TOTALCAPTURE
Benefits and Return on Investments

The TOTALcapture system was designed as a decision support system which passes key equipment production and location data captured by the onboard devices back to the cloud-based server.

The near real-time data helps managers effectively monitor and control the utilisation of their assets from any location via the internet.

The system removes a number of human error elements compared to manual systems, and consolidates the onboard system monitoring systems into a single solution.

Operator interaction is kept to a minimum through the connection to available digital inputs or supported OEM interfaces.

SAFETY

TOTALcapture has been configured to report on a number of key safety events such as speeding events and open door/seatbelt warnings. The inclinometer will provide you with early roll warnings for assets which exceed a preconfigured angle. In this scenario, Site / Quarry managers will also receive an automated email alert. Other warnings such as 'Category A' pre-start failure warnings or notifications for drivers not logged in when the device is moving are also available as a useful management tool.

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PRODUCTIVITY

(LOAD AND HAUL)

Know if you are on track to meet production targets for the day. The drilldown data can be used to help question why average haul cycle times are more than they should be, investigate the reasoning behind this and look into strategies such as short haul or additional rehandle options. Other strategies include looking at driver behaviour or potential delays on a haul route such as 'waiting on a loader', or 'refuelling'. Evaluate why your loads are less per truck at some sites than others and determine patterns in driver behaviour, assess asset suitability for loaders, etc.

The more detailed 'load and tip' reports provide a complete listing of all load and tipping events including the product tipped which provides more analysis on production vs. rehandle.
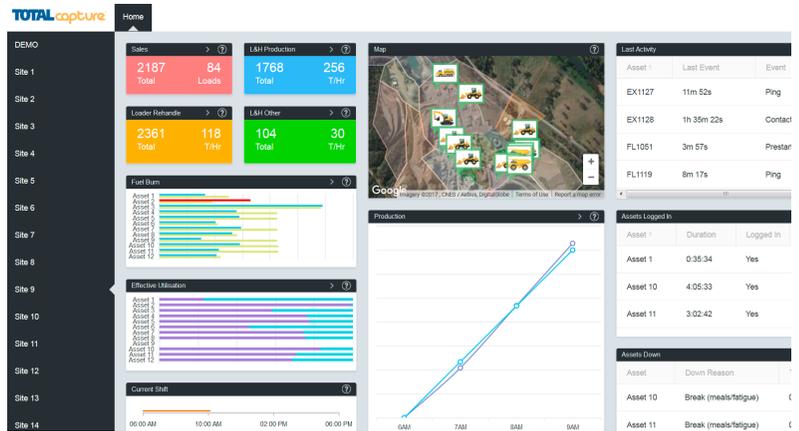
DASHBOARD

A real-time snapshot of fleet wide production for the 'current shift' is presented in the dashboards. Each drilldown provides the fleet manager, quarry manager, or site champion with the ability to look at current machine availability, production, and asset utilisation data at any point in time.

The main dashboard displays data based on user credentials. For example you look at the 'whole fleet' or 'your site' to drill down further to understand why only 70% of the assets are running during a shift.

SYSTEM CAPABILITIES

- Automation / replacement of paper-based systems
- Real-time positioning of assets
- Accurate tracking of materials movement
- Production reporting
- Maintenance and downtime reporting
- Accurate scales and payload data
- Average haul time tracking
- Driver performance
- Incident management
- Real-time alerts

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REPORTS

- **Drilldown reports** - defaults to the current shift. Quarry/Site Managers can drill down further by site sourcing historical data for a given data range. This will provide the ability to look back on a week or a month's worth of data to ascertain why something has happened, eg. why a certain model has spent so much time in the workshop, or why load and haul cycle times are lower for one asset/driver vs. another.

- **Management reports** - view a snapshot of KPI data for the previous month.

- **Pre-Start reports** - A view of the pre-start forms completed for each asset.

- **Site Management reports** - more detailed production on KPI data designed for Site/Quarry Managers.

- **Daily reports** - daily reports are sent automatically for the previous days total production statistics, pre-starts and defects.

FUEL BURN

The Fuel burn KPI allows users to trend on refuelling and measure fuel burn consumption rates. Target fuel burn rates are fully configurable which allow admin users to add the OEM thresholds. Fuel burn rates can be used to monitor excessive fuel burn rates for particular models, or used to compare why eg. a 777D at one site is consuming more fuel / hr than another. This can be useful data for looking at driver behavious, haul road conditions, overloading, and tyre choice / wear.

The data can be used in conjunction with engine idling time which can also contribute to higher fuel burn rates.

Reliability engineers can evaluate options such as the inclusion of engine additives which can be used to monitor the reduction in fuel burn after additives have been trialled on a particular asset or asset class.
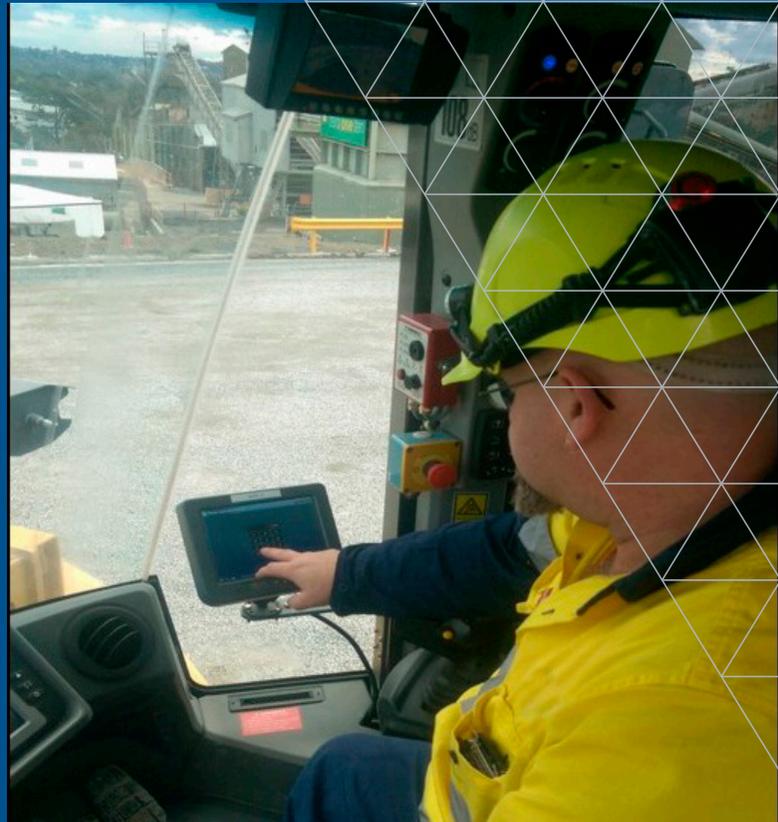
AVAILABILITY

Determine why your assets are in downtime and how often. All assets placed into downtime by operators or fitters are tracked as it happens rather than at the end of shift. Historical downtime reporting allows you to see how production can be impacted when maintenance is completed during site operating hours.

You can view the performance of certain models across different sites eg. why are Cat 772s spending more time in maintenance at one site than another, or track the type of maintenance activity that allows you to trend the failure of major components (eg. Transmission, Engine, Tyres). Look at historical data to understand why you are performing planned maintenance within shift and understand the knock-on impact to production.

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EFFECTIVE USE OF UTILISATION

This data allows the user to look at the working vs. idle times for assets. If the asset is on and not in downtime, the operator should be working. The data allows you to review breaks and use this data to compare against time and attendance systems. The data also provides useful information for tracking production queuing optimisation such as the time a truck is waiting for a loader or the time a loader is spent queuing.

The onboard system has been configured to send a pop-up warning to driver operators when they are logged in and the machine is idle for more than 3 minutes. This enforces data accuracy and forces the operator to enter the correct activity. Detecting early warning signs and trends such as excessive time spent waiting or excessive time refuelling within a shift, or abnormally high maintenance activities within a shift will impact the effective utilisation.
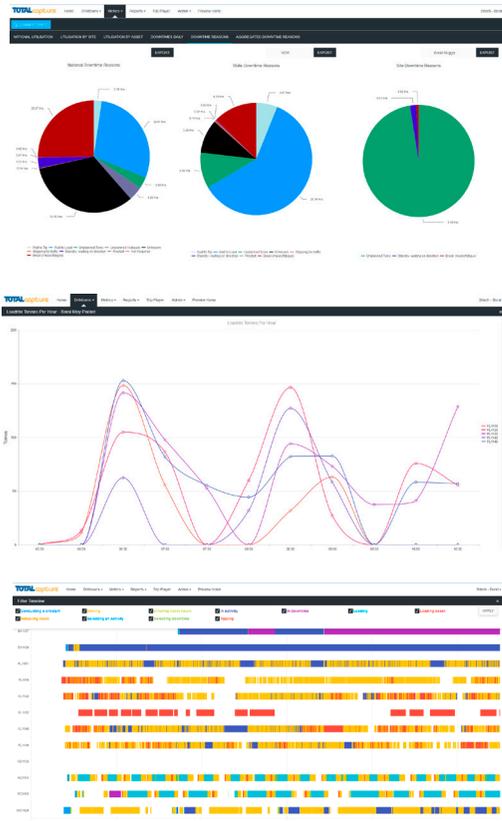
MANAGEMENT REPORTS

In addition to the drilldown reports, we have developed site and quarry management reports. The management reports default to the last 30 days and include a month's worth of KPI data. Rather than providing the raw data in a grid format, the reports have been designed to provide a high level graphical representation of data for senior managers. E.g. The availability report displays the availability percentage in a simple bar chart which is available for each asset. The management reports include key availability, utilisation, production, fuel burn, and logged in a snapshot for the period. Managers can select the entire fleet or specific sites.

The more detailed Site or Quarry manager reports provide the next level of detail. The data defaults to the last month, but provides the sites with KPI data required to assess the last month's performance. The productivity data is provided in more detail and combines the key data from the drilldown reports against each asset and site target including load and haul production, sales loader production.

TRIP PLAYER

The trip player built into the TOTALcapture web interface allows users to replay trip files for an asset, allowing the user to view the path taken by a particular operator or asset. The trip player is also useful for looking back on speeding events or collisions, which can assist OH&S personnel with safety investigations. Alerts can also be sent to the relevant person if an asset leaves site or enters a predefined no-go zone.

ASSET TIMELINE

The asset timeline on the TOTALcapture web interface is an in-depth view into an assets activities for a selected day or date range. The timeline provides a breakdown into the loading and tipping durations, distance travelled and ignition on duration. For a user interface solution, the timeline also shows the duration the operator was logged into the system.

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