

Technology Introduction



RIINO Inc. is **Changing the way we mine.**™ with clean innovative haulage technology for open-pit and underground mining operations globally.



www.riino.com

MINING CHALLENGE

The mining industry is facing large-scale challenges that need to be addressed for continuous progress in mine development and mineral extraction.

Key aspects to consider:

1. Decarbonization
2. ESG (Environmental, Social, and Governance)
3. OPEX (Operating Expenses)
4. Safety
5. Environmental Footprint
6. Energy Consumption



OUR SOLUTION

Innovation is critical to the success and growth of the mining industry. Developing and integrating new technologies opens a path to solving the challenges we face.

RIINO Zero-Emission Monorail haulage provides a solution to push the boundaries in mining's continuous improvement.



1. Mining decarbonization and zero-emissions
2. Increase mine production capacity at lower costs
3. Reduce mining energy consumption
4. Reduce environmental risks and long-term liabilities
5. Improve operational safety
6. Reduce mining footprint

ANIMATED VIDEO:

[YOUTUBE.com/watch>RIINO.Zero.Emission.Monorail-InAction](https://www.youtube.com/watch>RIINO.Zero.Emission.Monorail-InAction)

TECHNOLOGY ADVANTAGES

Operational Advantages:



Application Unlimited underground and surface utilization

Installation Quick and simple with modular bolt together rail sections

Commissioning Units delivered fully commissioned to start production sooner

Roadway Travel No dust
No road maintenance
Low operating noise
Minimal footprint

Weather Conditions No productivity delay in rain, snow, wind or dust

Automated Highly efficient and safe for simple and complex operations

Modular Design All rail sections and drive units are reusable and configured to each customer application

System Safeguard Full attachment to the rails = Zero Derailments

TECHNOLOGY ENDORSEMENT

Various mining industry organizations have recognized the benefits of the RIINO system and support net-zero initiatives provided to the mining industry.

Technology Co-development:



ReThink Mining - Canadian Mining Innovation Council (CMIC)
Website: <https://www.rethinkmining.org/>

CMIC Consortium collaboration and co-development of the full-scale RIINO pilot system is supported by;



RioTinto



Technology Endorsement:



Mining Innovation Commercialization Accelerator (MICA)
Website: <https://micanetwork.ca/>



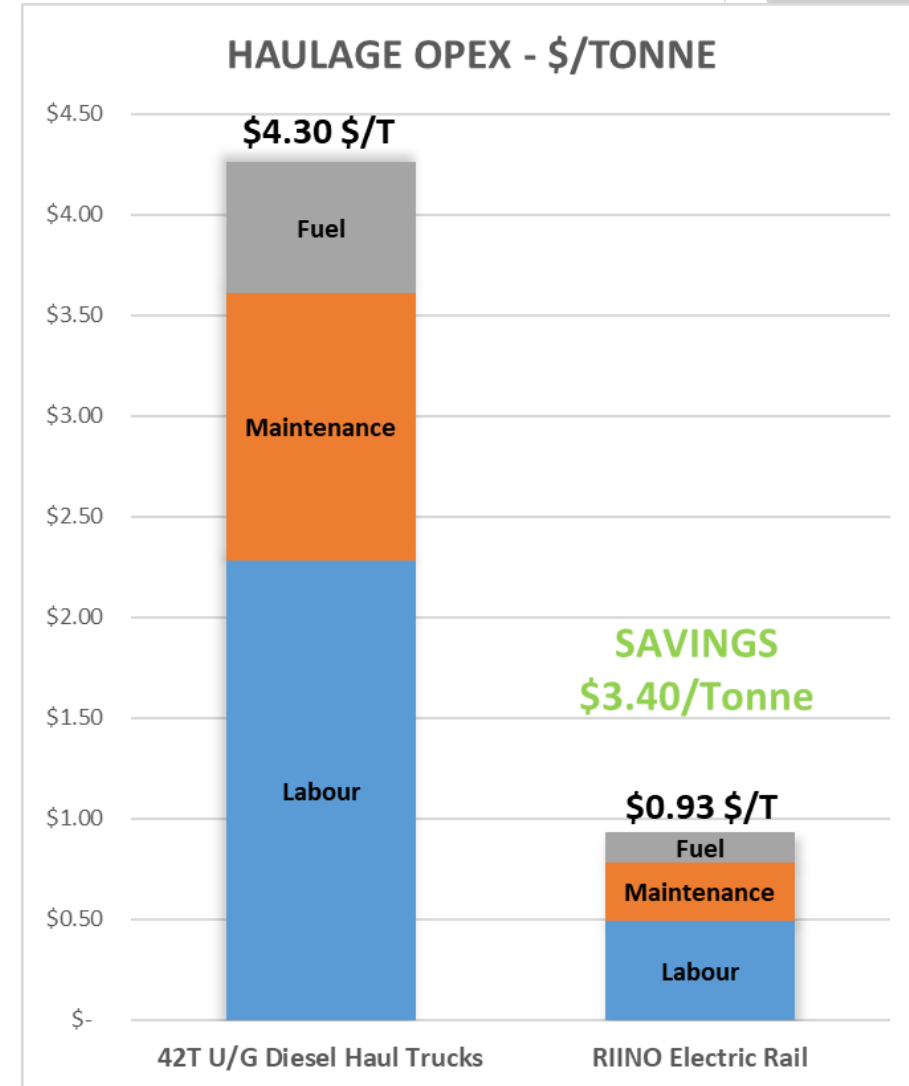
Perumin Hub
Website: <https://perumin.com/>

LOWER HAULAGE OPEX

Underground & Surface

Lowering Haulage OPEX by 50% - 90%

- Rail is the most efficient means of transportation
- Full electric and automated operation
- No road maintenance
- Low energy consumption
- Low maintenance costs
- Regenerative energy produced
- Minimal underground ventilation

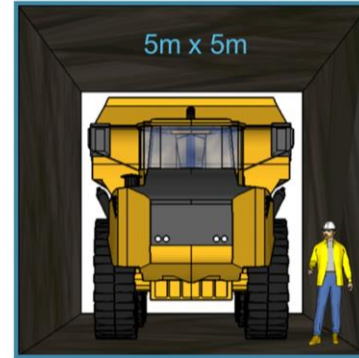


**Values are in CDN currency.

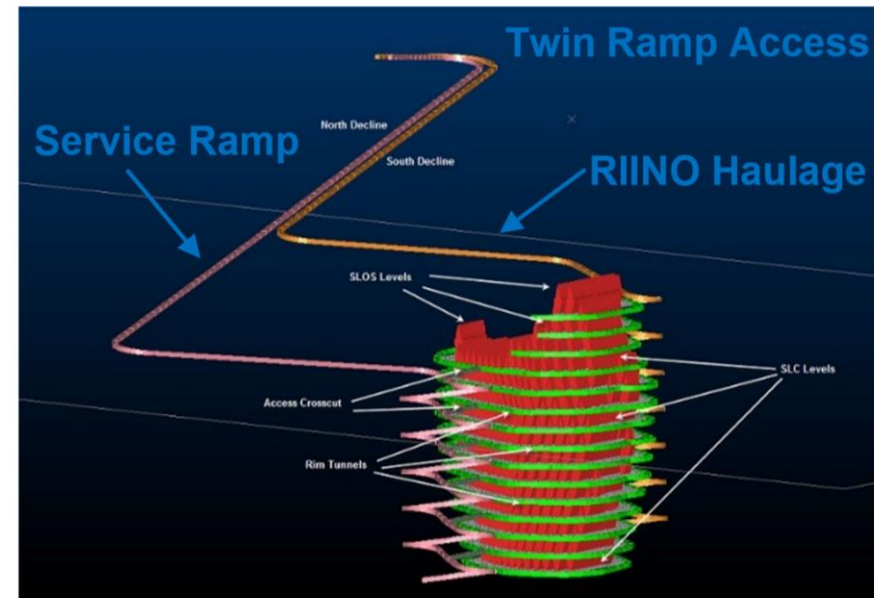
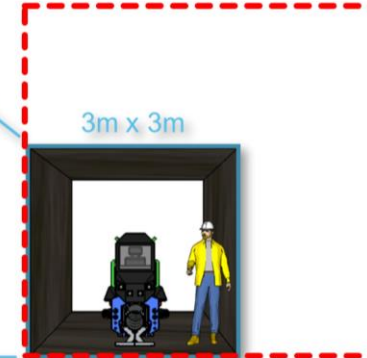
Reduce Development Excavated Tonnes and CAPEX by 60% - 70%

- No haulage trucks = Small drift profile
- Reduced development schedule
- Faster development cycle times
- Earlier ore production
- Less ground support
- Less ventilation
- Less overall electrical consumption
- Minimal ore & waste rock rehandling

Conventional Tunnel: ~25m²

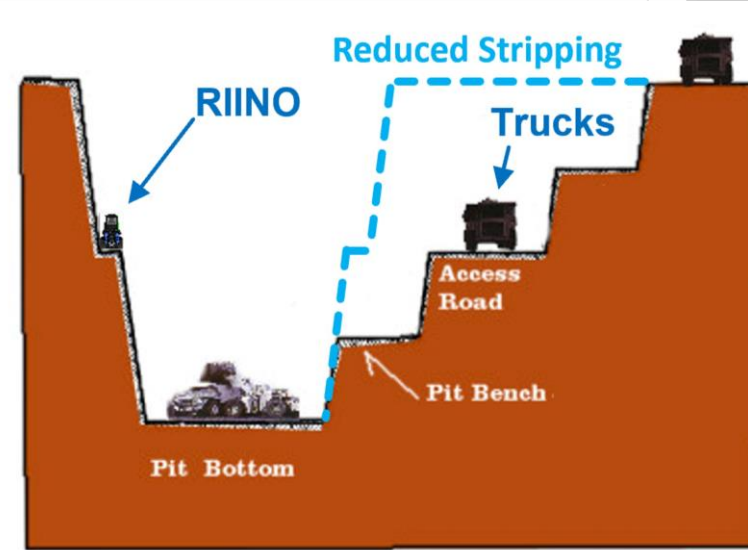


RIINO's Tunnel: ~9m²



Reduced Access Road Widths and Overburden Stripping by 60% - 70%

- No haulage trucks = Reduced haul road widths
- 2m (6.5') wide operating footprint
- Steep ramp travel of >30% grades
- Less overburden stripping ratios
- Fully automated and continuous material handling
- Improved road safety with dedicated rail transportation
- No weather operating delays



Application Details:

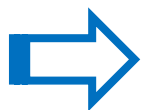
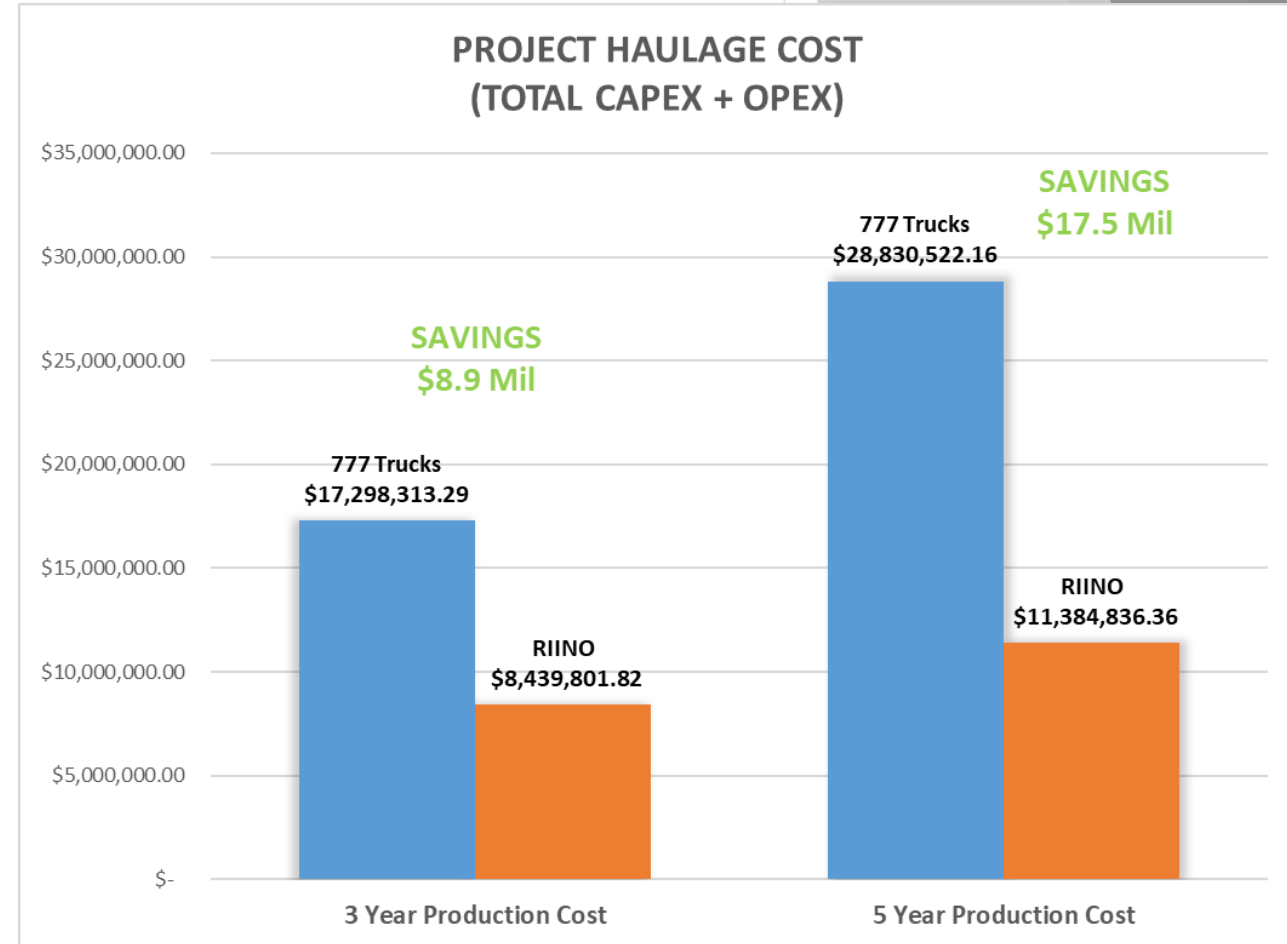
- Surface Haulage **Open Pit Crushing to Mill Stockpile**
- Haulage Distance **1.0 km**
- Production Tonnes **4000 TPD (Tonnes per Day)**
- Production Rate **550 TPH (Tonnes Per Hour)**
- Road Grade **Flat (0% Grade)**

Equipment Comparison:

- 777 Haul Trucks - 100T (2 Units)
- RIINO Monorail - 60T (1 Unit)

Costs:

- 777 Haul Trucks **CAPEX \$0 (Owned) OPEX \$1.50/Tonne**
- RIINO Monorail **CAPEX \$4.0M OPEX \$0.38/Tonne**



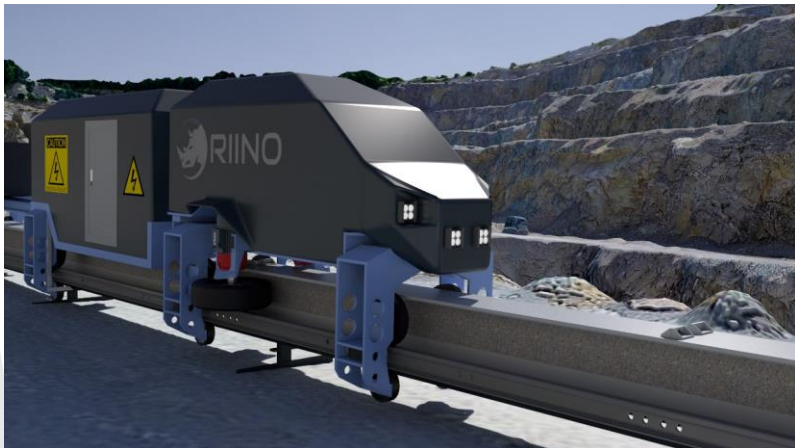
Result: \$17.5M Production savings over 5 years

The costs represented are common values with operational figures that will fluctuate according to site-specific variables. RIINO haulage savings are unique to each application and are validated through engineering design and operational review. Values are in CDN currency

TECHNICAL SPECIFICATIONS

RIINO Tech Specs:

Payload Capacity	400 Tonnes (0% Grade) / 120 Tonnes (18% Grade)
Travel Speeds	80 KPH (0% Grade) / 10KPH (18% Grade)
Ambient Operating Temperature	-30 °C to +40 °C
Power Supply	750 VDC Busbar
Road Width Required	1.8m (6.0')
Minimum Turn Radius	7.6m (25.0')
Lump Size of Transported Material	760mm (30") Minus



Our team combines experience across various backgrounds to support the overall technology development and integration into the mining industry operations.



Aaron Lambert
Chief Executive Officer, Founder

Combining extensive mining operation and technology experience, Aaron has applied this knowledge to create and lead the development of the RIINO system from concept to commercialization.



Curtis Reay
Chief Operating Officer

As a professional with over 17 years of experience in the field of innovation development and deployment within the mining industry, Curtis has demonstrated the ability to transform innovative concepts into practical solutions, significantly contributing to the success of various material haulage projects internationally.



Richard Halka, CPA CA
Chief Financial Officer

Richard has spent his career working internationally, leading a variety of public and private companies through periods of strategic realignment, financial restructuring, and organizational change. His focus has always been on driving value through profitable growth, control of costs, and restructuring the balance sheet to deliver superior financial results.



Mike Mayhew
BEV & Green Mining Advisor

As the founding partner of "Mayhew Performance Ltd.", Mike specializes in Battery Electric Vehicle Technology and is leading the industry into sustainable mining through Green Engineering.



Patrick Fantin, P. Eng
Engineering Advisor

As President of "BESTECH" Engineering, Pat offers years of expertise in engineering management, organizational leadership, and innovative technology development to guide RIINOs' structuring and design processes.



Michael Van Der Hooft
**Mining Operations & Technology
Integration Advisor**

Mike brings 40+ years of mining operational experience with successful projects which include innovative mining technologies and underground rapid development initiatives.

DESIGN YOUR SYSTEM

RIINO Inc. carefully evaluates every application to determine the system requirements that will maximize cost savings and improve your specific haulage operation.

- Engineering design studies
- Workshop discussions
- Site visit reviews
- Cost and performance comparative analysis
- Construction methodologies
- Project budgeting and scheduling

Contact our group here >>> [Email RIINO](#)

CONTACT



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