Sens MINING

EFFECTIVE EQUIPMENT UTILISATION

The effective equipment utilisation depends on maximising the effective operational working hours of the mining equipment. The following KPI's are measured and reported to manage effective equipment utilisation:

• **Equipment Availability –** This is the mechanical up-time of the equipment, and is measured as a percentage of available shift hours, by recording planned and unplanned maintenance. This target depends on the shift system used by the mine, and can range from 95% for shifts which allows for major maintenance to be done outside shift times, such as dayshift only operations or 2 x 10hr shift systems which allows 4 hr per day for maintenance, to 80% for continuous operations.

• **Equipment Utilisation** – this is the total productive time of the equipment in hours. It is measured as a percentage of available hours, by recording non-productive time, which includes blasting delays, fatigue breaks, shift changes and any other work stoppages. The target for utilisation depends on, among other things, the shift system, and the blasting practices of a mine and can range between 80% to 90%.

• Equipment effective utilisation is the total productive hours of the mining equipment as a percentage of total available shift hours, taking both mechanical availability and operation utilisation into account.

In open cast mining operations, the efficiency of meeting production targets with profitability is a complex equation of the interaction between different pieces of equipment all working together in a team. Sens Mining measures these important equipment utilisation KPI's to ensure efficiency of the mining activity of the team, as well as the interactivity between the equipment.

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Sens measures and reports in real-time the following KPI's

- Shift time
- First start up
- First Load
- Last Load
- Last switch off
- Machine idle activity

The Sens solution is specifically configured to measure efficiency against these strict KPI's unique to the mine giving the mine the ability to accurately track efficiency performance specific to the mining conditions and expectations.

Effective utilisation is a strong and direct metric which is used as a litmus test on how well and profitable the mining operation is performing against an expected targeted percentile set for each specific operation.

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