Leveraging Tracking & Location Data for Cycle Times & Trip Counts

Mine Site Technologies (MST) understands that while providing location details for all your people and equipment in real-time is useful, the opportunity to further process this data to achieve additional and specific business outcomes offers more tangible cost benefits.

As an example of this, one area where MST has worked with mine operators to expand the use of location data is in production monitoring. In its simplest form, this is counting trip or cycle times by utilising the location data of the machines. An example report is shown in Figure 1.

These trip reports can:

- **In coal mines**, provide real-time monitoring of shuttle car cycles for each shuttle car in a section.

- **In hard rock/metalliferous mines**, report trip times and cycles for trucks or loaders, e.g. between various loading points and ore passes.

The information in the report can be further enhanced through the use of MST's Vehicle Intelligence Platform (VIP) data logger, on a truck for example, that also logs the payload being carried in each cycle. See an example report in Figure 2 below.
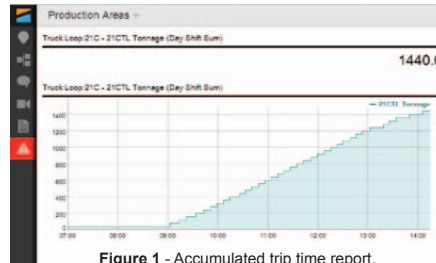

Figure 1 - Accumulated trip time report.

Further analysis of this data and reporting is used to create "Exception Reports" against pre-set parameters or thresholds, and an alert raised if there is an exception. For example, if a cycle time is much longer than the threshold time range, an alert can be raised within MST's MineDash software, which can trigger further customised alerts to emails and other messaging systems.

In operations where more analysis is required, the data can be loaded into a number of third party Fleet Management Systems (FMS) or dispatch systems. In many cases, this automates what is currently a manual operation in these FMS applications, thus making them more reliable and less dependent on human operator input.
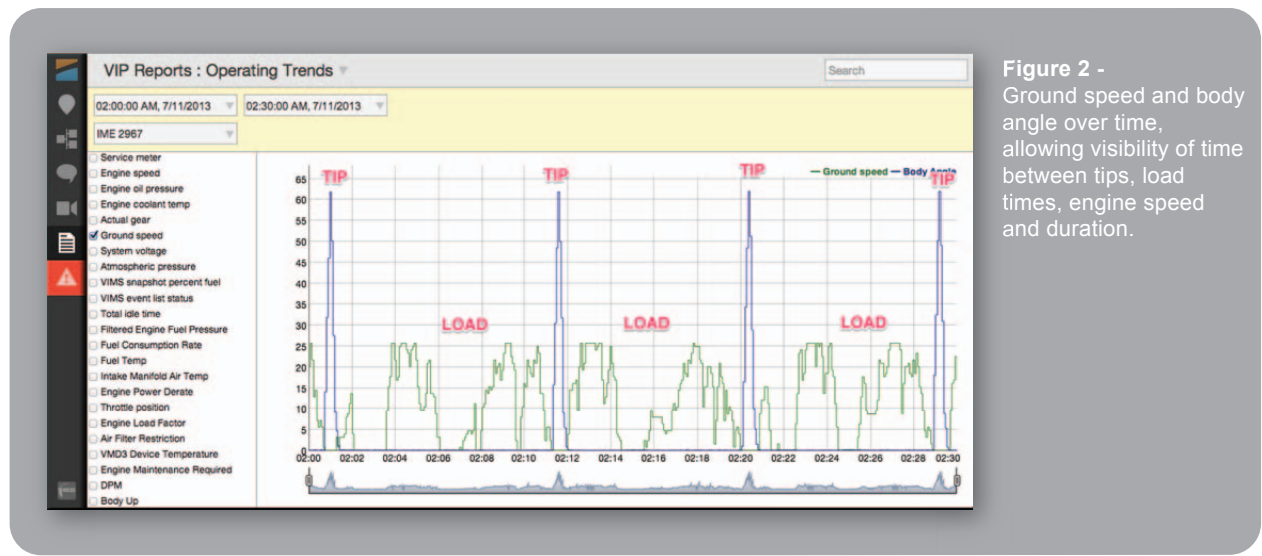
- Operational Voice & Data Networks
- **Personnel & Asset Tracking**
- Automation-Enablement
- **Production Visibility & Monitoring**
- Collision Awareness
- Emergency Messaging
- Personal Lighting
- Remote Blasting

Figure 2 - Ground speed and body angle over time, allowing visibility of time between tips, load times, engine speed and duration.

Optimise Output | Minimise Cost | Reduce Risk

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