Problem Statement:

What ways can Monalco Mining reduce the annual maintenance cost for its ore-crushers by 20% to increase its annual profit margins?

Context:	Decision Makers/Stakeholders:
Monalco Mining is one of the largest iron ore mining companies in the world. During a surge in iron ore prices ($110/ton), Monalco invested heavily in operation technologies, specifically ore-crushers. Since then, the prices for iron ore have dropped to half its previous value ($55/ton). At a breakeven at $50/ton Monalco Mining is now struggling to gain profit. Due to excessive wear, maintenance costs for the ore-crushers is three times as high as expected. Therefore, management is looking to cut the maintenance cost for ore-crushers by 20% to buffer further drops in iron ore prices..	- Chris Hui (IA team lead) - 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)

Success Criteria:	Constraints:
Building models that can be implemented to identify the cause of Monalco Mining's ore-crushers excessive wear and will aid in the decision making to reduce the annual maintenance cost of the equipment by 20%.	- Possible resistance from reliability engineering team - Need to maintain the Original Equipment Manufacturer (OEM) limit of one maintenance every 50,000 tons of iron ore processed
Scope of solution: The focus will be to build models that can be used to identify the cause of the excessive wear of Monalco Mining's ore-crushers.	

Data sources/Systems:

- Data Historian (includes information on amount of iron ore processed by the ore-crushers)
- Ellipse (includes old equipment work orders before upgrading to SAP)
- SAP (current information source on equipment work orders)
- T3000 DCS (sends raw streaming data of ore-crushers to Data Historian)
- Ore Crusher System (high-level process map of ore-crusher system)