Monalco Mining Problem Statement [Adi Tonangi]

Summary:
Monalco Mining determined to trim their iron ore crusher maintenance expense by 20% in one year, due to pressures from markets. Our project focus is on exactly the same except by using artificial intelligence namely, data science and machine learning models which are faster and more efficient than the traditional methods

Context:
Monalco Mining (M.M)'s intention is to reduce maintenance costs of their ore crushers which amounts to $9 M in one year. The importance of this data analytics project is that we believe this is going to be short term in comparison to conventional ways of solving financial problems like this one.

Criteria for success:
The project focus is on Monalco Mining's goal. Machine Learning models between quality and maintenance costs will be created to look at possible ways to lower costs by keeping quality at high standards. We expect the benefits of these models in reducing manufacturing costs to cope up with market change. The manufacturer recommends once in three years, but M.M does every year, that period can be optimized by formularizing crusher operational data.

Scope of solution space:
We will create scalable and reliable models but we cannot guarantee all the expectations will be met. The recommendations by the engineering department along with preventive maintenance can be implemented using time saving data science and machine learning models.

Constraints within solution space:
We visualize constraints like accessing crusher process data from Monalco Mining and proper communication between us and Monaco Mining in a timely manner

Stakeholders to provide key insights:
Chris Hui: Will receive project recommendations
Bruce Banner: Maintenance SME
Tara Starr: Maintenance SME
Channel Adams: Reliability Engineer
Jonas Richards: Asset integrity Manager
Jane Steere: Principal Maintenance

Key data sources:

We require Iron ore crusher and pumps operational data, which finally, routes to us through Data Historian, Amazon Web Service for further data wrangling, modelling and final proposals to the management