CASE STUDY: Material Management

Problem

The management of dumping plays a large role in meeting production requirements and keeping a fleet operating efficiently.

Operators disposing of valuable ore into the waste dump is a problem for a number of sites. This wasteful and innefficient process results in considerable loss both financially and in terms of production efficiency.

Study

The purpose of this study was to reduce and monitor the wastage on a high-grade gold mine that had recently implemented *iVolve's Mine4D Production* capability.

During a night-shift 10 loads of gold were lost due to incorrect dumps stemming from operator fatigue (at a cost of approx. $10,000 per load).

Solution

iVolve's Mine4D Production was installed with the aim of preventing ore being lost at the waste dump.

Using iVolve's configurable geofence capability, certain areas of a mine were allocated to different materials e.g. Gold/Waste.

By assigning a loader and material to a geofence, any truck loaded while inside that area was automatically assigned the configured material and/or loader.

iVolve Display

As a truck travelled into a geofence with a material mismatch e.g. a truck carrying gold drives into the waste geofence, the below notification will appear on the iVolve display. The notification appears on top of the app currently running, as per the image below:

If the truck operator continued travelling in the incorrect geofence, and began to dump the incorrect material, an audible alert sounded. The notification changed from the previous warning screen to the one below.

An audible alert sounded whenever a material mismatch notification was visible. These rules are checked in real-time by each iVolve System.

The notifications were automatically dismissed when the operator rerouted back to the correct geofence, e.g. realised he/she is carrying the wrong material to the wrong dump, or when he/she manually reset the material on the screen.

The interface above the red banner remains visible, however all user touches are ignored until the notification itself is dismissed.

Findings:

Graph 1 illustrates the considerable reduction in gold being incorrectly discarded in the waste dump. For the month of December, there were over 110 loads being incorrectly discarded in the waste dump, compared to 0 wasted loads eleven months later in November 2016.

Through training and operator awareness, the iVolve system improved an operator's ability to direct loads, minimising financial loss and increasing production efficiency.

110 wasted loads to 0 in 11 months.

Graph 1: Loads of Gold Ore discarded in Waste Dump per Month

iVolve

iVolve is an Australian company providing technology and tools to small to mid-tier miners and contractors enabling them to ramp up their efficiency in an increasingly competitive market. Our ability to access real-time data from mobile assets allows our customers to make informed decisions in both day-to-day operations and strategic planning.

In the past decade, iVolve has gained a strong foothold in the mining industry. The key to this success is our commitment to the intelligent application of technology with the goal of making our customers' day simpler. Customers at all levels of the operation can reach and exceed their targets because they get the information they need, when they need it, in an easy to consume format.

iVolve is proud to be an Australian business success story, recognising that great products come from a great team. We work hard on maintaining a positive team culture in an environment where our employees are supported to achieve their best work. As a team we are dedicated to our core values: simple, intelligent, and committed.

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MINE4D
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