

***Data Riders Consulting***

*Shaping a Sustainable  
Future in Mining*

# Company Presentation





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Data Riders Consulting focuses on excellence in the management of critical assets and the implementation of international best practices in the mining sector.

Specializing in management consulting, it focuses on the implementation and verification of global mining standards, such as:

## **GISTM Global Ind. Standard on Tailings Management TSM Towards Sustainable Mining The Copper Mark.**

The company supports the industry in the transition towards safer, more efficient, and sustainable operations, with solid experience in delivering practical and effective solutions for its clients.

### **Specialized technical consultancy services**


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 Implementation of dam and tailings management systems

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 Gap analysis in compliance with GISTM

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 Specialized consulting in management systems and compliance, focusing on the application of global standards and audits (TSM and The Copper Mark)

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 Organizational structuring to optimize processes and strengthen Governance

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 Development and review of regulatory documents and technical procedures focused on tailings, water, and HSS (Health, Safety, and Environment)

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 Change management and knowledge management methodologies to ensure the adoption of best practices

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## Certified Verifier



**TOWARDS  
SUSTAINABLE  
MINING**

## Certified Assessor



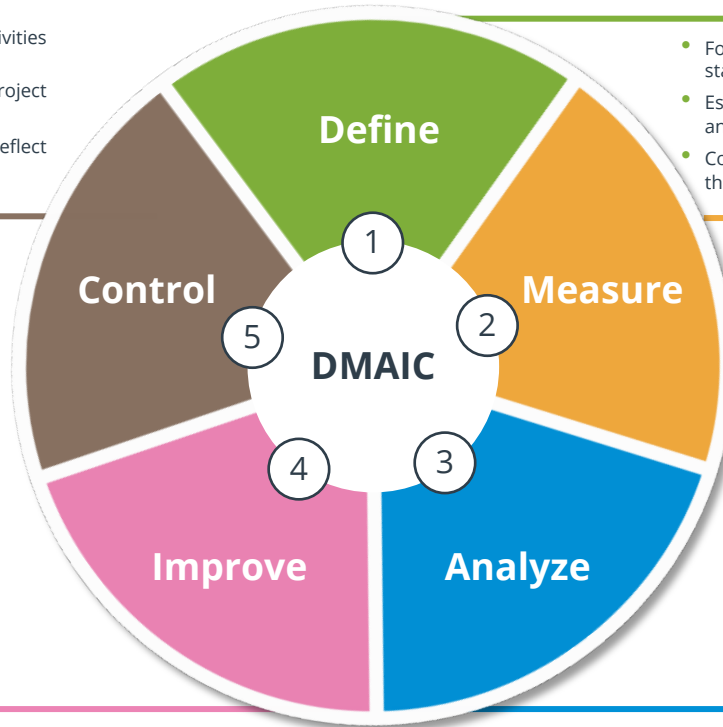
**RESPONSIBLY  
PRODUCED  
COPPER**

# Integrated scope to support the compliance process with international best practices

## Framework DMAIC (*Define, Measure, Analyze, Improve, Control*)

- Perform project management and control activities through the PMO (Project Management Office).
- Keep the Gap Analysis Report updated as the project progresses.
- Continuously update the Gap Closure Plan to reflect changes and progress made.

- Root cause analysis of the gaps from the perspective of Engineering, Processes and People, followed by a benchmarking study of international best practices, and identification of countermeasures and objectives to remedy the identified gaps.
- Conducting workshops to define and validate countermeasures, objectives, and required actions, including responsibilities and duration. Use GUT Analysis to prioritize actions and group interrelated actions into macro activities, culminating in the definition and validation of the Gap Closing Roadmap with leadership.
- Preparation and presentation of the Gap Closure Plan, followed by its implementation, in addition to supporting change management through communications, training and continuous improvement initiatives.



- Formation of the work team and identification of stakeholders.
- Establishment of the follow-up routine based on the 5Ps and creation of compliance control spreadsheets.
- Conducting the Kick-off meeting with initial presentation of the scope.

- Request and take receipt of documentation on governance and management model.
- Request and receipt of documentation related to the site and structures.
- Conduct technical visits for on-site evaluation.
- Analysis of documentation to identify needs for additional interviews, surveys, and requests, followed by conducting these activities as needed.
- Execution of the Gap Assessment focusing on Engineering, Processes and People, categorizing the findings as: Meets, Partially Meets or Does Not Meet.
- Conducting a workshop to validate the Gap Analysis with the project team and key stakeholders, and reviewing and validating the final version of the Gap Analysis Report.

# TSM (Towards Sustainable Mining) Performance Rating System

In numbers: 8 topics, 30 performance indicators, and 428 evaluation items

The goal is for each facility to reach at least level A.

Level	Criteria
AAA	Excellence and leadership.
AA	Systems and processes are integrated into management decisions and business functions.
A	Good practice. Systems and processes are developed and implemented.
B	Procedures exist, but they are not fully consistent or documented. Systems and processes are planned and being developed.
C	No system is in place. Activities tend to be reactive. Procedures may exist, but they are not integrated into policies and management systems.

Note: Topics 3, Crisis Management and Communication Planning and 4, Prevention of Child Labour and Forced Labour use a different method of binary assessment: YES and NO.



		TSM Performance Indicators	Ev.
Communities and People	1	Indigenous and Community Relations	91
	1.1	Identification of the Community of Interest (COI)	11
	1.2	Effective Engagement with the COI and Dialogue	24
	1.3	Effective Engagement with Indigenous People and Dialogue	18
	1.4	Benefits and Community Impact Management	27
	1.5	COI Response Mechanism	11
	2	Health & Safety	83
	2.1	Commitment and Accountability	15
	2.2	Planning and Implementation	19
	2.3	Training, Behavior, and Culture	20
	2.4	Reporting & Monitoring	17
	2.5	Performance	12
	3	Crisis Management and Communication Planning	39
	3.1	Crisis management and communication agility	24
	3.2	Revision	10
3.3	Training	5	
4	Prevention of Child Labor and Forced Labor	5	
4.1	Prevention of Forced Labor	3	
4.2	Prevention of Child Labor	2	
Environment and Climate Change	5	Management of Energy Use and Greenhouse Gas (GHG) Emissions	69
	5.1	Energy use and greenhouse gas (GHG) emissions management systems	29
	5.2	Reporting systems for energy use and greenhouse gas (GHG) emissions	24
	5.3	Energy performance and greenhouse gas (GHG) emissions targets	16
	6	Biodiversity Management and Conservation	38
	6.1	Corporate commitment to biodiversity conservation, accountability and communication	7
	6.2	Biodiversity conservation planning in installation and implementation	26
	6.3	Biodiversity Conservation Reports	5
	7	Tailings Management	47
	7.1	Tailings Management Policy and Commitment	12
	7.2	Tailings Management and Emergency Preparedness System	12
	7.3	Accountability and Responsibility for Tailings Management	10
	7.4	Annual Review of Tailings Management	8
	7.5	Operation, Maintenance and Control Manual	5
	8	Water Management	56
8.1	Water Governance	15	
8.2	Operational Water Management	22	
8.3	Watershed Scale Planning	11	
8.4	Water Performance & Reporting	8	

\* Ev. It is the number of evaluation items required to rank each Performance Indicator.



# TSM Classification Process

## References, Steps, and Outputs of the TSM Performance Rating Process

### Global standards, international best practice guides, and assessment protocols

#### TSM - Towards Sustainable Mining:

- TSM 101: A Primer
- TSM: Responsible Sourcing Alignment Supplement
- TSM Verification Guide

#### IBRAM - Towards Sustainable Mining:

1. Protocol for the relationship with communities, Indigenous, quilombola and traditional peoples
2. Health & Safety Protocol
3. Protocol for Crisis Management Planning and Communications
4. Protocol for the Verification of the Prevention of Child Labor and Forced or Slave Labor
5. Climate Change Protocol
6. Biodiversity Conservation Management Protocol
7. Tailings Management Protocol
8. Sustainable Water Management Protocol

### TSM Classification Steps

- 1 Preparation and Kick-off
- 2 Technical Visit
- 3 Interviews
- 4 Document Analysis
- 5 Evaluation, Rating and Recommendation
- 6 Verification & Reporting
- 7 Validation and Endorsement
- 8 ICMM Alignment Supplement
- 9 Control and Continuous Improvement

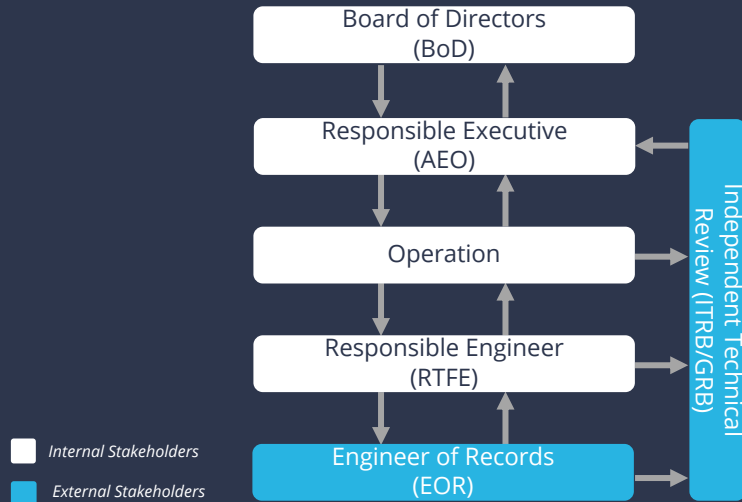


### TSM Performance Rating

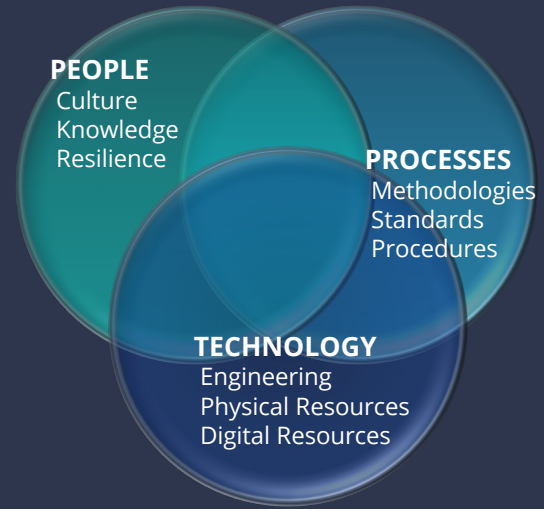
- 8 Topics
- 30 Performance Indicators
- 428 Ratings
- Observations and Recommendations
- Reference Documentation
- Technical Support
- ICMM Supplement
- Ongoing technical support

Proper management of geotechnical assets is critical to ensuring the safety, efficiency, and continuity of operations in sectors such as mining. This management is underpinned by a robust organizational structure and effective lines of communication.

The organizational structure for the management of tailings and geotechnical assets is outlined by key roles that perform important complementary functions



Excellence in management through our integrated approach from the perspective of People, Processes and Technology





# Implementation, participation and support in the processes and mechanisms of review of geotechnical structures and mining tailings dams



## Independent Review

Objective and impartial analysis of the various aspects related to the structures, including the characterization of the site, engineering models, and the intention of the project, assumptions and criteria adopted. This review is crucial to ensure that the project is executed in accordance with the necessary safety and efficacy standards.



## Operational Assessment

Conducted to review the operating procedures in place, including the tailings transportation and disposal plan, water management, and risk assessment and management. Through these assessments, it is possible to identify potential failure modes and implement corrective measures to ensure the safe operation of the dam.



## TMS (Tailings Management System) Review

The TMS review involves analyzing the corporate tailings management policy, functional and organizational structure, lines of communication, and the effectiveness of the response in case of emergencies. It is a crucial mechanism to ensure that tailings management is carried out effectively and safely.



## Audit

An audit is a formal, systematic, and documented assessment of a tailings facility's compliance with explicit, agreed, and prescribed criteria. It includes the review of legal requirements, operator policies and commitments, applicable standards and performance expectations.



## Dam Safety Review

This review aims to provide a statement on the safety of the facility, including the assessment of technical, operational, and governance aspects. The goal is to ensure that the dam meets the design intent and applicable safety criteria, without posing unacceptable risks.



# Evaluation of alternatives and multicriteria analysis of Tailings Storage Facilities

Established methodology, in accordance with global standards and international best practices

## Standards, good practice guides, Normative and regulatory documents

### ICMM - International Council on Mining and Metals:

- Tailings Management: Good Practice Guide
- Global Industry Standard on Tailings Management: Conformance Protocols
- Tailings Reduction Roadmap

### TSM - Towards Sustainable Mining:

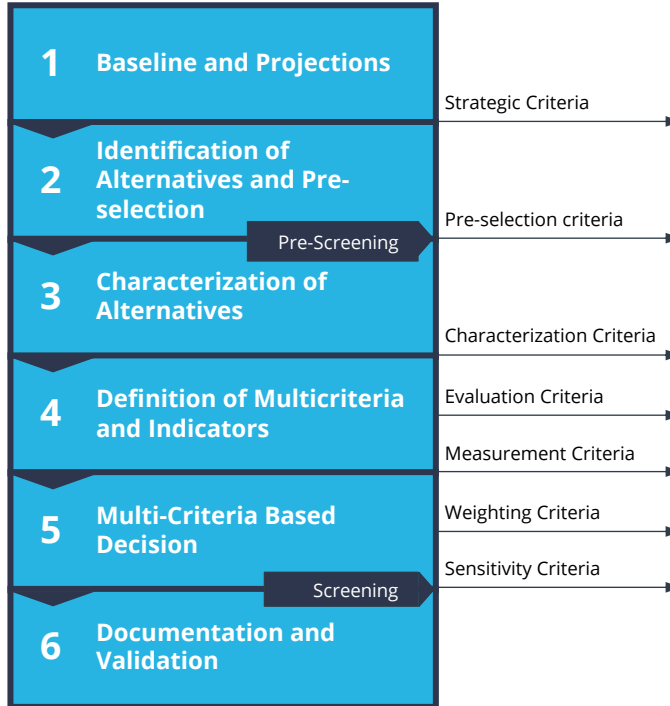
- Tailings Guide Implementation Checklist
- A Guide to the Management of Tailings Facilities

### Mining and Processing Division, Environment Canada:

- Guidelines for the Assessment of Alternatives for Mine Waste Disposal

### ANM Laws, Standards and Resolutions

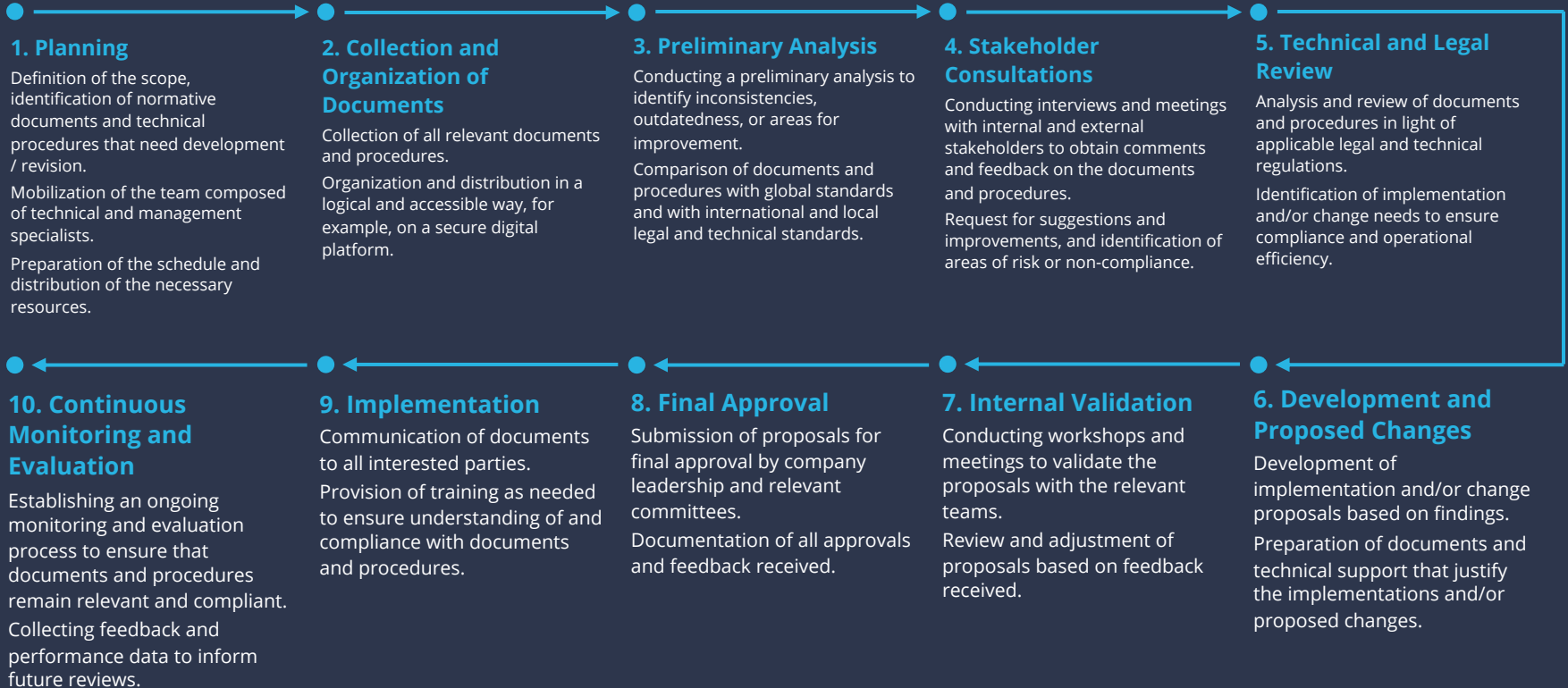
## Development Steps: Multicriteria Decision Analysis



## Evaluation of Alternatives and Multicriteria Analysis of Tailings Storage Facilities

# Development and review of normative documents, technical and management procedures

## 10 steps in the development and review process



Our international consultants bring together years of accumulated expertise in areas such as Mining, Energy, Logistics and Technology, coming from different regions of the world.



With global experience, we offer complementary expertise in:

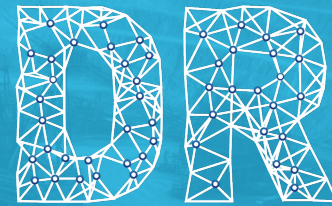
- Geotechnical engineering and tailings management
- Governance structures and management systems
- Change management and stakeholder engagement
- Artificial intelligence and emerging technological innovations

We actively contribute to global mining standards, with renowned publications in geotechnics, hydrogeology, governance, technology, and other initiatives.

# Thank you.

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