

THE LANGUAGE OF SAFETY

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Are there any signs a serious incident is going to happen? What hazards are present? What behaviours are our people exhibiting that may increase their exposure levels? Do our strategies, risk register and preventive programs contemplate the right types of potential accidents / incidents? Is our observation/audit program properly targeted? Are our investigation processes identifying the correct causal factors?

These are valid questions for a business leader to ask when proactively managing safety. But when answers are found, how does the leader know they are the right answers?

By using a different approach, the right answers can be found through analysing the language contained within accident/incident reports, audits, observations and cultural surveys. The analysis and visualisation of language provides a unique perspective from which to conduct meaningful assessments of safety program effectiveness.

Using language-based analysis to assess historical reports, leaders can quickly determine the effectiveness of their various reporting processes; assess the efficacy and consistency of risk management and critical controls across locations; tie together seemingly unrelated events/observations to provide a more complete picture of existing and/or potentially unrecognised risks within their operation.

To illustrate, consider four different types of underground mining incidents.

1. Structural damage to walls and pillars with no cause identified.
2. Loss of concentration while driving, resulting in damage to walls or other vehicles.
3. Interactions between personnel and mobile equipment.
4. Misuse of Tag Board systems, highlighting potential issues with personnel visibility.

Using Natural Language Processing and data visualisation, we successfully linked these disparate groupings of incidents, to provide a realistic picture of typical operational hazards being connected to differing worker behaviours which, when brought together, could lead to a catastrophic event.