

What if you could...
win awards for innovation
in productivity and safety?
With Proudfoot, you can.

Managing a large-scale construction project in challenging conditions safely; an expensive undertaking with reputational and personal risks.

When planning the construction of the world's largest underground mine project, Rio Tinto's senior team had the foresight to seek a fresh, innovative approach to keep it on track. Proudfoot worked with the Rio Tinto project execution team to develop, design and install world-class solutions: a unique construction management and planning system, built around all resources, behavior models and safe operations. As a result, the project lead safety results, on schedule, breaking records and winning global awards.

Rio Tinto's Oyu Tolgoi (OT) copper mine in Mongolia is a one-of-a-kind colossal task, by any measure (see fast facts). OT's leadership knew all about the unpredictability of mining, and the frequency of cost overruns and delays - 50 percent of projects fail to meet time and budget forecasts. On top of these facts, one particular number stood out: each day of delay at

OT represented \$2 million of Net Present Value.

"We wanted a scalable system that would support decision-making for the overall project, not just isolated parts. Many companies have operating or planning system expertise. Some showed lots of clever things like tracking through technology and so on. But none of them had the people and behavior expertise that Proudfoot brings to performance management," said the client's General Manager.

Proudfoot's solution was to design and install a bespoke Management Operating System (MOS) and an Integrated Project Planning (IPP) process. Together, these combined management tools optimized the allocation of space, time and materials for 3,000 people across more than 20 aspects of work. This covered construction, development and production. We started developing the MOS at assignment bid stage, not after we won it, and by incorporating early client feedback into the emerging design, we delivered the system in only 12 months.



" Our client sought a world-class solution; not only a better way to plan, control and co-ordinate work more efficiently, creating a 'safe operations' culture, but also co-ordination of all activities across their entire global value chain. We won the work because we had a greater vision than simple project schedule compression."

**VICE PRESIDENT,
OPERATIONS**

We're an award winning company





The Big Idea: Shift Complexity from Execution into Planning

Surprisingly, for such a complicated project, Proudfoot’s central idea was to align the entire organization across all departments, including contractor companies, to focus on “best for project” and then use detailed planning to manage and resolve constraints in advance, essentially increasing the complexity and detail of planning. It started with activities planned a week in advance on an hour-by-hour basis including all activities and support work.

By doing this, OT could take a “best for project” approach as everyone’s guiding principle for making decisions. It’s all too easy for functional leaders to base their decisions on information from within that function alone, without sight of the overall project’s critical path. We designed a system with planning aligned across different operational silos. It also had scalability, so it could flex with the construction project’s peak operational and workforce growth.

Our starting point was this: planned work is safer, more productive and the more cost-effective. If you begin there, it follows that you must cut anything unplanned or reactive. It was a completely different approach. Everyone had to understand their individual role. To see how what they did would impact others and the wider monthly targets. This ‘big picture’ view created understanding of what was wanted and why. Everyone could see how

their behavior contributed to efficient, safe working and program schedules.

Phase 2: Systems Deployment

Following system design, testing and approval we moved on to deployment. The Mongolian government is a major stakeholder in the OT project and mandates upskilling its citizens over a five-year period, to improve self-sufficiency. In line with this, we began with inductions for 120 front-line managers and supervisors, all of whom were locals. Key to this was developing Mongolian coaching capability, so that deployment was in the local language, amplifying its effectiveness.

Proudfoot uses a range of techniques to make employee learning fun, engaging and memorable. The goal was to ensure leadership decisions were consistently driven by the tools and data within the MOS/IPP.

The IPP aligns and integrates all construction and maintenance plans – in a digital format – across the project and will keep it on schedule. Work plans at OT are now created 48 to 72 hours in advance, compared to an industry standard of 24 hours.

Safety performance data are equally impressive. OT is near the top of the scale. It is now the safest of Rio Tinto’s underground construction divisions, leading by a margin of 50 percent. In January 2018, Rio Tinto chief executive Jean-Sébastien Jacques awarded OT managers his top safety, innovation and growth awards.

Proudfoot’s exceptional work has won recognition too. In April 2018, the firm won Best International Project in the global Management Consultancies Association awards. The recognition for the work at Oyu Tolgoi represents a pinnacle career moment; one that could justifiably be described as symbolic of the ‘proud’ in Proudfoot.

FAST FACTS:

- \$5.4bn project, Mongolia’s largest-ever investment
- 16,000 workforce at peak construction, 93+ percent Mongolian
- 900 suppliers
- 80 percent of resources 1.5km underground
- 200 kms/120 miles: total length of tunnels in current phase
- 550 km: distance from Mongolia’s capital city Ulaanbaatar

KEY LEARNINGS APPLICABLE TO OTHER CONSTRUCTION PROJECTS:

1. Alignment across all departments and functions starts at the top and is the first step in achieving a successful project
2. Safe Work is supported by detailed planning and scheduling, planned work is more cost effective, productive and safe
3. Management – Leadership must role model the behaviors and coach their direct reports

“ Working with Proudfoot on an end-to-end solution was a game changer for our project. Not only were we able to ensure that the behaviors of our people were in place, but the processes were streamlined and overlaid with a digital element that took us to the next level.”

General Manager



Let's start a conversation

About how we can help you generate tomorrow's results, today, while building capacity for future change and challenges.

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Proudfoot

**With Proudfoot,
you can**

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About Proudfoot

To our very core, we understand the people element of transformation. We introduce new capabilities and we employ the power of your people to create performance multipliers and an engaged culture. Recognized for our speed and the magnitude of benefits we generate for our clients, we have been doing it — not just planning it — for more than 8 decades.



People
Solutions



Aerospace
Defense &
Marine



Automotive



Building
Materials



Chemicals



Construction



Consumer
Packaged
Goods



Energy
& Utilities



Engineering



Food &
Beverage



Healthcare



Industrial
Products



Insurance



Logistics &
Distribution



Mining
& Metals



Oil & Gas



Private
Equity



Transportation