

## Case Study

# Gaining 124,000 tons per year at no cost

### Project Challenge:

Personnel at a midwestern United States coal mine knew their methods of operation were holding back production levels, and had tried to implement procedures to promote efficiency, but kept defaulting to a pattern of reduced capabilities.

Mine crews were hungry for information, and ready to make changes, but did not have benchmarking or a way to track progress

### The Solution:

Using **Smart Solutions**, Komatsu tracked the mine's "feet mined in the first production hour," to determine where production was falling short. The company also tracked start delays.

In the latter case, start delays fell in an expected range. The higher priority was determined to be the slow rate at which units came up to full production.

**Data produced by Komatsu's smart, connected products revealed** the customer was averaging a rate of only 27.6 feet in the first production hour of a shift. This was measured as an average of the footage reported 60 minutes from the time the conveyor was first turned on during the shift.

Komatsu crews then looked into what factors were limiting production at the start of the shift. During site visits, it became clear: previous shift workers were not leaving workspaces ready for a new shift to begin production in a timely and productive fashion. There was no systematic approach to readying the unit for a new cutting cycle or ensuring that equipment was serviced and staged properly.

Bits often were left in poor shape, rocks and debris covered the machine, adequate cable was not pulled up and available, and the machine was left in areas already completed or not yet ready to cut.



There had been previous attempts to establish better processes between shifts, but employees returned to old habits in a matter of weeks because there was limited tracking of results.

The shifts needed to work as a team to promote change. But a lack of information and expectations meant the crews and workspaces were not working efficiently.

## The Solution:

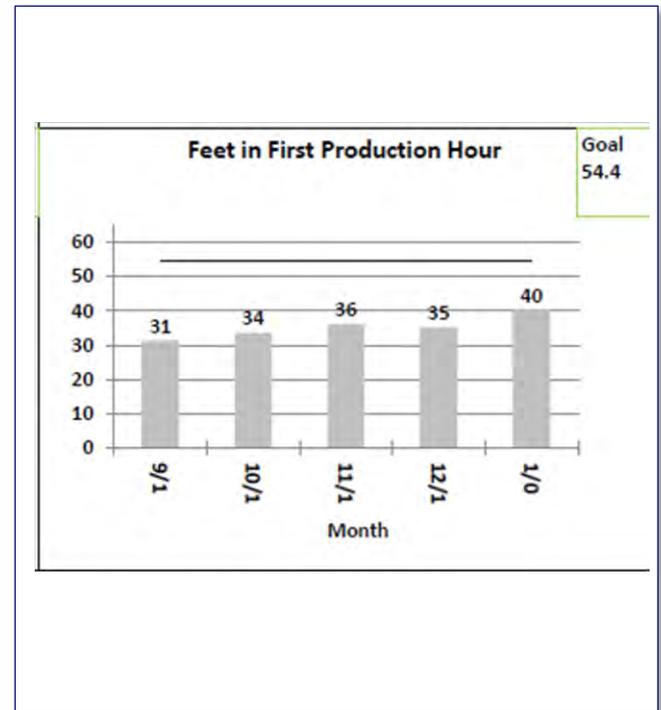
Komatsu helped define what constituted a “ready unit” and trained employees on how to prepare for a new shift.

The responsibility to achieve more “feet mined in the first production hour” was handed to the idle shift crew. When higher levels of production were achieved, that crew then got the credit.

Using data produced by its smart, connected products, Komatsu provided weekly reports on what teams were contributing to higher production rates. Connecting the efforts of one shift to the results of the one following was a new approach that promoted teamwork across shifts.

That essential connection was what lacked in previous efforts.

By providing the initial data to show low production levels, and then helping crews set and track methods to improve efficiency, Komatsu helped bring accountability to the mine.



## The Results:

By the end of 2014, comparison data showed a gain of 6.1 feet per continuous miner, per shift, over the year prior.

The gains result in an additional 124,440 tons produced per year.

These additional tons are credited to efficiency. There was little or no added cost to adopt this change. The gains were pure tons on the belt.