**HACKATHON UWA**

**RIO TINTO x BCG X** analysis:

-Mainly about Rio utilizes FrontRunner software to enable **autonomous haul trucks** fleet to transport iron ore => roads => processing plants

**The case problem**:

1. The role of Haul Trucks at Rio Tinto

* Rio utilize FrontRunner software to enable autonomous haul truck fleets to transport iron ore to roads to plants through a complext network of roads

1. Use of Komatsu’s Front Runner Software

* FrontRunner allows remote operations pit controller to **manually draw the mine site road** network that the truck will travel

1. Difficulty of Front Runner

* **Drawing road curves, through T-intersection**s in particular, is a time-consuming task for controller
* Poorly drawn road curves can increase truck cycle time, leading to reduced productivity, increase operational cost

1. Impact in Iron Mining Operations

* Increase fuel cost, maintenance cost, reduction in productivity => billion dollars loss

-**Task**:

1. Build a model – develop a model to determine what is a good/bad curve based on dataset

2. Build optimizer – utilize data modeling techniques to optimize road curves generation at intersections

3. Build app/system could integrate with Rio’s FrontRunner System

**Focus**: Reduce high cycle time through optimal curve (curve shouldn’t be angular)