



Artificial Intelligence Working Group Meeting

August 9, 2023



Agenda

- Welcome and Safety Share
- GMG Working Groups Introduction
- Artificial Intelligence Working Group Overview, Rob Johnston, CITIC Pacific Mining
- Open Data Sets – Next Steps, Allyson Stoll, Stream Systems
- Fireside Chat on Data Visualization, Doug Bester, Sentient Computing
- Discussion – Applications of data and further projects

ANTITRUST COMPLIANCE



DO's



- Prepare and circulate written agendas for all GMG Annual, Board, and committee meetings, and any other meetings that may entail roundtable discussions among competitors. Conduct all such meetings pursuant to the previously prepared written agendas, and prepare clear, concise, accurate, and unambiguous written minutes of each such meeting.
- Avoid all loose, facetious, or careless remarks, especially those in writing, that could be misconstrued as posing antitrust problems if read out of context.
- Review all matters of potential antitrust sensitivity with the GMG CEO or other designated staff person. Such matters would include, for example, any proposed discussion of prices, limitation or allocation of production, division or allocation of markets or customers, and boycotts or refusals to deal with prospective customers. When in doubt or when otherwise appropriate, GMG staff will review such matters with legal counsel.



DO NOT's



- Engage in any discussions with or among any competitors, regarding prices, costs, sales, margins, plans, schedules, bids, transportation rates, terms of sale, or any marketing or competitive information that could affect pricing.
- Engage in any discussions with or among competitors which relate to customers, sales territories, production, capacity, amount of reserves, output, or any other information relating to production or output.
- Exchange or discuss any other confidential statistical or financial information of any company.
- Discuss the advantages, desirability, or possibility of eliminating or impairing any competition, whether existing or potential, foreign or domestic.
- Assume that foreign sales or production are not subject to your country's antitrust laws.
- Guess. When in doubt, get help-consult with GMG staff / representative and legal counsel.



BE FRIENDLY AND PATIENT

BE RESPECTFUL

**WHEN WE DISAGREE, TRY
TO UNDERSTAND WHY**

**BE CAREFUL IN THE
WORDS THAT YOU
CHOOSE**

BE WELCOMING

BE CONSIDERATE

**A SIMPLE APOLOGY CAN
GO A LONG WAY**

**MODERATE YOUR
EXPECTATIONS**



CODE OF CONDUCT

**DO NOT INSULT OR PUT DOWN OTHER COMMUNITY MEMBERS
(INDIVIDUALS AND COMPANIES)**

Safety Share



WHO WE ARE

We are a global, multi-stakeholder network of “doers” in the mining industry who openly discuss challenges and opportunities and collaborate on solutions and the materials to support their implementation.

We achieve this by collecting industry knowledge and making it available in a structured way.

PURPOSE

Working together to be a catalyst for the operationalization of innovation in the global mining industry to improve the safety, sustainability and productivity of our mines.



VALUES

Inclusivity Accessibility
Collaboration Integrity
Encouragement

CRITICAL FOCUSES

Common language and processes and good operational practices

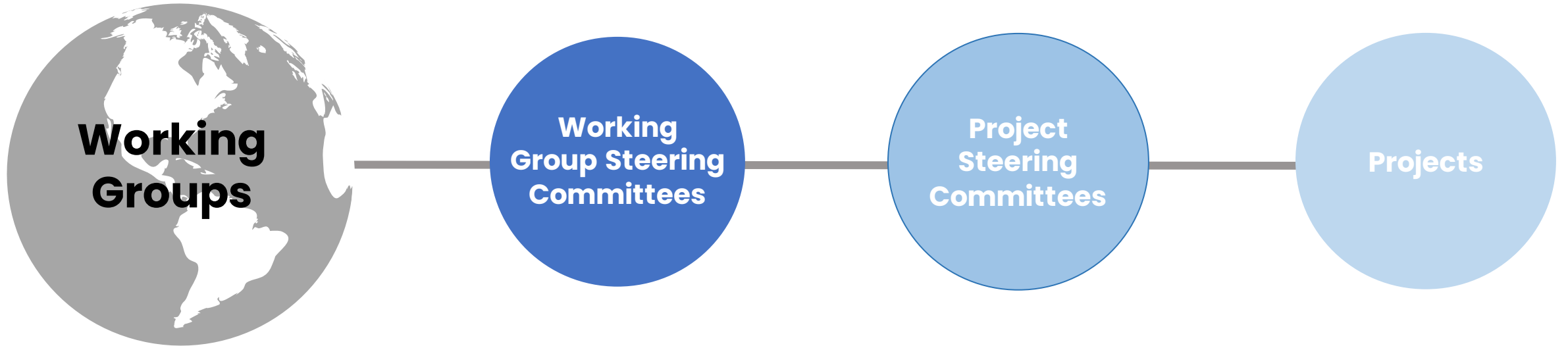
Data integration, interoperability and management

Enabling innovation and technology advancement

Decarbonization and ESG

Safety, culture and skills

THE CORE OF OUR COMMUNITY



Working Groups

Working Group Steering Committees

Project Steering Committees

Projects

Working Groups

Communities of interest focused on mining industry topics or fields, formed based on what the industry identifies as priority areas. The Working Groups launch and oversee projects.

Who can join? Anyone!

Working Group Steering Committees

Steer a working group, launching projects that will result in valuable and relevant guidance documents.

Who can join? Leaders at GMG member companies

Project Steering Committees

Govern a project, ensuring the timely delivery of a high quality, relevant guideline, white paper, etc.

Who can join? Subject matter experts at GMG member companies

Projects

Focused efforts that produce tangible guidance for the benefit of the global mining community.

Who can join? Subject matter experts

WORKING GROUPS

GMG's Working Groups represent major fields related to the mining industry aimed at addressing the industry's most pressing issues and challenges.

The purpose of Working Groups is to create communities of interest based on industry need for collaboration to advance innovation, provide guidance, and share best practices.

Artificial
Intelligence

Asset
Management

Autonomous
Mining

Cybersecurity

Data &
Interoperability

The Electric
Mine

Mineral
Processing

Sustainability

Underground
Mining

Artificial Intelligence Working Group

Expanding the scope to Artificial Intelligence
and Applications of Data Working Group

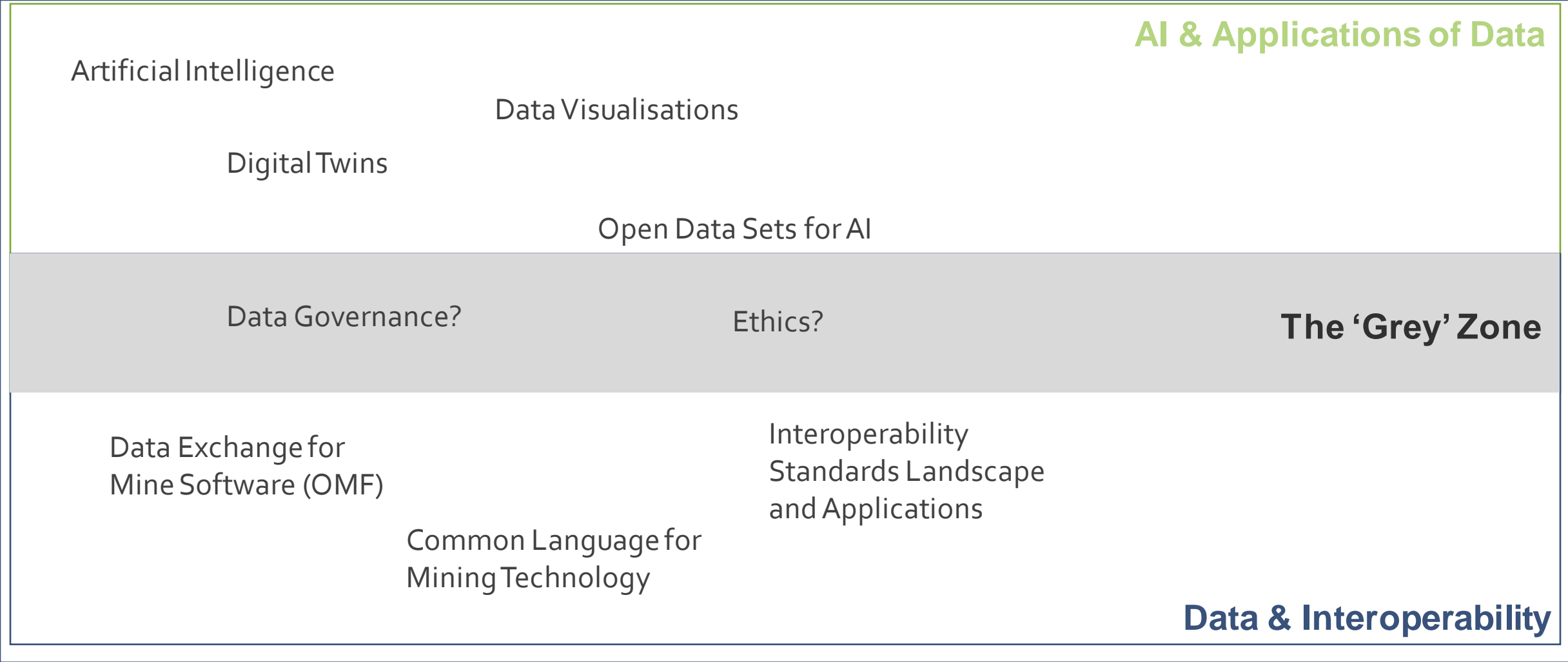
Initial: Artificial Intelligence Working Group

The Artificial Intelligence Working Group aims to facilitate a greater understanding of AI and its applications in mining to enable companies to adopt AI solutions safely and effectively. It also aims to identify the current challenges within the industry, challenges associated with AI in mining operations, and define long-term collaborative and innovative solutions in a rapidly advancing technological landscape.

New: AI and Applications of Data Working Group

The AI and Applications of Data Working Group aims to facilitate a greater understanding of the applications of data in mining to enable companies to adopt data-centric solutions safely and effectively. The scope includes Artificial Intelligence & Machine Learning, Digital Twins, Simulation and Data Visualization. The Working Group also aims to identify the current challenges within the industry, challenges associated with AI and data applications in mining operations and define long-term collaborative and innovative solutions in a rapidly advancing technological landscape.

Relationship between the AI and Applications of Data WG and the Data and Interoperability WG



Areas of Focus

To be revisited following the expansion of scope

Industry Education and Alignment

Industry alignment and education that is widely accepted and understood by all stakeholders of the technology (from OEMs to operators) is key to understanding and enabling the full benefits of AI.

Readiness – Strategy, Building Business Cases, Etc.

One of the most important strategy pieces needed to successfully have AI technology implemented into an operation is to get executive buy-in. With the development of a strategic business case outlining the endpoint and goal of the technology, executive buy-in can be met along with strategic planning to ensure readiness.

Technical Knowledge – Implementation and Operation Knowledge

There is a global shortage of AI specialists who can use and operate the equipment. Because AI can be new to operators, if there's insufficient change management and training, the technology might be neglected or turned off. Training courses, plans, and upskilling programs are all tools that could help with this challenge.

Current Activities

Industry Education and Alignment

Technical Knowledge – Implementation and
Operation Knowledge

Regular Webinars – upcoming:

- **Insights on the Legal Aspects of Data**, Robert Munro, Managing Associate, Allens
- **Swiping Through Dating Disaster and AI Heartbreak: The Start of a Love Story**, Rasmus Tammia, Program Manager – Artificial Intelligence in Mining, Boliden Mines Technology

Data Sets

Publications

Open Data Sets for AI in Mining
April 2022

Foundations of AI: A Framework for AI in Mining
October 2019

Open Data Sets – Next Steps

Guideline for Sharing Open Data Sets in Mining

Published in April 2022

- provides mining industry stakeholders with best practices for data sharing so that they can benefit from the opportunities that open data can offer
- leverages and references existing work on data sharing
- provides additional context for mining settings
- covers key management and implementation considerations

Open Data Sets – Next Steps

Potential next steps:

- Survey to gauge pro/con reasons to increase participation in sharing open data sets
- Addition of historical data sets used for university research publications (such as theses and journal papers)
- Workshops regarding data preparation: historical data from decommissioned sites, data anonymization, and generation of synthetic data
- Gauge interest with companies who have participated in hackathon challenges to co-list their data sets with GMG
- Discuss with hackathon providers for potential partnerships for co-listing data sets

GMG



Get involved!

info@gmgroup.org