

Asset Reliability TPM Transformation Workshop

OEE increased from
80% to 85%
in 3 months - a return
of \$80M annually



TPM Workshop

The Client

Rio Tinto is a large resources company in Australia and was coming under pressure from Global competition for its product.

Maximising the assets already available and keeping costs down was a key strategy to out compete their rivals.

The Context

The mine was not hitting its production targets. The nameplate capacity bottleneck for the mine was the processing plant, but further investigation showed that the Truck Fleet had become the key constraint.

In discussion with the General Manager of the mine the **Truck Fleet Availability was identified as the key bottleneck** for the whole mine.

The Model Area

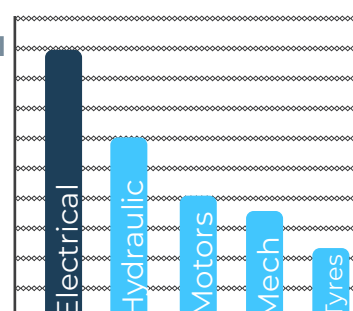
Truck Maintenance was identified as the biggest issue and was chosen as the Model Area.

Total Productive Maintenance (TPM) was introduced and specifically the **new 5 Day TPM Transformation Workshop** developed by Debbie and her team.

The Problem

Analysis of the data showed the **electrical systems to be the #1 cause of downtime**.

This area was therefore chosen for the focus of the TPM Transformation Workshop





Cross Functional Team

- **Operators** - drivers of the fleet equipment
- **Maintainers** - trades people focused on electrical systems
- **Reliability Engineers** - owners of the data analysis
- **OEM Engineers** - electrical specialists from the fleet OEM



Challenges

- Making this a “No Blame” workshop
- Putting aside old Functional Silos and working as a Team
- Getting to the Root Cause of the Problem not just Symptoms
- Using **Hierarchy of Controls for a lasting Countermeasure** not just a sticking plaster to concerns

TPM Transformation

Day 1&2	Data Analysis Equipment History Analysis is carried out using a unique worksheet developed for the TPM workshop. Data / experience is gathered from specified sources. This is the framework for the first two days of activity.
Day 3	Physical Testing / Deep Clean Physical Testing and Deep Clean is performed to a plan generated in Days 1&2, checking for each item: ▸ Is there a specification? ▸ Is it adhered to? ▸ Is it adequate?
Day 4&5	Countermeasures Lasting Countermeasures using the Hierarchy of Controls are developed. These are developed with the Team and flow from the detailed Root Cause Analysis done in Days 1,2&3.
Ongoing 3 Mnths	Implementation Countermeasure implementation is scheduled out and driven through daily review of this countermeasure plan. Sustainability is built in through updated Standards and robust Training and a clear review schedule.

Results

Over the next 3 months the Team worked to implement each Countermeasure. This gave the mine an additional profit of **\$80M annually** by freeing up this key bottleneck



Feedback

“On Day 1 of the workshop, people don’t believe the journey they are about to go on.

When you walk in on Day 5 you can see **the pride and the passion** the Team display when they are doing the Review. The teamwork and the obvious work they have done, its fantastic”

Paul Pacaud, Operations Manager