WHITEPAPER

Irrefutable excellence: leveraging available data to easily achieve goals in ISO, ESG, SHEQ

Presented by Ashley Bosworth, Managing Director & CEO of Pulse Mining Systems, at the International Mining and Resources Conference (IMARC), Digital Transformation Theatre, ICC Sydney NSW Australia on Tuesday 31 October 2023. 9 pages <5 minutes.

1. The pursuit of excellence
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3. Culture and performance
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Environmental and social responsibility, sustainability, quality, safety – mining companies are increasingly compelled to demonstrate the achievement of excellence while improving productivity and profitability at the same time.

Most mining companies get by using paperwork combined with Microsoft Excel for managing specific areas within the business including compliance.

This silo approach makes more work for the people responsible for recording, validating, and sorting the disparate pieces of information needed for reporting and auditing purposes.

It also creates the risk of audit failure due to missing or incomplete documentation; and *greenwashing* despite what might be the best intentions.

There is a better way to manage compliance without adding more tasks for people, making more spreadsheets, or buying even more software, and this is the alternative presented by Pulse.

If you don't know about Pulse, we're an Australian software company. We've been developing mining business software for more than 35 years. We have more than 60 people working at our headquarters in Newcastle, New South Wales, Australia, the world's largest coal export port. We've also got offices in Brisbane, Queensland, and consultant representatives in other parts of the world. All of our system development and client support teams are based here in Australia. Our ERP system is the only one in the world that's specifically developed for mining. We are platinum sponsors of IMARC again this year.

The last time I spoke at IMARC was in October 2019, in Melbourne, and there were hundreds of anti-mining protestors trying to block delegates from getting inside. The protestors clashed with police on the streets. Scenes of the conflict made news headlines around the world.

Nobody could have predicted that Covid was about to interrupt life as we knew it for a couple of years. We walked away from IMARC 2019 talking about how environmental responsibility would be the next big challenge that mining companies would be needing our help to manage. And we were almost right.

* Photo credit AAP / Guardian

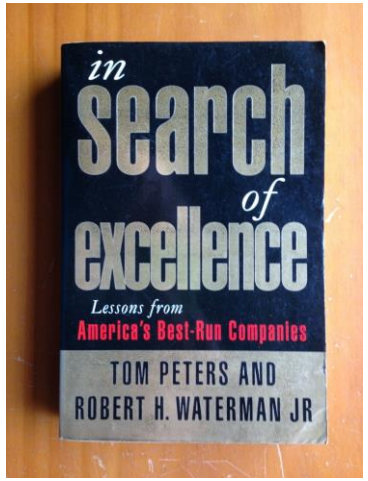
The pandemic hit and became the only hot topic. We pivoted to develop an AI-based visitor management system that helped nursing homes, mining sites, and other critical facilities to stay open more safely through the worst of it. By the time it was over, we were getting much more interest in our ERP system from mining companies in the Middle East and from Africa, South-East Asia, and North and South America in particular. As predicted, more miners were wanting solutions for things like ISO compliance and SHEQ management included with their new ERP system. It should be encouraging to know that all over the world, including from within developing nations, there is a growing drive to demonstrate excellence in the areas of environmental and social responsibility, and governance.

1. The pursuit of excellence

Excellence wasn't always a priority for business behaviorally. Until later last century, productivity and profitability were prioritized at the expense of the environment and other higher concerns. Excellence became more popular as a management concept in the 1980s with the book *In Search Of Excellence* by Tom Peterson and Robert Waterman, a team of two McKinsey consultants.

Whereas most analysts of the day were still examining the wonders of Japanese manufacturing, Peterson and Waterman looked at the most successful American companies. They selected 32 of these as the best-run, or *most excellent* according to rigorous holistic criteria – not just their size, profit, or turnover. They found that **structure isn't organization** – among other resounding revelations.

They also found eight commonalities between these *most excellent* companies, one of these being the company's ability to foster an environment where their employees will buy into company values.



In follow-up studies over the next five, 10, and 20 years, these 32 *most excellent* companies substantially outperformed the Dow Jones Industrial Average and the broader S&P 500.

So, we can say that the achievement of excellence among corporate goals is proven to enhance financial success. And, while the pursuit of excellence comes at a cost to the organization, there is evidence to suggest long-term financial return on this investment.

Excellence itself is one of humankind's oldest ideas. More than 2,000 years ago, Aristotle was observing the nature of excellence when he wrote: *Excellence is never an accident. It is always the result of high intention, sincere effort, and intelligent execution.*

It's not so hard for companies to sustain high intentions, but people will always struggle with the execution whenever too much effort is involved.

That's the invitation and challenge to us as software developers – helping people to get more done with less effort – or as we see it, making people's jobs easier.

So, to find out what kind of goals mining companies were aiming for or might aspire to, and what troubles they were having achieving their goals or getting started, we interviewed a bunch of them in Australia and other countries to provide a broad sample group.

We found their goals falling into three categories and styles of compliance:

- **mandatory compliance** such as in Australia with the transition of ESG reporting from voluntary to mandatory, and all other statutory obligations and requirements;
- **voluntary compliance** such as non-mandatory ISO certifications and other adopted and auditable frameworks;
- **aspirational compliance**, or so we called it, when a company creates its own set of goals and parameters for measurably achieving them.

As for the problems people were having with corporate goals, from the answers compiled, we found these top three biggest worries and timewasters:

- evidence-gathering, meaning the amount of paperwork that people were having to deal with;
- management of information and maintaining the quality of evidence;
- dread of the work involved in monitoring and being audited.

There were a lot of comments around auditing and how the process is feared, and about the loss of productivity whenever an audit is happening. We heard about binders full of paperwork,

mountains of document-scanning, management report-writing from sketchy details, and fear of written evidence not stacking up under the random checks of an external audit.

We found some very large companies still managing critical areas of their businesses between scrappy pieces of paper, deprecated Excel spreadsheets, and Word documents, for example. It was obvious why people would feel so stressed about auditing.

The G.O.A.T. American basketball coach, John Wooden, had 885 wins versus 203 losses in his 40-year coaching career, an unequalled winning percentage. John Wooden said: *It takes time to create excellence. If it could be done quickly, more people would do it.*

To make goals easier for mining companies to achieve, we had to make it so that time was no longer essential to the excellence equation.

2. Frameworks: ISO, ESG, SHEQ

Our first thought was to develop a system for managing the most popular frameworks for compliance as relevant to the mining industry.

We investigated some of the International Standards Organization standards that are becoming more popular for mining companies to pursue, like ISO 9001:2015 Quality Management; ISO 14001:2015 Environmental Management; ISO 31000:2018 Risk Management; ISO 45001:2018 Occupational Health and Safety.

ISO 31000:2018 meant that risk management became embedded in all activities associated with an organization.

ISO 9001 and 14001 are aligned to the Annex SL structure, which is based around the concept of an integrated management system.

The Pulse ERP system is an integrated management system. We figured that it would be most ergonomic for people at mining companies if Pulse embedded the management of ISO compliance, etc, into their business-as-usual workflows and processes. It was all making sense.

Risk is now defined by the ISO as *the effect of uncertainty on objectives which focuses on the effect of incomplete knowledge of events or circumstances on an organization's decision making*. This is where the predictive intelligence of Pulse could provide more complete information for decision-making *before the actual events have occurred*.

The picture of our solution was starting to come together – how it would be transparent and effortless, and how Pulse logic would fill in the gaps.

We investigated ESG: environmental, social and governance management issues, given the transition in Australia from voluntary to mandatory reporting. While Standards Australia is still working to harmonize frameworks here, mining companies anywhere might be needing to interpret from frameworks like CDP, the Carbon Disclosure Project; CDSB, the Carbon Disclosure Standards Board; GRI, the Global Reporting Initiative; SASB, the Sustainability Accounting Standards Board; IIRC, the International Integrated Reporting Council; and TCFD, the Taskforce on Climate-related Financial Disclosures, and there are others too.

Rather than devising one system for managing ISO, another for ESG, one for SHEQ, and so on – mining needed us to develop a system for managing any kind of compliance framework.

So, that's what we did. It's not a fixed set of templates that mining companies must squeeze themselves into.

It's literally a framework for managing frameworks, so it can never become outdated or outgrown in the future.

Greenwashing

One theme kept recurring throughout our investigations with everyone who spoke to us – the risk of greenwashing.

To explain greenwashing, the Harvard Law School says: *greenwashing is about misrepresentation, misstatement and false or misleading practices in relation to environmental, social and governance credentials.*

As a governance issue, Harvard says: *greenwashing carries with it reputational, regulatory and litigation risks for which companies should be prepared.*

Greenwashing can only happen when there is a lack of empirical evidence.

It's one thing for the company to greenwash deliberately and another when it happens inadvertently but the outcomes and consequences can be just as serious, whatever the intentions.

How does greenwashing happen inadvertently? We saw this for ourselves. Some of our guys were out on a client's mining site where some of their people were having difficulties using the Pulse app. They didn't want to use it, and it didn't make sense to us why they didn't want to use it, since it was so easy to use.

We had a meeting with their people and their objections were nebulous, not at all specific. They just didn't like doing tasks using *Pulse Digital Checklists* on mobile devices as they went along. They blamed our app, as if their disgruntlement would defeat the management decision to go paperless in mining operations.

Cleverly, one of our guys asked their supervisor to grab the binder where their people were stashing their completed forms. We pulled out a few sheets, in front of them and their management.

One sheet was blank except for the title and date. Another sheet was filled with nothing but zeros. All these sheets had been signed-off by someone. A few more sheets were incomplete, and we didn't need to continue any further. It was abundantly clear that the problem wasn't with the Pulse app. It was a problem with cultural resistance.

The Pulse app simply doesn't allow workers to tick-and-flick their way through procedures after the fact, or not undetectably. At least one mining

company has used its time-stamped, user-stamped, location-stamped data from the Pulse app on a mobile device to successfully defend against litigation over a workplace safety incident – the electrocution of someone – because it was proven that the person didn't perform the task in the prescribed safe manner and sequence after starting the procedure on the Pulse app.

Tellingly, one mandatory safety step hadn't been marked as completed on the Pulse app until several minutes *after* the electrocution had occurred.

Where there once would have been word against word, and days of legal argument over subjective elements of probability and doubt, in this instance, there was irrefutable evidence of the company not being at fault and upon submission, the case was rapidly closed in its favor.

But back to the risk of greenwashing.

Does the organization have binders full of paperwork? Check. Has the paperwork been signed-off? Of course, or it wouldn't have been put into binders – check.

And so, reports are written from hopeful impressions. The stories about the company's achievements are cloaking the volumes of paperwork that will not stack up under the scrutiny of auditing.

That's greenwashing.

Structure isn't organization, as observed by Peterson and Waterman. It follows that **paperwork isn't compliance**.

3. Culture and performance

I last spoke here at IMARC on the topic of transforming organizational culture to achieve digital transformation, with a talk titled *Holistic Business Optimization v. the Silo Mentality*. We published that talk as a whitepaper. Austmine promoted it, and it got picked up around the world.

We had people from everywhere, including academics and students, contacting Pulse wanting to speak to the person who wrote the whitepaper.

One of these was the CFO of a mining company with one of the world's richest gold deposits, outside of Australia. We met in person, and they bought the Pulse ERP straight away. When senior executives get the message, they *get it*.

The challenge then is about getting their people onboard for the journey. It's about meaning. A very long time ago, this guy comes across a stonemason working in the hot sun, he's carving out these huge blocks, all of them just the same. The guy says: *Hey man, this looks like crazy hard work. What are you doing here?* and the stonemason says: *I build cathedrals.* For the stonemason, his tough, boring job was tremendously meaningful.

In 1883 the Chautauquan magazine published a conundrum that was re-worded and republished by Scientific American and debated ever since.

If a tree were to fall on an uninhabited island, would there be any sound?

Most theorists agree that there is no sound as such. There are vibrations, or sound waves, but for sound to exist, they say, it must be perceived as sound.

More meaning is given to people's work when they know their actions are being recorded, measured, counted, noticed, seen, making a difference. Meaning is given to people's work when it matters.

Early last century, John D. Rockefeller recognized how correct actions needed to be both done and reported to get full value out of doing them in the first place. He said: *Next to doing the right thing, the most important thing is to let people know you are doing the right thing.*

Mining companies always benefit when they can reliably report correct actions to authorities, their investors, employees, shareholders, and the public media – not greenwashing but verifiable reporting.

Employees can benefit when employers are more certain that correct actions are being performed, as with incentives, rewards, bonuses, certificates, words of appreciation, and most fundamentally in the greater longevity of employment.

Society benefits when companies can reliably report the performance of correct actions for environmental compliance, sustainability, social responsibility, and other higher endeavors, as we all win.

The ability to reliably report and share the performance of correct actions is key to getting buy-in for the achievement of company goals. When actions matter, it means more for the people doing them.

4. Evidence gathering and reporting

It was a happy day at Pulse when the last piece of our compliance-management puzzle had come together, and we had the solution we could offer to the world.

We had successfully demonstrated how our *Digital Checklists* were replacing all paperwork at the frontline. Captured in real-time with minimal to nil extra effort, people were easily completing SOPs and SWPs as they went through sequences set for them. Within seconds they could make a voice memo, take a photo, and prove that they had put the tag on the electrical isolation switch – date, time, ID and location-stamped – before they did the work on the isolated piece of kit that otherwise could have zapped them.

This same tool was now easily recording

the real-time in-the-field performance of ESG-related actions, for example.

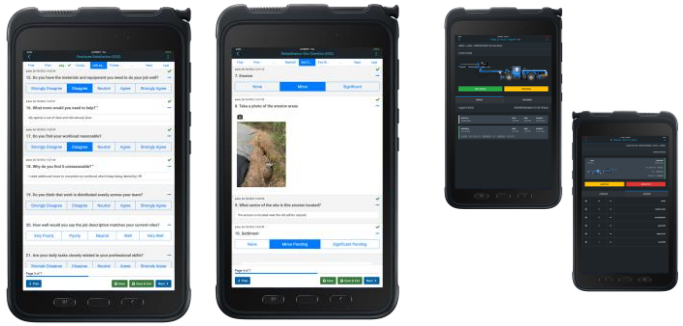
The Pulse system doesn't care what framework you're using or what actions or results will constitute compliance. You design the compliant practices around workflows, and these can be aligned to capture evidence of whatever standards you're adhering to, even while people are going about their normal work.

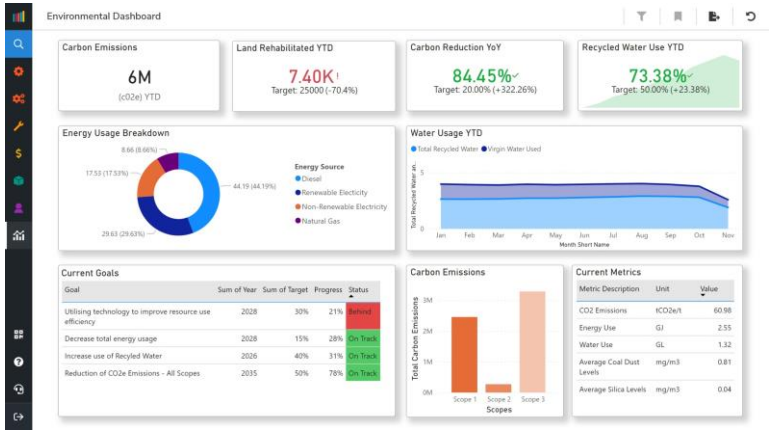
Our *Digital Checklists* are actually very easy for authorized users to create. But very often, mining companies will have vast amounts of paperwork that they want converted into *Digital Checklists* as quickly as possible, or something new to be managed using *Digital Checklists* that they want to bring in all at once.

That's why we offer a fast-turnaround service for converting new or existing forms and checklists from every department into *Digital Checklists*.

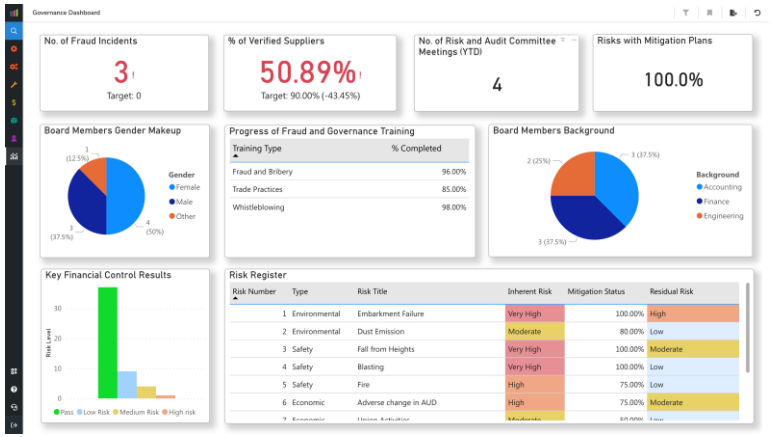
Going back to ESG as an example, you can easily prove that your company did an environmental reading at the place and time you say it should be done. Let's say you're supposed to take a daily air-quality reading in this area. When it's being captured on a *Digital Checklist*, your secure login, the date and time, and GPS-location data proves that you were there when you said you were there; and the captured image taken of the reading provides the evidence of the result.

It means people can't just make up a month's worth of water or air-quality readings all at once for reporting when the checks weren't done at the time.





And it works easily for the achievement of goals in safety, governance, and more – setting the standards for performance and aligning the actions that people do.

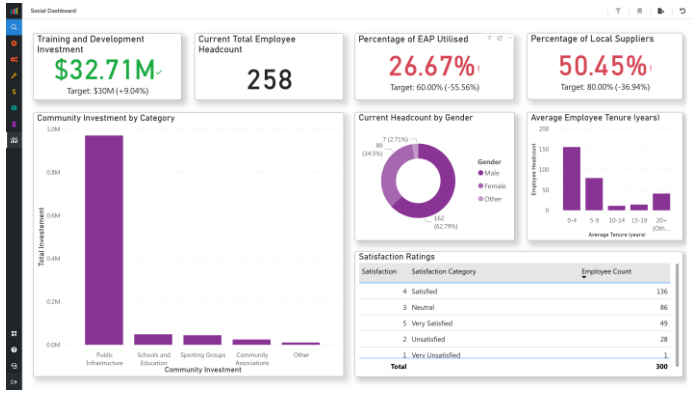


Users cannot change the records. The data captured on mobile devices will remain in the system as an auditable record. If an authorised person must make an adjustment for whatever reason, their changes are also tracked.

Meantime, back in the office, at home, on your laptop in an airport lounge or from your hotel anywhere, you can watch the achievement of corporate goals and monitor performance in real-time from easy-to-read dashboard visualizations.

You won't need to wait until the end of the period to read someone's report or review any spreadsheets to see how well things are going or not. There is no delay when you see the need to make your decisions. You can instantly filter the summarised information and drill down to interrogate details from any angle. Save favorite reports for faster access. You can set reports to email to a group before meetings, so that everyone is on the same page. Display essential KPIs to the whole company on big TV screens.

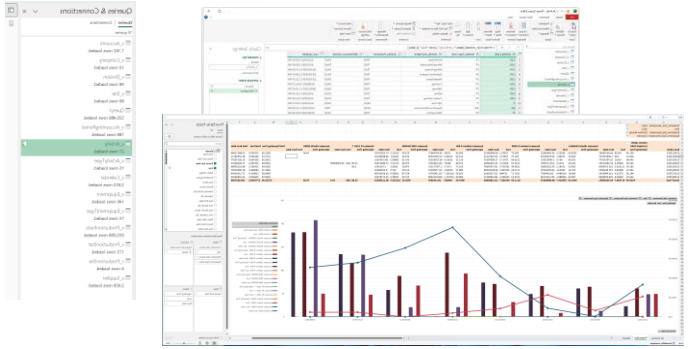
Manage at the strategic, tactical, and operational levels. Start with KPIs in any department or from any set of objectives and drill into transactions from there.



5. Auditing made easy

Looking into the auditing requirements for ISO compliance, and standards for forensic evidence, our system allowed evidence-gathering and reporting to the highest standard, meaning irrefutability:

- verified data capture - diarized (date-time/user/location/etc)
- verified and controlled processes and tools
- verified technicians/operators
- accessible historical data for validation



Auditing is no sweat when auditors can have their own secure login to your *Pulse Analytics* and its *Data Warehouse*. They can knock themselves out looking into your relevant raw data. It's like giving auditors the keys to your compliance, and a map to get around in there, with no questions asked, and no surprises.

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