by transforming a substantial per-tonne liability into a margin-positive operation while

recovering critical minerals essential to the energy transition.”

Market Opportunity and Technology Differentiation

Nord’s technology addresses a substantial and growing market opportunity:

- **Total Addressable Market (TAM):** [282 billion tonnes of global tailings inventory](#), with continuous additions from active operations amounting to [another 14 billion annually](#)
- **Serviceable Addressable Market (SAM):** A sizable share of global tailings carries arsenic. Legacy plants sidestepped it for safety and permitting reasons, which is precisely the niche Re-20x is built to serve.
- **Serviceable Obtainable Market (SOM):** Initial focus on [an estimated 18 million tonnes within Ontario’s Cobalt Camp](#), with Nord controlling several tailings piles through its properties in the region.

The Re-20x process achieves what incumbent technologies cannot: economic processing of high-arsenic feeds with simultaneous recovery of silver, cobalt, nickel, and manganese. Key performance metrics include:

- Arsenic capture: 99% as stable scorodite/copper-arsenate
- Energy consumption: 80% reduction versus pyrometallurgical processing
- Modular design: 40-foot shipping container format enabling rapid scaling

Strategic Alignment with Critical Infrastructure Needs

The MICA investment validates Nord's approach to addressing multiple policy imperatives simultaneously. [As noted by MICA Network Director](#) Chamirai Charles Nyabeze: "Supporting SMEs is not only vital for our economy—it is essential for accelerating the energy transition globally."

Nord's integrated processing model leverages existing TTL infrastructure – the district's only permitted mineral processing facility – while offering multiple commercialization pathways:

1. **Direct Operations:** Initial pilot demonstration scaling to commercial modules
2. **Technology Licensing:** Post-TRL 7 validation enables global deployment through equipment leasing and royalty structures
3. **Toll Processing:** Immediate revenue generation from third-party feeds requiring arsenic remediation



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Photo: MICA recipients including Aurelian Basa, representing Nord as Special Projects and Partnerships lead

Technical Validation and Commercial Readiness

The transition to TRL 7 represents a critical inflection point. SGS Lakefield's independent validation, working in tandem with MICA's endorsement, will provide the technical foundation for:

- Equipment financing partnerships
- Offtake agreements with metals traders
- Flow-through funding for critical minerals production
- Specialized grant programs requiring third-party verification

Previous bench-scale testing has demonstrated the process's ability to produce:

- Battery-grade cobalt sulfate (22.6% $\text{CoSO}_4 \cdot 6\text{H}_2\text{O}$) meeting Tier 1 specifications
- Silver recovery to dor
- Nickel sulfate at 81% recovery
- Stable arsenic disposal product passing regulatory leach tests

"The 1,000-hour pilot at our TTL facility will demonstrate continuous operation in a production environment," explained Basa. "This isn't laboratory validation – it's real-world proof of a technology that can be deployed globally wherever arsenic constrains mineral processing."

Competitive Landscape and Market Position

The Re-20x technology stands alone in addressing the industry's most challenging feeds. Traditional pyrometallurgical smelters impose penalties or outright rejection for arsenic-bearing concentrates, while their fixed infrastructure requires massive capital investment and faces increasingly stringent emissions regulations. These facilities are geographically constrained and cannot economically process lower-grade or complex feeds.

Emerging modular technologies from companies developing electrowinning and ion-exchange platforms have generated significant interest but uniformly require pre-cleaned feeds with minimal arsenic content. These systems excel at producing high-purity metals from already-refined solutions but cannot handle the complex mineralogy typical of legacy tailings or refractory ores. The pre-treatment required to prepare feeds for these technologies often negates their economic advantages.

Bio-leaching approaches, while environmentally attractive, suffer from prohibitively slow kinetics and poor precious metals recovery. Residence times measured in weeks or months, combined with strict temperature and pH requirements, limit their application to niche operations with specific mineralogy and climate conditions.

Re-20x's containerized design enables deployment at any site with basic infrastructure – power, water, and road access. The closed-loop chemistry eliminates liquid discharge while producing stable, saleable arsenic products rather than hazardous waste requiring perpetual management. This combination of mobility, environmental compliance, and multi-metal recovery creates a unique value proposition for mining operations worldwide.

“We're not competing with existing technologies – we're addressing the feeds they can't or won't process,” noted Basa. “Every tonne of high-arsenic material that conventional processors reject becomes our opportunity. With proven chemistry, validated economics, and a deployment model that minimizes capital risk, Re-20x is positioned to unlock value from resources the industry has written off.”

Path to Commercialization

With Recovery Permit submission scheduled for July 1, 2025 under Ontario's streamlined 80-day review process, Nord anticipates:

- Pilot commissioning and operational data collection in late 2025
- SGS validation report and commercial module financing in early 2026
- First commercial deployment mid-2026
- Global rollout targeting multiple operational modules

across key mining jurisdictions

Douglas Morrison, President and CEO of CEMI and Mining Advisor to MICA, [emphasized the broader implications](#): “CEMI’s role is to ensure that innovation doesn’t stop in the lab – it must progress to the mine site where it can increase productivity, reduce environmental impact and strengthen our global competitiveness.”

For Nord, that progression represents both immediate revenue opportunity and long-term technology licensing potential across a global market measured [in hundreds of billions of tonnes of stranded value](#).

Qualified person

The technical information in this news release was approved and prepared under the supervision of Mr. Frank J. Basa, B.Eng., (PEO), director of Nord Precious Metals, a qualified person in accordance with National Instrument 43-101.

About Nord Precious Metals Mining Inc.

Nord Precious Metals Mining Inc. operates the only permitted high-grade milling facility in the historic Cobalt Camp of Ontario, where the Company has established a unique position integrating high-grade silver discovery with strategic metals recovery operations. The Company’s flagship Castle property encompasses 63 sq. km of exploration ground and the past-producing Castle Mine, complemented by the Castle East discovery where drilling has delineated 7.56 million ounces of silver in [Inferred resources](#) grading an average of 8,582 g/t Ag (250.2 oz/ton) in 27,400 tonnes of material from two sections (1A and 1B) of the Castle East Robinson Zone, beginning at a vertical depth of approximately 400 meters. Note that mineral resources that are not mineral reserves and do not have demonstrated

economic viability. Please refer to the Nord Precious Metals [Press Release](#) May 27, 2020, for the resource estimate.

Nord's integrated processing strategy leverages the synergistic value of multiple metals. High-grade silver recovery supports the economics of extracting critical minerals including cobalt, nickel, and other battery metals, while the Company's proprietary Re-20x hydrometallurgical process enables production of technical-grade cobalt sulphate and nickel-manganese-cobalt (NMC) formulations. This multi-metal approach, combined with established infrastructure including TTL Laboratories and underground mine access, positions Nord to capitalize on both precious metals markets and the growing demand for battery materials.

More information is available at www.nordpreciousmetals.com.

"Frank J. Basa"

Frank J. Basa, P. Eng.

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