

Problem Statement Worksheet (Hypothesis Formation)

How can Monalco Mining reduce the annual costs associated with ore crushers maintenance by 20%?

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1 Context

Monalco Mining, one of the world's leading iron ore mining companies, is facing a collapse in the market's iron ore price —\$110/ton to \$55/ton. The company is looking to reduce annual maintenance costs of ore crushers by 20%. The company provides annual maintenance, costing \$30M, to the crushers with costs expected to raise to \$45M. The crushers are also overworked, resulting in 80% of all work orders being catered to fixing, and repairing them.

2 Criteria for success

Reduce ore crusher maintenance costs by 20% by end of year 2018.

3 Scope of solution space

For ½ of the ore crushers, we are going to reduce operation to be within the limits of the equipment as specified by the OEM guide.

4 Constraints within solution space

1. Do production quotas have to be met? The reduction in ½ of the ore crushers may reduce quantity of material.
2. Crushers must maintain the maintenance schedule of once per 50,000 tons of ore processed.

5 Stakeholders to provide key insight

:Chanel Adams – Reliability Engineer, Jonas Richards – Asset Integrity Manager, Bruce Banner – Maintenance SME, Jane Steere - Principal Maintenance, Fargo Williams – Change Manager, Tara Starr - Maintenance SME

6 Key data sources

Data Historian, Ellipse, SAP, T3000 DCS, Ore Crusher System, stakeholders.

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