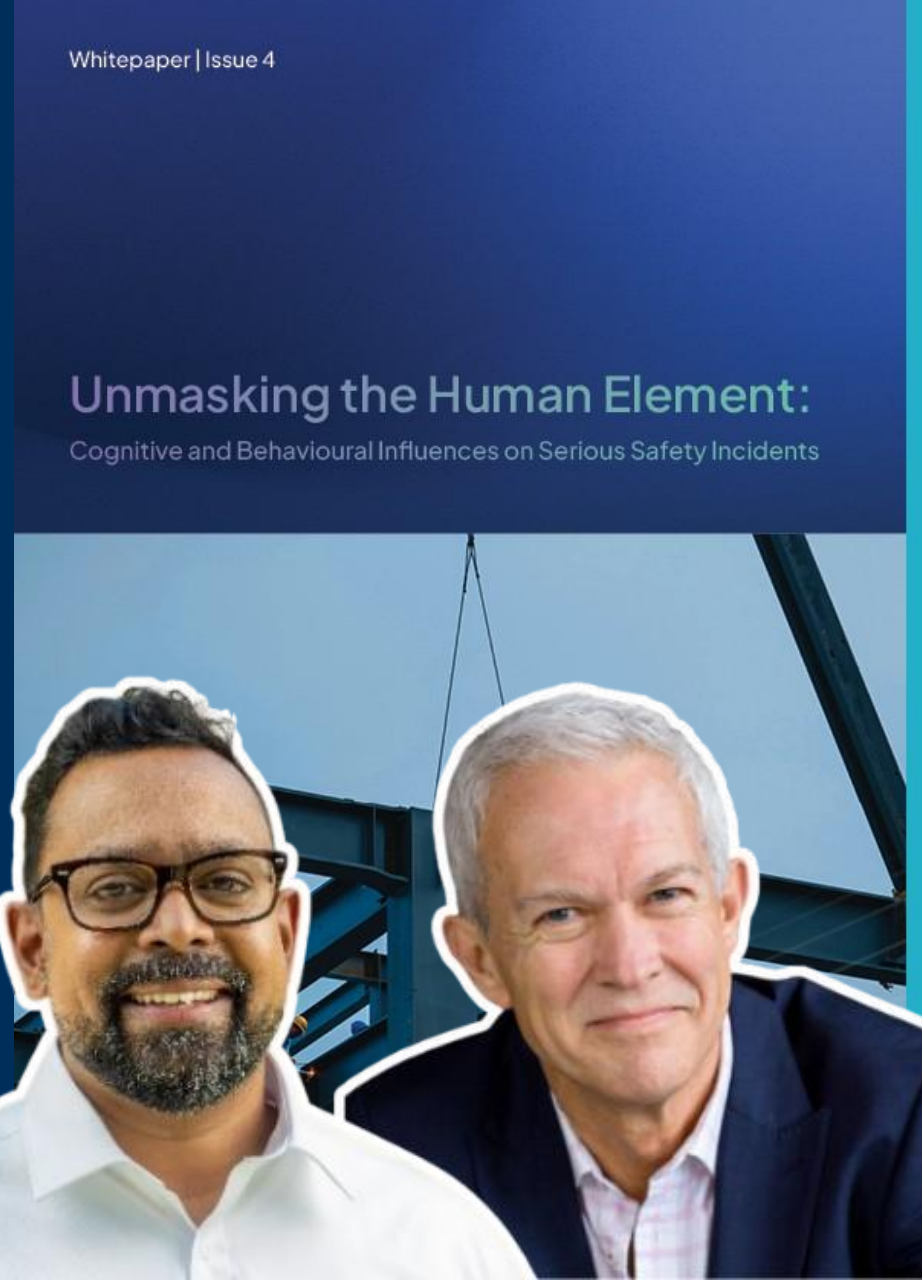
Understanding Human Error in SIFp Events

Insights from the latest whitepaper by Incident Analytics.



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ACKNOWLEDGEMENT OF COUNTRY

Sentis acknowledges the traditional custodians throughout Australia and recognises their connections to land, waters and community.

We acknowledge the Traditional Owners of the land on which we meet today and pay our respects to elders past and present. We extend that respect to Aboriginal and Torres Strait Islander peoples here today. We do this because we value Aboriginal and Torres Strait Islander history, culture and knowledge.

To change the lives of individuals and organisations for the better, every day.

Empowering more than 500 companies and 200,000 people to think differently about safety since 2003

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The Sentis Way

- *Understand* the story. What the data is telling you, so you have confidence you're focusing on the right issue.
- *Align* the vision, develop strategy, build shared understanding and buy-in.
- *Implement* the strategy and build engagement and capability uplift.
- *Integrate* the systems and processes to embed the learning.

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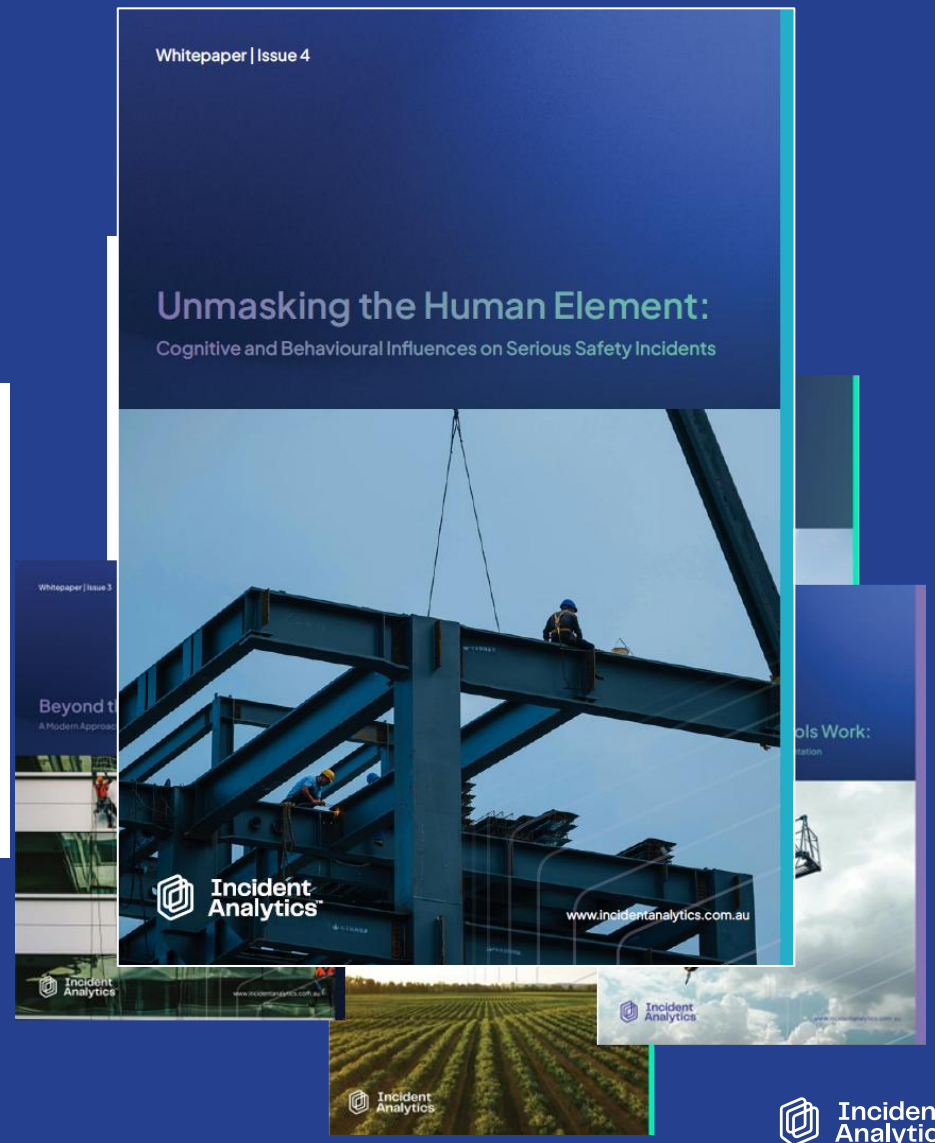
Critical risk consulting & research



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SCALE™

Underpinned by research with Federation University

Severity

Determination of severity potential

- Decision tree-based SIFp determination
  - No
  - Yes
- Determine risk category

Controls

Absent or ineffective control analysis

- Determine controls that could / should have been properly implemented
- Evaluate control implementation enablement issues

Antecedents

Casual analysis of contributing factors

Human Factors	*Cognitive Hazards*	*Operational Factors*	*Organisation Factors*
Unintended Error: Slip / Lapse	Auto-pilot Pressure Perception Fatigue Memory Groupthink	Leadership	Plant & Equipment
Unintended Error: Mistake		Management	Human Resource Management
Workaround: Routine	Decision-making Planning Information Skill adequacy	Supervision	Safety Management System
Workaround: Situational		Individual Traits	
Workaround: Exceptional		Team Function	Externals Management
		Environment	

Learning

Findings reviewed & prioritised

- Control adequacy
- Control erosion
- Human factors & cognitive issues
- Upstream factors
- Impact prioritisation:
  - Direct vs indirect
  - Magnitude

Exposure

Actions developed for priority findings

- Control Design Improvement
- Control Implementation Reliability
- Effect prioritisation:
  - Exposure impact
  - System alignment

Endorsed by AIHS

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Human Factors

- Unintended Error: Slip / Lapse
- Unintended Error: Mistake
- Workaround: Routine
- Workaround: Situational
- Workaround: Exceptional

Cognitive Hazards

- Auto-pilot
- Pressure
- Perception
- Fatigue
- Memory
- Groupthink
- Decision-making
- Planning
- Information
- Skill adequacy

Operational Factors

- Leadership
- Management
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Organisation Factors

- Plant & Equipment
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POLL

Which is hardest for organisations to accept?

A: Workers are doing their best with the conditions they’re given

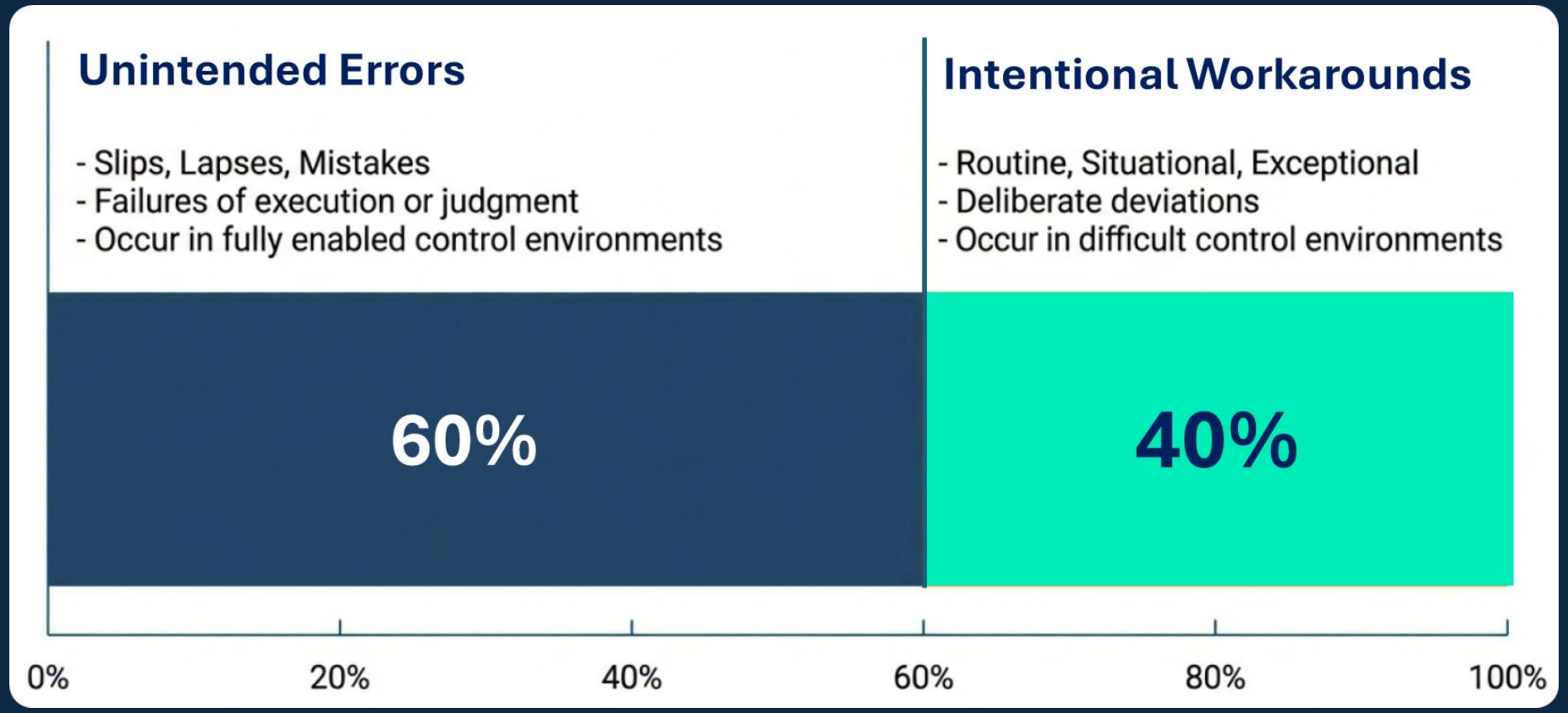
B: Systems and processes may be flawed

C: Management decisions shape front-line risk

D: Blaming workers doesn’t improve safety

E. Workers making errors is normal

The Two Distinct profiles of Human Failure



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Unintended Errors: When biology overrides training

64%

Slips & Lapses (Execution Failure)

Task completed incorrectly or step missed, despite knowing the correct sequence.

Occurs during familiar, routine tasks.

36%

Mistakes (Judgment Failure)

Errors of decision-making where the worker does the wrong thing, believing it to be right.

Occurs during unfamiliar tasks or training gaps.

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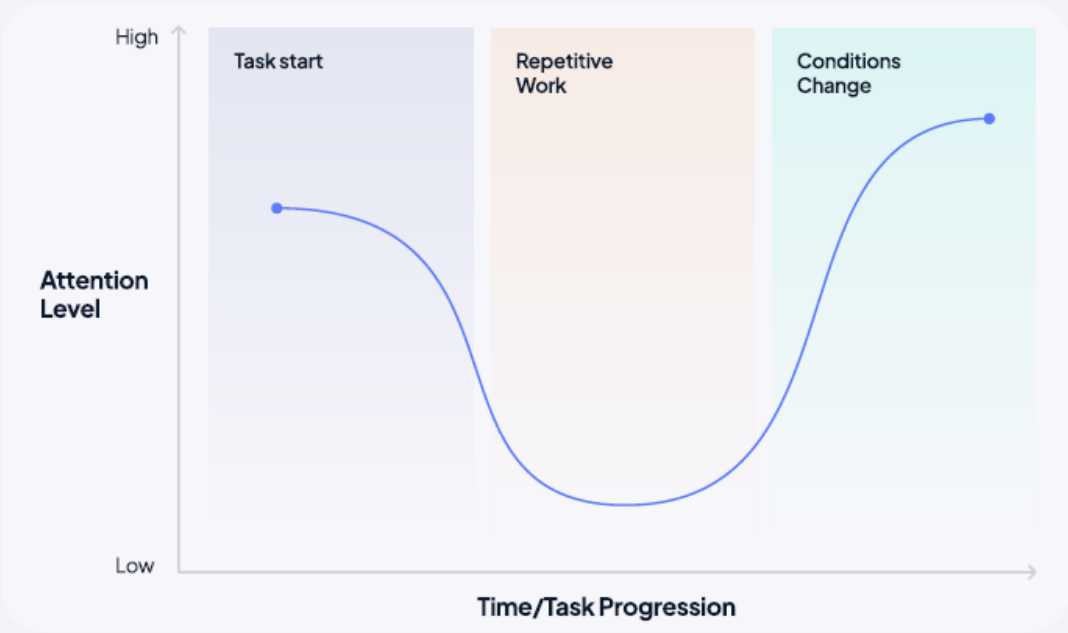
The ‘Autopilot’ Paradox

Slips and lapses most frequently occur in fully enabled control situations where safety systems are present and functional.

38% caused by **Autopilot** (brain disengaged)

29% caused by **Failure to Notice Hazards**



Examples:

- Not putting a mask back on after talking to a colleague.
- Checking a dial but seeing the wrong value.
- Not securing scaffolding due to an interruption.

Corriveau, A., Rosenberg, M.D. & deBettencourt, M.T. (2025) Cognitive neuroscience of attention and memory dynamics. University of Chicago. Available at: https://debetten.github.io/files/Corriveau_PsyArXiv_2025.pdf (Accessed 19 January 2026).

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Mistakes: A Failure of Judgement or Planning

Mistakes often happen in difficult control conditions where workers must interpret complex situations.

43% caused by **Decision-making Errors**

Linked to higher **risk tolerance**

33% caused by **Planning Shortcomings**

Weak or absent **risk assessments**

Key takeaway:

If a mistake occurs, look for training gaps or confusing systems before blaming the worker.

Examples:

- Misinterpreting the sound of a machine breakdown
- Choosing the wrong anchor point for a lanyard
- Leaving insufficient room when overtaking

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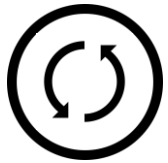
Intentional Workarounds: Adaptation, not malice

Deliberate deviations are rarely malicious – usually well-intentioned efforts to complete tasks.

54%

Routine Workarounds

"It's just the way we do that around here."



34%

Situational Workarounds

"It's the only way we can get it done here."

12%

Exceptional Workarounds

"We didn't have any choice at the time."

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Key Driver: Normalised deviation

54%

Routine workarounds make up **more than half** of all workarounds. They more often occur at night or during reduced supervision.

Examples:

- Scaffolders not clipping on their harnesses above 2m.
- Truck drivers not wearing seat belts.
- Manager allowing untrained drivers to operate plant.

SAVE TIME

SAVE EFFORT

The Risk?

Repeated use without consequence desensitizes workers to risk.

The systems thinks its safe, but the reality on the ground has drifted.

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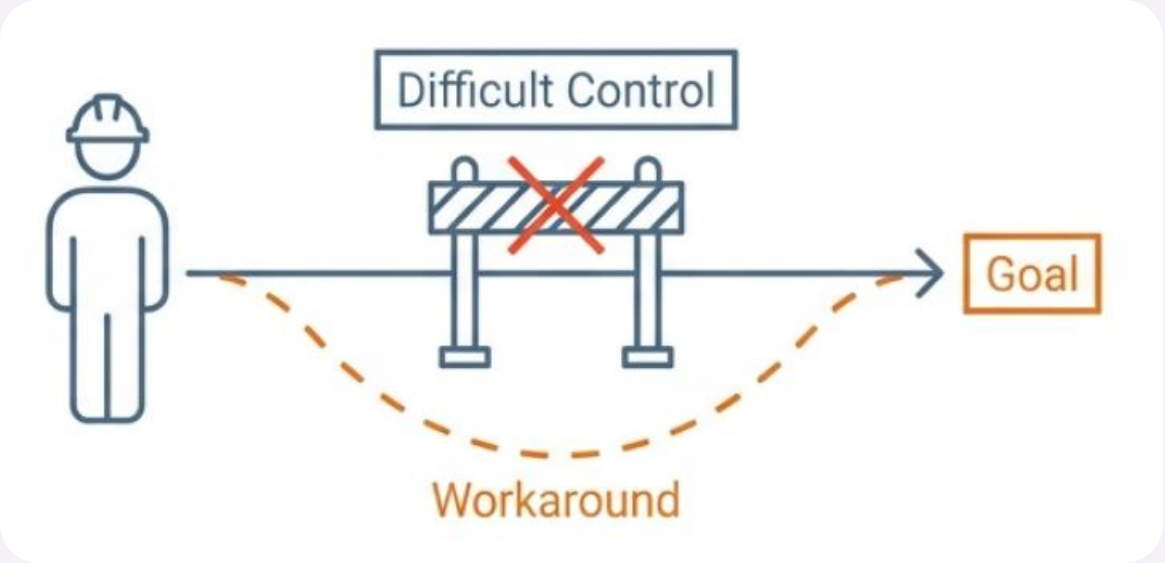
Key Driver: Difficult or unworkable controls

80%

Situational workarounds are **80% more likely** to occur when controls are difficult to apply or unworkable.

Examples:

- Delivery dock space too small for exclusion zones.
- Workspace too hot for mandated PPE.
- Outdated plant requiring riskier procedures.



Address gap between work ‘as intended’ vs ‘as done’

Analyse how work is actually done

- Use task-specific critical control verification tools rather than generic checks.
- Focus verification on the least reliable controls.
- Establish the REAL level of critical risk exposure.

Feedback loops

- Actively engage work groups in problem-solving.
- Ensure critical controls are practical and enabled.
- Reset risk-reward balance and reinforce at all levels.

Key Recommendations for Safety Leaders

Control Effectiveness

- Verify enablement of controls
- Reduce reliance on human reliability
- Improve learning from HiPo incidents

Error Reduction

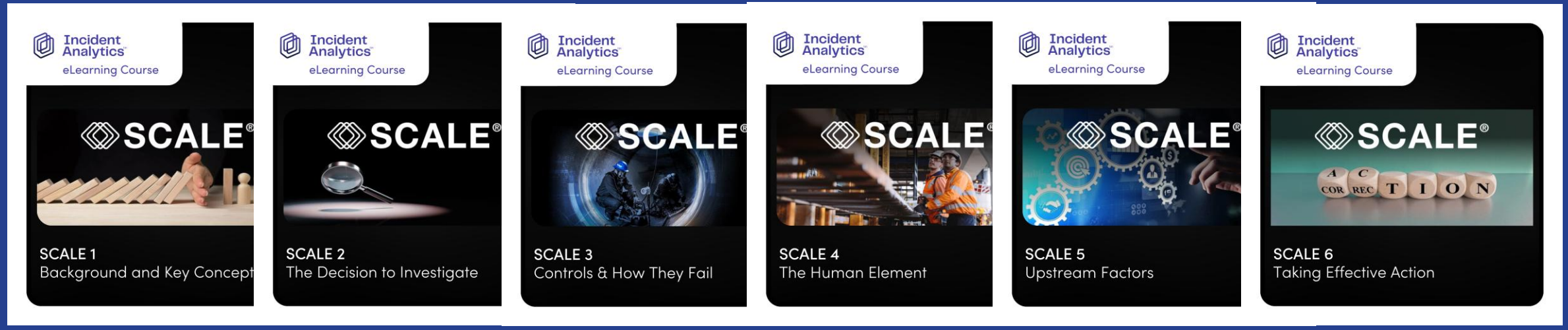
- Enhance risk assessment & planning
- Mitigate impact of cognitive hazards
- Investigate & understand workarounds

Leadership & Culture

- Encourage reporting & feedback
- Building psychological safety

How to learn about SCALE™

The SCALE™ eLearning course is endorsed by the Australian Institute of Health & Safety (AIHS).
It equips safety professionals with the skills to learn from unplanned events.



SCALE™ eLearning program endorsed by AIHS Endorsed Professional Development

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