



Eusalt Safety Award 2019
COMPASS MINERALS

Automation of Continuous
Mining Machine

CONTEXT

- Salt Mining Operation
- Produces Rock Salt for the Highway de icing Market
- Mines the Rock using a Continuous Miner which cuts the salt from a working face
- Continuous Miner is Operated by a Worker who stands in close proximity to the Machine using a remote Control Handset



CHALLENGE/OBSTACLE

- **Having the worker in close proximity to the machine to operate causes the following Hazards –**
- The worker is at risk of being crushed by the machine as it Operates – the machine is over 100 Tonnes in weight
- When Operating the Continuous miner produces noise of between 95 and 115 Decibels – Mandatory hearing protection is required but Noise Induced Hearing Loss is a risk
- When cutting the machine produces significant amounts of dust, RPE is required but operators are at a higher risk of Respiratory disorders
- There is a risk of the Operator being struck by flying material during operation



SOLUTION TO PROBLEM

Remove Operator from Working within Proximity to the Machine.

- Software Update on cutting system so that machine can cut in Auto
- 'Teach' Machine using remote control Handset the parameters of height, Width, depth of each cut so that this can be carried out automatically
- Have Operator at safe distance during operation to keep a watching brief on machine during cutting process



TEACHING MACHINE TO OPERATE INDEPENDENTLY



OUTCOME

- Operator now stands over 20 Metres away from Machine
- Noise < 85 Decibels
- Dust Removed from area using ventilation system
- Operator out of flying Object Distance

Machine Operating in Auto
in a confined location



VOTE COMPASS MINERALS



2019

