Mining Case Study

LYPTA™

CONTEXT

The client was facing recently falling ore prices. In the last 3 months, ore prices had fallen ~20% from recent highs and Minesite Cash Costs plus freight costs were now close to Freight On Board (FOB) spot prices and the site was effectively running at break even.

Worse still was the expectation that ore prices would fall further as global demand reduced and new projects were ramping up production.

Additionally, the site had struggled over many years to successfully implement on-going Continuous Improvement initiatives across all areas. Common problems included:

- Initiatives had failed to deliver expected value (KPIs were not tracked through to completion and any successful changes were usually short lived as behaviours and processes reverted back to the old way of doing things)
- Site had no easy way to track and report progress collectively across all site areas; initiatives were mostly tracked on paper on a wall if they existed at all
- Whilst the site often had some improvement initiatives running at GM/Manager level it was not obvious if any improvement initiatives were happening at lower Superintendent/Supervisor levels
- The site's Improvement team struggled to make progress or embed improvement processes across all areas and levels (unless they directly embedded someone from their team in that area to drive improvement)

AGREED APPROACH – SOLUTION

The site needed to quickly start a major site wide transformation that both focused on increasing volume from the bottleneck processes and reducing total costs in the non-bottleneck areas and ultimately reducing their overall unit costs and improve margins.

The haulage area was known to be the main bottleneck and a quick Overall Equipment Effectiveness (OEE) analysis confirmed that a 20% uplift (~5% availability, 10% utilisation and 5% rate) was possible with the existing fleet. These uplift estimates were based on existing benchmarks from surrounding companies and also site internal benchmarks in the last two years (i.e., best month). Processing confirmed their capability to manage an additional 20% ore through the fixed plant without any additional capital requirements.

The site GM and Managers, including the Improvement team lead, determined they needed four weeks to confirm the overall opportunity, the main improvement levers and define in detail the key initiatives to implement.

FIRST FOUR WEEKS – PLANNING PHASE

A Transformation program was quickly set-up by the Improvement lead with a weekly cadence consisting of the GM and manager team. Each manager was tasked with defining in the key opportunities in their area and the underlying initiatives with fully defined implementation plans over the next four weeks.

They relied on the Improvement team but also utilized support from an external consulting team to help confirm and define the key opportunities in detail.

The expectation was also set that the improvement needed to be implemented over the next 6 months without significant capex investment – so change needed to be quick and rely on process improvements rather than equipment or engineering led solutions.

The site decided to use Lypta as the main improvement software to build their Transformation on as:
- The software was quick and easy to set-up and operate; and everyone on site could use
- The site also wanted something that would allow them to both run a Transformation in the next six months and then use for Continuous Improvement longer term

They quickly set-up the system over a couple of days including fully customizing the work teams, impact centers, operational metrics and all the user registrations. They decided to add ~120 users to Lypta and include everyone from the GM down to Supervisor;
- ~40 Core/Power users: Senior Leadership team (GM, Managers), Superintendents and support so that they could run initiatives, set targets and run reviews
- ~80 Foundation users: All Supervisors were given Foundation user access as the site wanted ideas from the Supervisors on all improvement opportunities they or front line operators had seen and also ensure the front line was fully engaged

Over the next four weeks, each area defined a detailed set of initiatives with realistic timeframes for the work plans,

- The haulage team focused on the truck utilization and rate initiatives to increase volume
- Other departments focused on reducing costs in the non-bottleneck processes (with Maintenance also focused on Truck availability by addressing recent poor unplanned availability issues).

Site leadership wanted to ensure that the front line was fully engaged and encouraged Supervisors and their crews to contribute improvement ideas – primarily cost saving ideas but also ideas that could help improve operator conditions or pain points.

Progress on the Transformation was shared on an on-going basis across the site using multiple channels:

- Weekly progress updates from each manager to their Superintendent teams and then weekly updates from Superintendents to their Supervisors/crews (in Return To Work pre-starts)
- Online via Lypta in weekly messages from the GM and each manager
- GM town halls across multiple shifts at the outset so everyone understood both the urgency and main objectives and then each quarter so that the site understood overall progress being made

After four weeks the Transformation team had ~130 well defined initiatives each with a detailed work plan, key risks, KPIs (both process and impact) and benefits; these included many ideas that had come directly from the front line. These initiatives varied in size with the largest opportunities in the haulage area. The site also had an additional 250 ideas which the leadership decided to put on hold until the main priority initiatives were completed.

All initiatives were run through a well-defined stage gating process from initial idea through to evaluating, and then planning so that the whole team knew exactly which initiatives were deemed high priority and needed implementation plans and which were de-prioritised and put on hold by the Manager.

A detailed target was then defined for each area based on the expected impact of the agreed initiatives in each area. Targets were defined both in expected $ benefits and also in expected critical output KPIs (volume and availability/utilization/rate for haulage).

IMPLEMENTATION

During implementation over the next 6 months and during the weekly improvement progress reviews, progress was consistently reported against these targets (charts/dashboards) so that the leadership team knew how they were progressing.
In key areas, where the team was falling behind target, the team were able to deep dive instantly into the main initiatives in that area and understand the key issues (and actions needed).

Each manager ran their own weekly progress review the day before the site's leadership team's progress reviews so that that they knew exactly what issues their team were experiencing and what help, if any, was required from the GM and the rest of the Leadership team.

Initiative owners updated progress for their initiatives each week prior to their team's weekly reviews including work steps completed, any issues/actions and also progress on the process and impact KPIs.

Initiatives continued to be run through the same stage gating process used in the first four weeks but now the gates were focused on implementation and initiatives moved from planning to implementing, then delivering and finally 'locked-in' at which point the initiative was deemed to be successful and reaching its target KPIs.

All information including, initiative owner updates and team reviews were kept in Lypta so that the site had full transparency on progress in any area or initiative and also overall progress towards the target agreed prior to implementation.

TRANSFORMATION RESULTS

After six months, the site reached their priority objectives of increasing monthly output by 20+% whilst also reducing overall Minesite Cash Costs by 10% in the non-bottleneck areas and the sites overall unit costs reduced by 17% (given that unit costs in haulage did not change).

In those same six months whilst the site had implemented their Transformation, FOB spot prices had reduced by a further 10%. The net result was that the site was now profitable and Minesite Cash Costs were now approximately 10% below ore prices.

GOING FORWARDS

Despite this initial success, the site realized that ore prices could fall further and that they needed to rapidly progress further improvements. They therefore defined a second tranche of initiatives from the initial pool of ideas mainly focused on further costs savings but also some incremental volume gains in the haulage area. The second tranche also ran for six months and successfully lowered the site's unit costs by a further 6% overall.

After the second tranche of initiatives was completed, the site then reinvigorated their Continuous Improvement program to ensure further improvement was on-going. The expectation was set that each area would run 3-5 high level initiatives each quarter (at Manager level) and that Superintendents would also have an additional 3-5 initiatives each quarter that they would run with their Supervisors. The lower level initiatives were expected to be a mix of smaller volume initiatives in the haulage area, cost initiatives and initiatives that addressed operator pain points. The entire system was managed on Lypta and ensured complete visibility of on-going improvement progress in each area.

Contact us at www.lypta.com and schedule a call or demo to see how we can help you.