

Training Methodologies Applicable for Mining Modernization

by

Mafiwa Ramalebana



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



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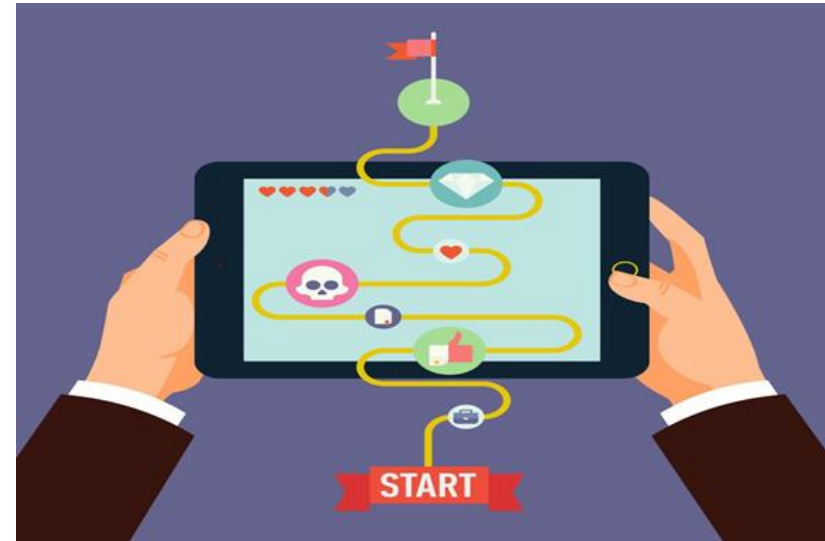
MANDALA MINING PRECINCT
MINDS FOR MINES



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INTRODUCTION

- Background and problem statement
- Aim and objective
- Limitations and ethical considerations





RESEARCH QUESTIONS

- What are the various modern training methodologies that are applicable to mining modernisation?
- How can modern training methodologies be applied in SA mining training?
- What are the advantages of using modern training methodologies in the mining sector?
- What are the challenges that mining companies experience when adopting modern training methodologies?

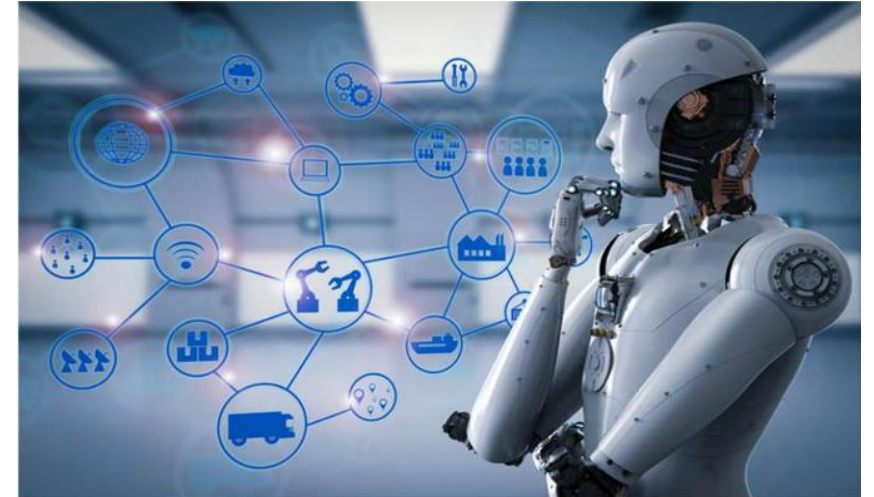




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METHODOLOGY

- A qualitative research method
- Desktop research
- Case study
- Literature review.

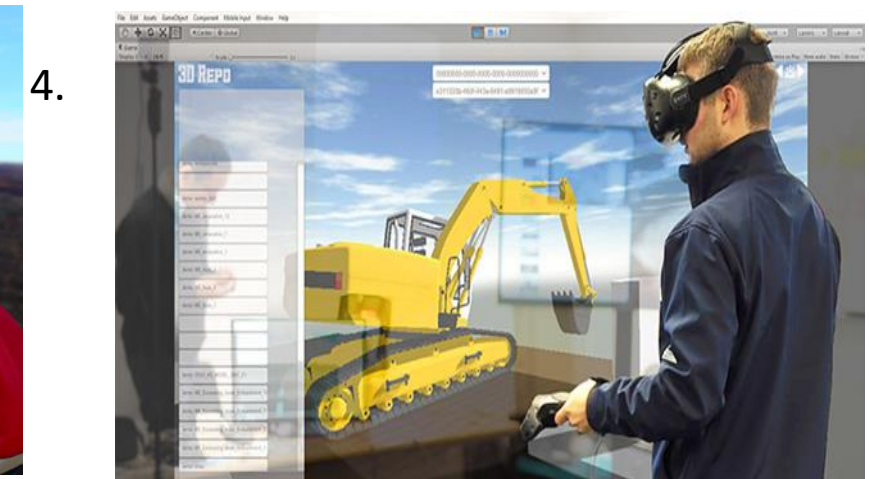




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TRAINING METHODOLOGIES

- Game-based training
- Drones
- VR Training
- AR Training
- Simulators
- On-job Training





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TRAINING METHODOLOGIES

5.



6.



7. Simulation

direct transfer

Real World



8.





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CASE STUDY: AUSTRALIA

- The Australian mining industry has achieved remarkable performance and safety results through continuous improvement of its training standards
- VR training, though costly, was proven to have played a vital role in saving large amounts of money for Australian mines.

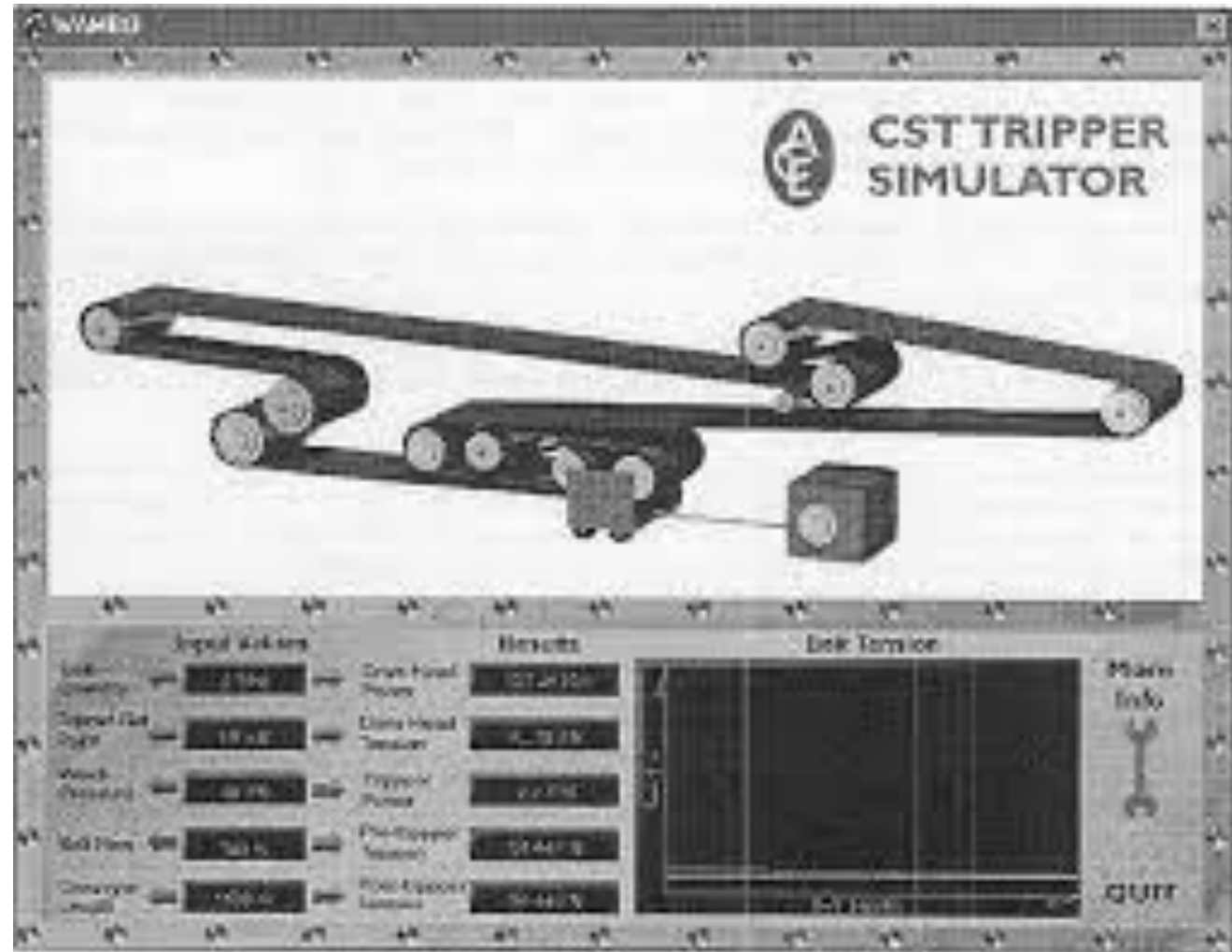




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ACE CONVEYOR SIMULATOR

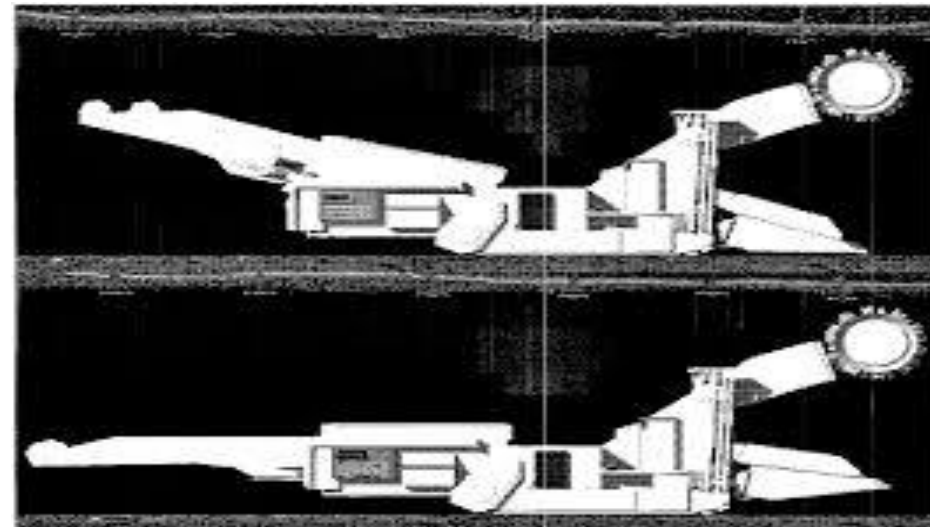
- Designed to allow mine personnel to perform “what if” simulations of the load and power applied to a conveyor system before making changes to the real-world system





JOY MINING MACHINERY 12CM12 CONTINUOUS MINER SIMULATOR

- Allows potential operators to perform all miner operations on-screen while using a multimedia training program
- Displayed by a 3D-model which moves or animates to display what would happen on the actual machine.
- Timed and synchronized with the actual machine to give a true indication of the real-world activity which is being simulated.

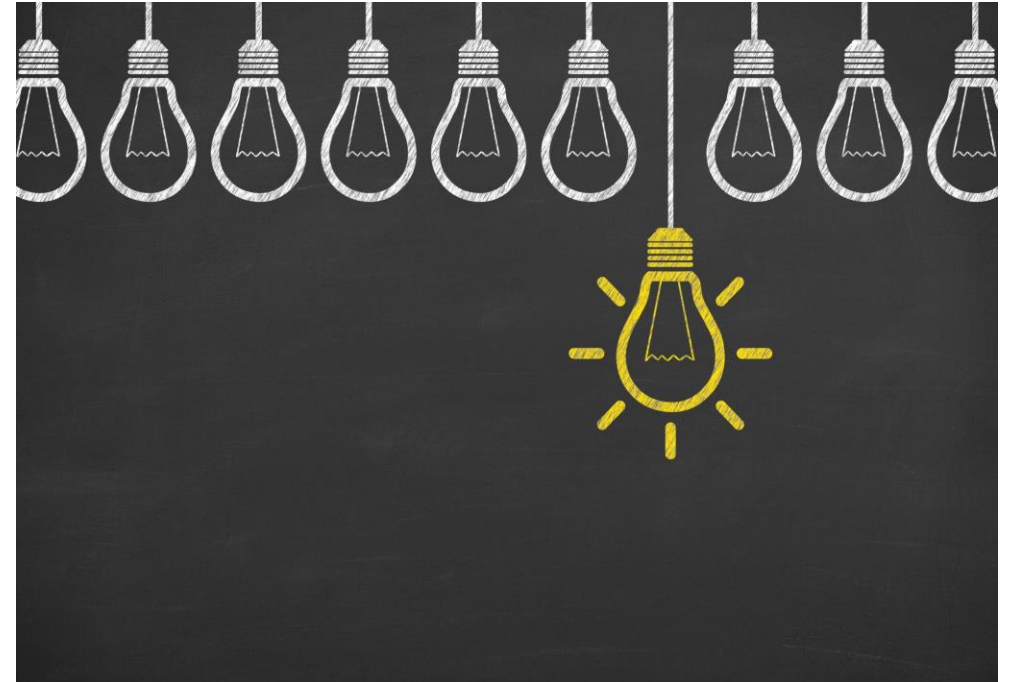




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FINDINGS & RECOMMENDATIONS

- Training is a key element in the upskilling and reskilling workers.
- Benefits: people-centric; improves quality of training programs and safety.
- Though costly, it is a worthwhile investment
- Games, VR, AR, Simulators and on-the-job training were found to be the most applicable modern training methodologies in South African and Australian mining.





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QUESTIONS/COMMENTS?

THANK YOU!

Email address: mramalebana1@csir.co.za