



# CASE STUDY



Part of the CR Group

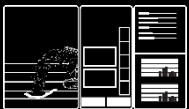
## Application Background

<b>Commodity:</b>	Coal/Overburden
<b>Digging Conditions:</b>	Moderate
<b>Machine:</b>	Backhoe
<b>Make &amp; Model:</b>	Hitachi EX5600-6
<b>Customer/Site:</b>	Central Queensland Mine

### Location



### The Solution



**Titan 3330 Load Haul Optimisation**

### The Outcome



**Underload reduction**



**Productivity Increases**

## Challenges

An Australian miner operating in Central Queensland commissioned a new production class mining excavator. The challenge was placed to ensure that this new asset was promptly producing as much value as possible. The customer could not rely on the under-shovel weights provided by truck payload systems to guarantee optimized truck loading efficiency. Due to the design of truck payload systems, the feedback can be unreliable. For example, if a truck is on uneven ground, the axles become unbalanced and skew payload readings.

## The Solution

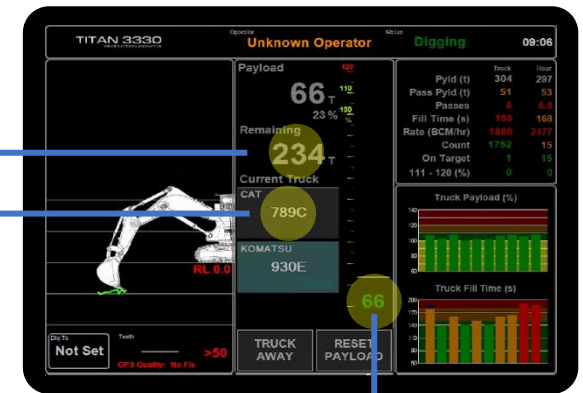
CR Digital's experienced field technicians worked with the Miner to install the Titan 3330™ Load Haul Optimization system on a Hitachi EX5600-6 backhoe. The production optimization system is specifically designed to maximize the productivity of surface dig units by providing accurate, real-time, pass-by-pass feedback to operators on truck payload, production rates, truck fill times, and a suite of other production metrics. Sensors fitted on the excavator identify and track trucks filled, aiding in overall site productivity.

Operator training on the intuitive Titan 3330™ system was rolled out once the system was installed and commissioned. Data reporting tools were provided to the customer to observe the impact of the system.

## Titan 3330™ User Interface

*Operators can see remaining truck payload in real time*

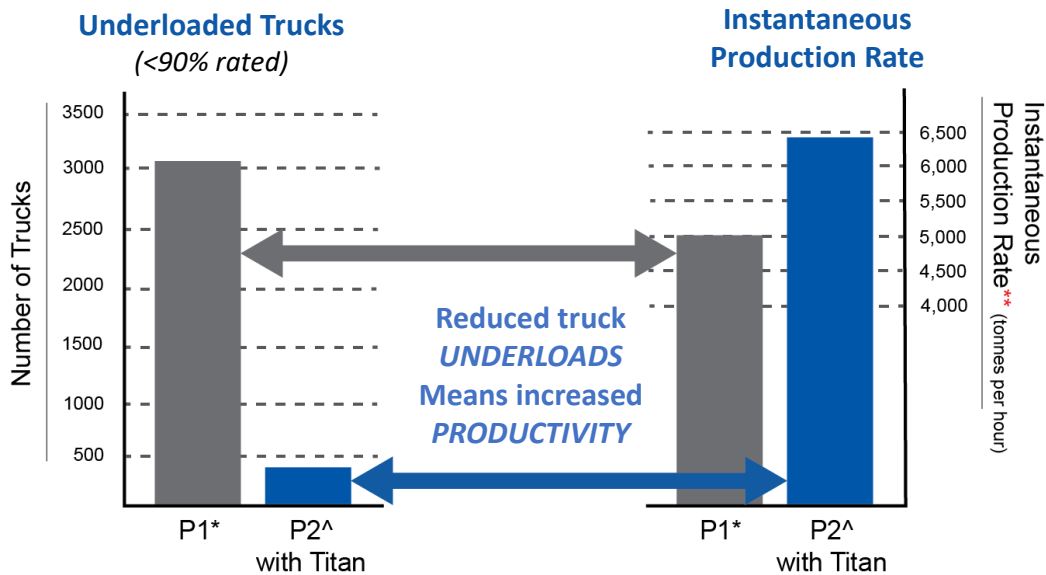
*Truck identification using RFID technology*



*Operators can see tonnes per bucket as they dig*

Figure 1 – Example of Titan interface used by excavator operators

# CASE STUDY *(Continued)*



## The Impact

The CR Digital Titan 3330™ Load Haul Optimization system delivered:

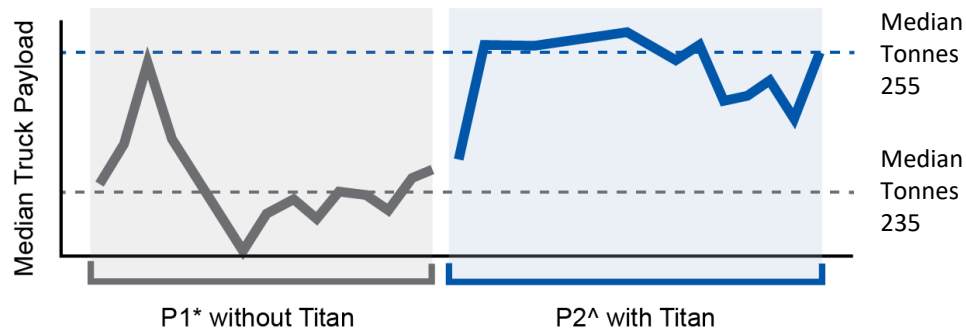
- 26% increase in Instantaneous Productivity
- 19 tonne increase in median truck payload (8% increase on base period)



**ORION**

Figure 2 – Orion Data Analysis reporting system delivers machine and payload data to the customer.

## Truck Payload History



\*Sept 2018 to Dec 2018 ^Dec 2018 to March 2019 \*\*Sept 2018 to Dec 2018

Figure 3 – Graphs showing increased productivity due to less underloaded trucks and more consistent payloads.

## Additional Benefits:

- ✓ 11% Reduction of truck underloads (equating to an additional 209,000 tonnes of material)
- ✓ 22% Increase in Operational Productivity
- ✓ 26% Increase in Instantaneous Productivity\*
- ✓ 6% Increase in truck fill factor (compared to truck rated capacity)
- ✓ 4% Decrease in truck payload standard deviation (falling to 6%)
- \*Tramming & idle time not included

**Titan 3330™ Load Haul Optimization and Analysis and Improvement capability can improve your fleet's performance today.**