



Smart Solutions

Case study:

Production increase using FCT

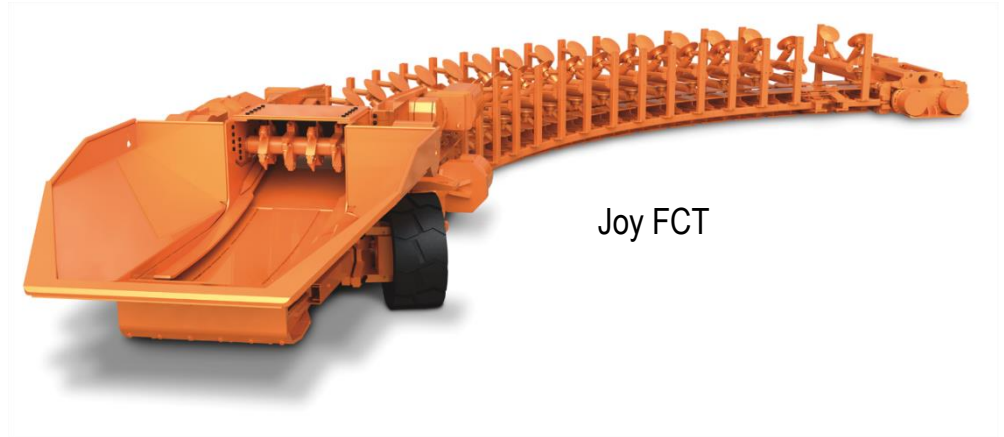
Application: *Underground coal*

Location: *NSW, Australia*

Products featured: *Joy FCT and miner bolter*

Challenge: Improve advance rates in development panel

Komatsu engineering personnel and product specialists looked at the **maintenance requirements** and **process delays** that influence the advance rate for an entry development application



Contributing factors:

- Intense bolting pattern
- Delays associated with equipment reliability
- Process delay from the DMU move-up

Engagement process: Working toward a solution

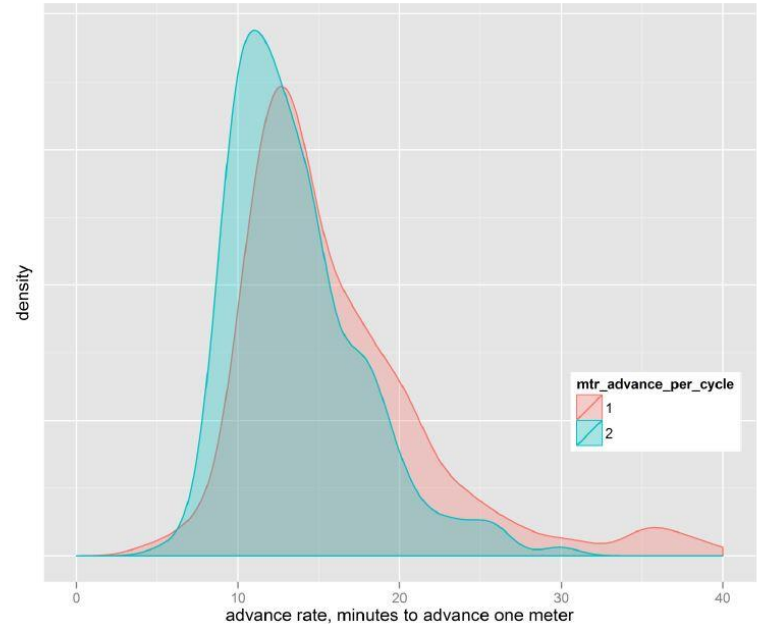
Data analysis done for comparisons

Detail **cycle analysis** and operator **benchmarking**

Process delays from the DMU move-up phase were investigated and a coordinated process adopted

RCM's including equipment audits, component modifications and software upgrades

Requirements for **roof bolting** were reviewed



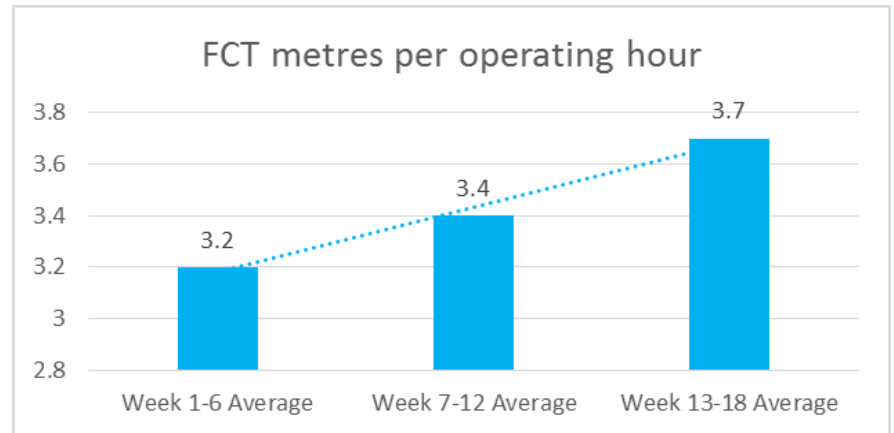
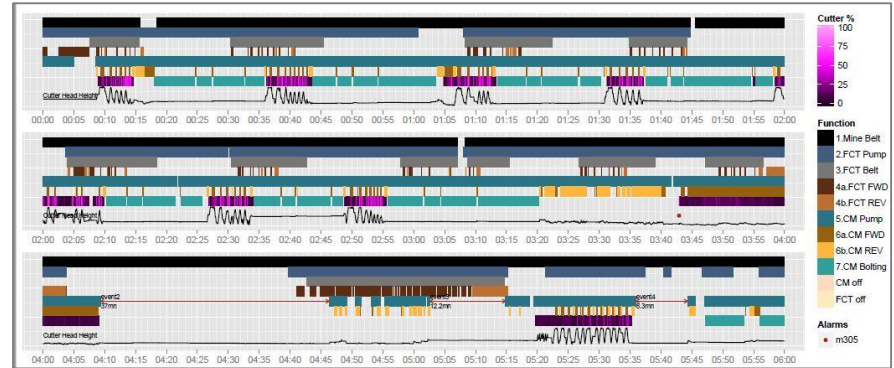
Solution: Data-driven decisions

Enabled crews to develop and **track processes to improve efficiency**, bringing accountability to the mine

Optimum bolting pattern that allowed for **increased production rates** to be achieved through the intersection

A **revised maintenance schedule** was developed and approved by the mine for use.

Pre and post move-up inspections resulting in a significant reduction in the off coal delay for panel advancement.



Results:

Development rates from 3.2 → 3.7m per operating hour, **↑ increase of 14%**

Weekly off-line maintenance time **↓ 7.5 hours, reduction of 35%**

Engineering delays **↓ 11 hours/week, reduction of 80%**

