Smart Solutions

Case study:
Providing specialist advice to improve loader productivity

Application: *Surface, iron ore*
Location: *Australia*
Products featured: *P&H L-1350,*
L-1850 and L-2350 loaders

Challenge: Improve loader productivity

The customer needed **higher productivity** to lower the overall cost per tonne and to fully utilize the installed infrastructure capacity (rail-to-port). Loaders were used as both primary in-pit units at multiple satellite deposits, as well as at the ROM material to feed the crushers.

Contributing factors:

- Loaders were needed to **ensure blending** of the feed (flexibility in dig locations)
- There were both electric and mechanical drive loaders used on site, with a high level of workforce turnover → **operator skills** were noted as an issue for the sites
- Overall **production was behind**, adversely affecting costs and shipping, so increased productivity was critical for success

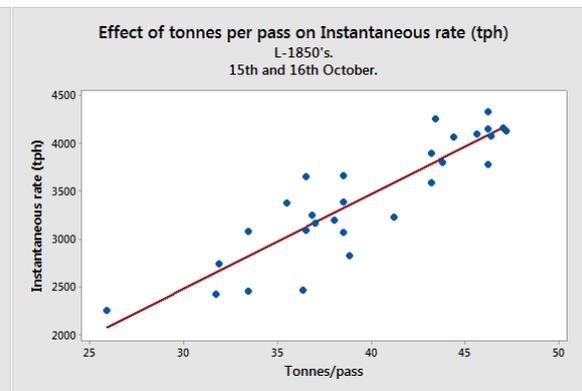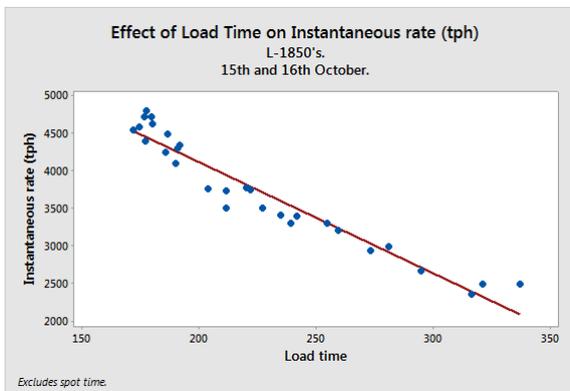# Engagement process: Working towards a solution

Specialized applications engineers went to the sites involved and conducted **detailed time and motion studies**

Data analysis helped understand the **cycle decompositions**

By observing the operations first-hand, and through **engaging directly** with the operators and production supervisors, the key **productivity drivers** were identified


Rate factor	Tonnes/hr per % improvement
Payload	39.3
Total load time	31.1

Effect of Load Time on Instantaneous rate (tph)
L-1850's.
15th and 16th October.

Excludes spot time.

Effect of tonnes per pass on Instantaneous rate (tph)
L-1850's.
15th and 16th October.

Solution: Understand how to increase productivity

With the key productivity drivers identified, the data was further analyzed to find the sources of variation

Work with the sites to develop the type of training packages that directly address the issues for each site
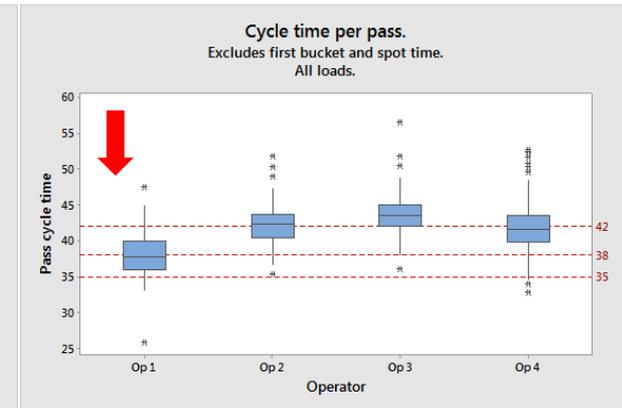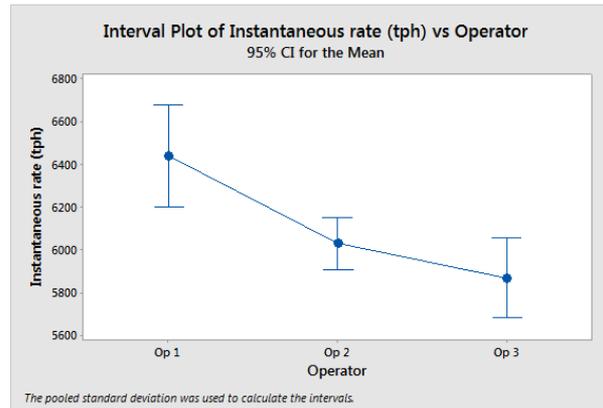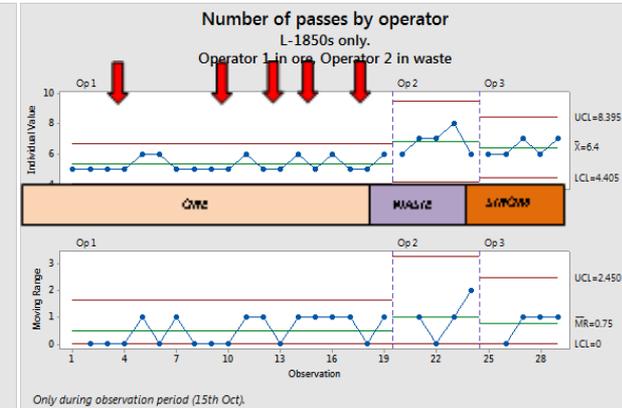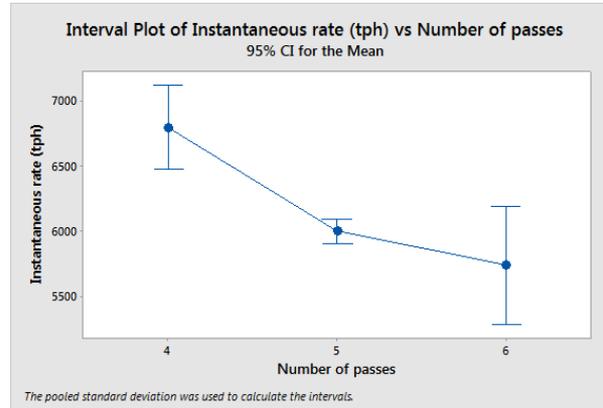
Results:

- A **tailored training programme** has been developed

- **Highest** productivity operators identified and prioritized on shifts

- **Payload targets** and number of passes for material type were clearly communicated to crews

Good to Great

- ▪ "Good" productive operators are elevated to "great" by providing a greater understanding of the machine and its capabilities. The training will include O4R and the effective use of machine controls in all work environments.

- ▪ Such a training program will not only provide the sites with more productive operators, but will also make the EWL's more reliable and fuel efficient.

Focuses on lifting good operators to the top of the performance curve.

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