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# **IMCET 1-DAY WORKSHOP**

# OPTIMISATION OF RISK OPPORTUNITIES TO EFFECTIVELY MANAGE MINING HAZARDS & RISKS

**16<sup>th</sup> April 2019** 

## **GULDIDAR KIZIL**

### Dr. Guldidar Kızıl BEng PhD

#### **Operational Efficiency & Sustainable Business Growth**

In today's fast changing and dynamically evolving mining industry, the integration of a 'risk-aware' decision-making approach, at a holistic level, is key to achieve sustainable business growth and ensure for continual improvement and advancement of workplace health and safety, and environmental management systems.

Furthermore, to keep up with the pace of technological advancements occurring in the mining industry, identification, evaluation, selection and implementation of the 'optimal suite of risk management strategies' is critical. These processes, when successfully applied, can lead to a step change in major/principal hazard management, risk assessments, accident/incident investigations, auditing, competency training, change management (involving new/modified equipment, new projects, etc.), and, in general, can assist with establishing operational risk management efficiency throughout the life cycle of mining operations.



Figure 1. Illustration of 4-layer leading practice risk management process applied in the mining industry.

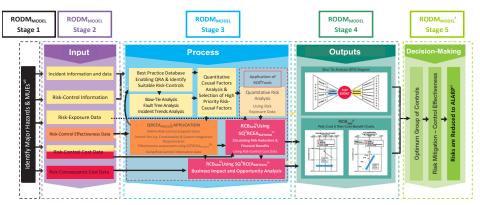


Figure 2. RODM<sub>MODEL</sub> - The Risk Optimisation Decision-Making Model's strength is that the model assists with the identification of business risk opportunities for sustainable and efficient business growth.

Time	Theme	Presenter
		Kizil
	<ol> <li>Overview of why/how serious accidents/incidents occur in the mining industry;</li> <li>Review of fundamental risk management principles, processes and practices, and international standards</li> <li>Introduction of mining legislative framework, applied in Australia, for the management of major/principal hazards, the control and management of risks, competency training and inspections;</li> <li>Presentation of key models, methodologies, processes and tools applied for effective enterprise, operational and task/activity risk management;</li> <li>Examination of safety maturity models used in the mining industry;</li> <li>Effective identification, assessment and management of major unwanted events (MUEs) across a mine site or for a specific application;</li> <li>Introduction of the leading practice operational risk management process, applied to the Aust ralian and global mining industry (see Figure 1), and demonstration of its successful application to the management of electrical hazards at an underground coal mine site in New South Wales, Australia;</li> <li>Identification of key risk opportunities to improve workplace health and safety and strengthen operational efficiency;</li> <li>A road-map for the application of a cutting-edge risk management model, Risk Optimisation Decision-Making Model (RODMMODEL) (see Figure 2), that is designed to proactively identify and analyse operational and emerging hazards/risks, and assist and support the decision-makers to achieve compliance efficiency;</li> <li>Determination of 'a suite of optimal group of risk-control measures' to effectively manage major hazards and their associated risks. This process involves risk-cost-benefit (RCB) analysis of su itable risk management strategies (using unique RCBGEN- RCB generator), and the application of an innovative risk-control effectiveness estimation technique, (e.g. SQRCEMETHOD);</li> </ol>	
	<b>11.</b> Demonstration of practical applications of the above mentioned risk a management processes, models, tools and strategies to real-life problems such as heavy vehicle-heavy vehicle collisions at open-cut coal mines, hea with personnel/vehicles/infrastructure at underground mines, gas outbur surface subsidence; and	s, site-based case studies, vy vehicle interaction
	12. Professional networking and open discussion opportunities.	



Highwall failure & loose material on highwall



The results of haul truck driver falling asleep at the wheel



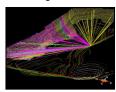
Truck-light vehicle collision due to blind spot



Neglected signs are ineffective



Impact of subsidence to road networks











#### Workshop benefits:

At the end of the workshop, participants will be able to evaluate the risk management framework that exists in their mining operations:

- What are my major hazards and the associated risk factors?
- Where can I find the causes of these factors?
- Why did these specific accidents/incidents occur?
- How can I mitigate these risks at my own operation effectively?
- How can I identify 'optimal group of risk management strategies'?
- How can I ensure and maintain the continual effectiveness of selected risk-control measures?

The participants will be equipped with practical risk management and risk assessment tools and, innovative approaches and techniques to apply at their workplace (if/where necessary) to support the advancement of their operations' workplace safety, health and environmental management systems.

#### Who will benefit?

This workshop is designed to assist mining/safety, health and environment/risk professionals, including health and safety managers, mine managers, engineers, inspectors, key decision-makers, business development/technical services personnel, internal and external auditors, trainers, as well as the manufacturers and suppliers of mining equipment and risk-control strategies/technologies.

#### **About the Presenter**

Gul is an enthusiastic and energetic risk specialist and mining engineer with strong interpersonal skills and a positive outlook on problem solving. Gul has over 20 years of practical experience in the effective application of commonly known and advanced risk management methodologies, models, strategies, tools and processes, at both corporate and site level, to support organisations to achieve their workplace health and safety performance goals and strategic business objectives. Gul has been instrumental in the development and implementation of series of global risk-based decision support systems to facilitate objective decision making processes and optimise risk opportunities.

#### **REGISTRATION FEES**

Free For Delegates
For Daily Participant with Accommodation 250 €
For Daily Participant without Accommodation 150 €

Participation is limited to quota.

Please contact imcet@maden.org.tr for register