

## CASE STUDY: HOW DOES FLEET SIZE AFFECT FMS TECHNOLOGY SUCCESS?



**7.6% ↑ in payload over three months.**

### CHALLENGE

The purpose of this study was to assess operational payload performance at a talc quarry in Montana, USA that had recently implemented iVolve’s Mine4D Operator, Production & Maintenance solutions.

Traditionally, Fleet Management Systems (FMS) have been a tool only utilised by large multinational operations. This one-size-fits-all approach is a thing of the past. iVolve Mine4D offers a tailored solution that ensures all sites, regardless of size, can stay competitive.

### FINDINGS

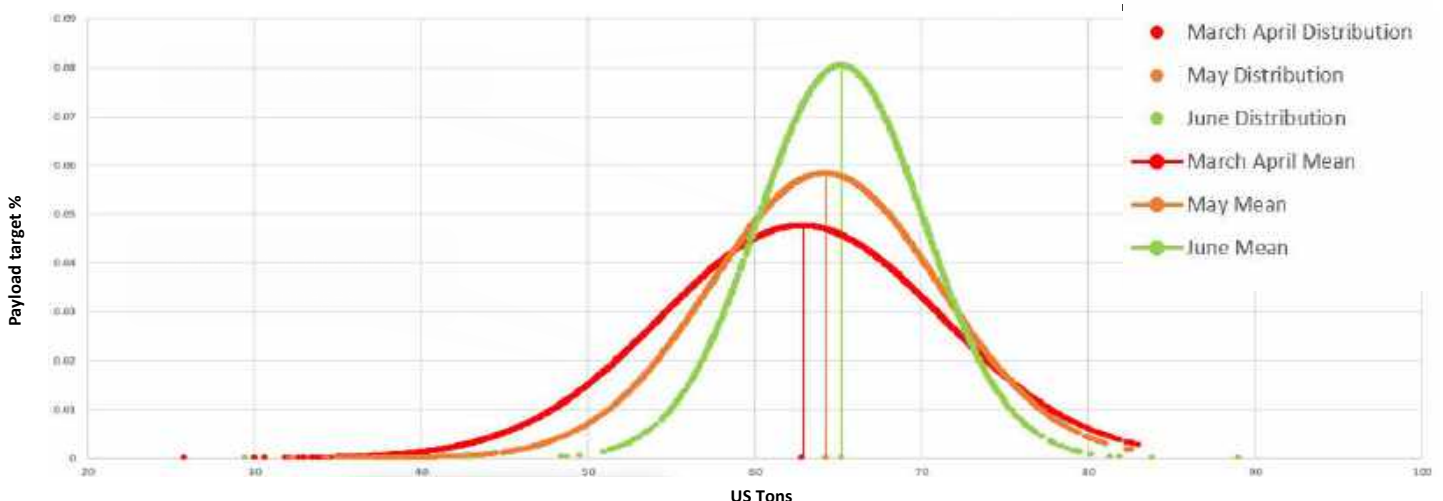
Through training and operator awareness the *Load Assist* capability of iVolve Mine4D Production improved operators’ ability to hit payload targets. Over the three-month period, payload increased by 7.6% as illustrated in callout one in the graph below.

The data shows an impressive reduction in the spread of tonnages seen in load cycles. Previously we saw a wider range of tons in any given truck’s load, especially loads that were well below the target tonnage as indicated by callout two below. At the end of the trial, site saw a reduction in the spread of tonnages, with more loads falling closer to target.

Where previously, loaders were much more likely to under-load trucks, to reduce risks of overloading, site has now seen a 7.6% increase in payload, improving the effectiveness of truck haulage.

The combination of more accurate loading and the increase in payload tonnage resulted in much more efficient load cycles.

**Graph 1: Payload Distribution, March/April, May, June**



## METHOD

A baseline level of payload performance was recorded prior to iVolve implementation. After operators and management were properly trained, data was collected over the three months to track the improvements made in payload management.

Load data was automatically collected from the trucks' on-board strut sensors (or via manual operator entry). The iVolve system rechecks as the truck moves off via the second gear rear-weigh and the updated weight is retransmitted to the excavator to ensure the operator receives the correct payload value.

Operators can monitor their progress with immediate on-screen statistics including rates, load counts and total tonnage/BCMs.

With GPS fitted, trucks automatically "pair" with the excavator based on GPS proximity and the truck's operating state which results in an effortless operator experience.

## SUPPORT THE WHOLE WAY THROUGH.

One of the key successes of this project was the ongoing relationship between iVolve and site from the installation through to the trial.

Our standard support agreement ensures an active engagement between site personnel and our team of engineers to ensure each iVolve system is operating optimally.

Post installation an iVolve Mining Solutions Specialist provided site with on the ground and remote support, identifying areas of improvement and performance optimisation through data analysis.

***iVolve's Load Assist had a return on investment within 12 months after installation.***

***The 7.6% increase in payload indicates that all sites, regardless of fleet size, see great benefits from FMS technology.***

## SCENARIO

Even with the modest 7.6% improvement seen at this site, the financial benefits gains are substantial.

At a site with 7 trucks operating at a cost of \$55/hour (equal to 5200 hours/year) at the running cost of \$2,002,000/year.

***ROI within 12 months after purchase***

Given the 7.6% increase in payload, it is estimated that iVolve's Mine4D Production will have saved the site \$152,152 in the first year of operating.

Looking at the cost of Mine4D Production and the financial savings, we can conservatively say that the site will see a ROI within 12 months after purchase.



***iVolve Display: Production***