



Data-Driven Safety:
Transforming Culture,
Empowering People

dss⁺

Protect. Transform. Sustain.

Australian food, beverage and agriculture companies have a lot on their plates. As they seek to efficiently produce and market new products, pressure continues to mount on multiple fronts. Consumers are demanding ever-higher quality and greater sustainability. Extreme weather and political challenges affect pricing and supply chains. And, despite significant advances in worker safety, serious injuries, fatalities, and illnesses persist.

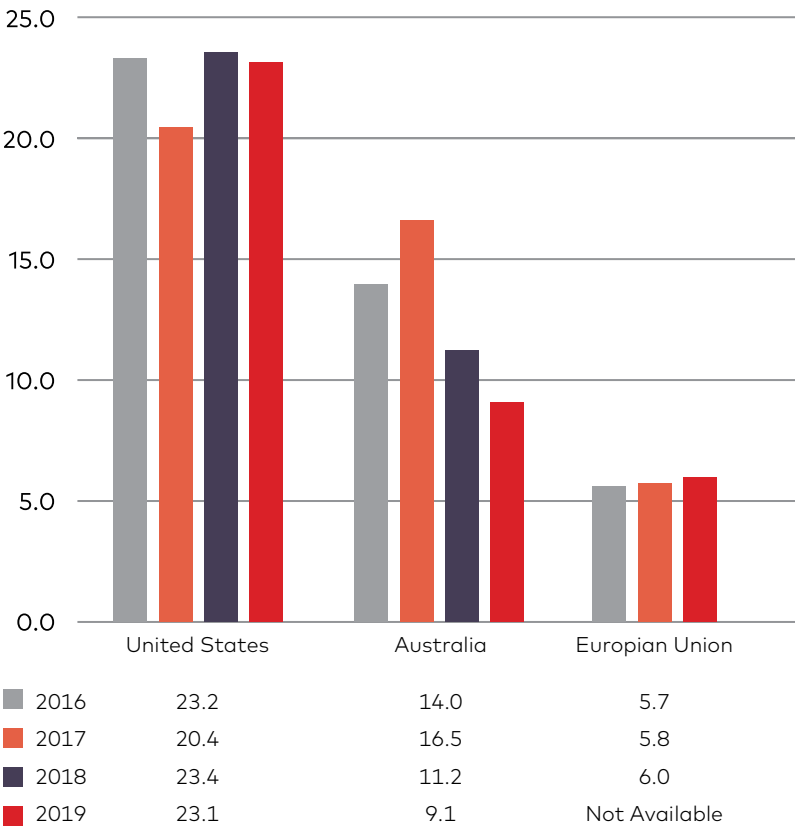
Data through 2019 shows that lost time injury frequency rates (LTIFR) in the agriculture, forestry and fishing sector are fairly consistent across Australia, the US and the EU, remaining constant from 2017-2019. Fatality rates, however, vary more widely. Fatalities occurred in Australia at a far lower rate compared to the US, falling by 44% in the years 2017-2019. However, the rate across 27 EU countries was consistently lower than Australia's.

2023 data from Safe Work Australia shows that the agriculture, forestry and fishing industry continue to have the highest fatality rate of all Australian sectors.

In a [recent perspective on culture transformation](#), dss+ discussed the significant impacts on incidents and attitudes when a company progresses from a 'compliance' culture marked by a singular focus on following the rules to a 'commitment' culture in which people are motivated to take personal responsibility for safety, going above and beyond rule compliance. Now we'll share how utilising data helps make that positive shift possible.



Agriculture, Forestry and Fishing Fatality rate per 100,000 workers



Sources: US BLS, Eurostat, Safe Work Australia

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Connecting Data to Safety

Providing access to safety performance data—and helping employees develop the skills to analyse and act on that data—can lead to important payoffs in how people think about safety in four key ways.

1 Identifying Patterns and Root Causes

Looking at trends in incidents, near misses, and operational inefficiencies can help employees recognise underlying causes. Engaging employees in this process allows them to generate ideas and take ownership of preventive actions. They also gain the ability to anticipate risks, building a more self-reliant culture.

Examples:

- Incident analysis—examining data from past events to identify patterns and unresolved causes
- Risk mapping—creating heatmaps of high-risk tasks or areas to prioritise interventions

2 Acting on Predictive Insights

Armed with data analytics and predictive modelling, individuals can look for ways to head-off issues before they escalate.

Examples:

- Risk forecasting—machine learning models can anticipate potential risks based on historical and trending data
- Preventive maintenance—equipment repairs can be scheduled based on usage data to avoid failures

3 Measuring and Recognising Progress

Using data to objectively track individual and team contributions towards safety and operational goals motivates and reinforces positive behaviour. Recognising data-driven approaches encourages others to follow suit, fast-tracking growth.

Examples:

- Behaviour-based observations—collecting data on and acknowledging proactive safety behaviours
- Performance dashboards—highlighting those who achieve incremental and significant improvements

4 Enabling Continuous Improvement

Collecting and analysing data creates a foundation for ongoing learning and adaptability. Employees involved in these efforts develop the mindset and skills required of a learning organisation—a key characteristic of a mature safety culture.

Examples:

- 'Embracing the red'—conducting regular reviews of safety and operational performance data, framing any negative trends as an opportunity to learn
- Team discussions—facilitating opportunities to interpret data, generate actionable insights and challenge the status quo
- Feedback loops—refining processes and policies based on data gleaned



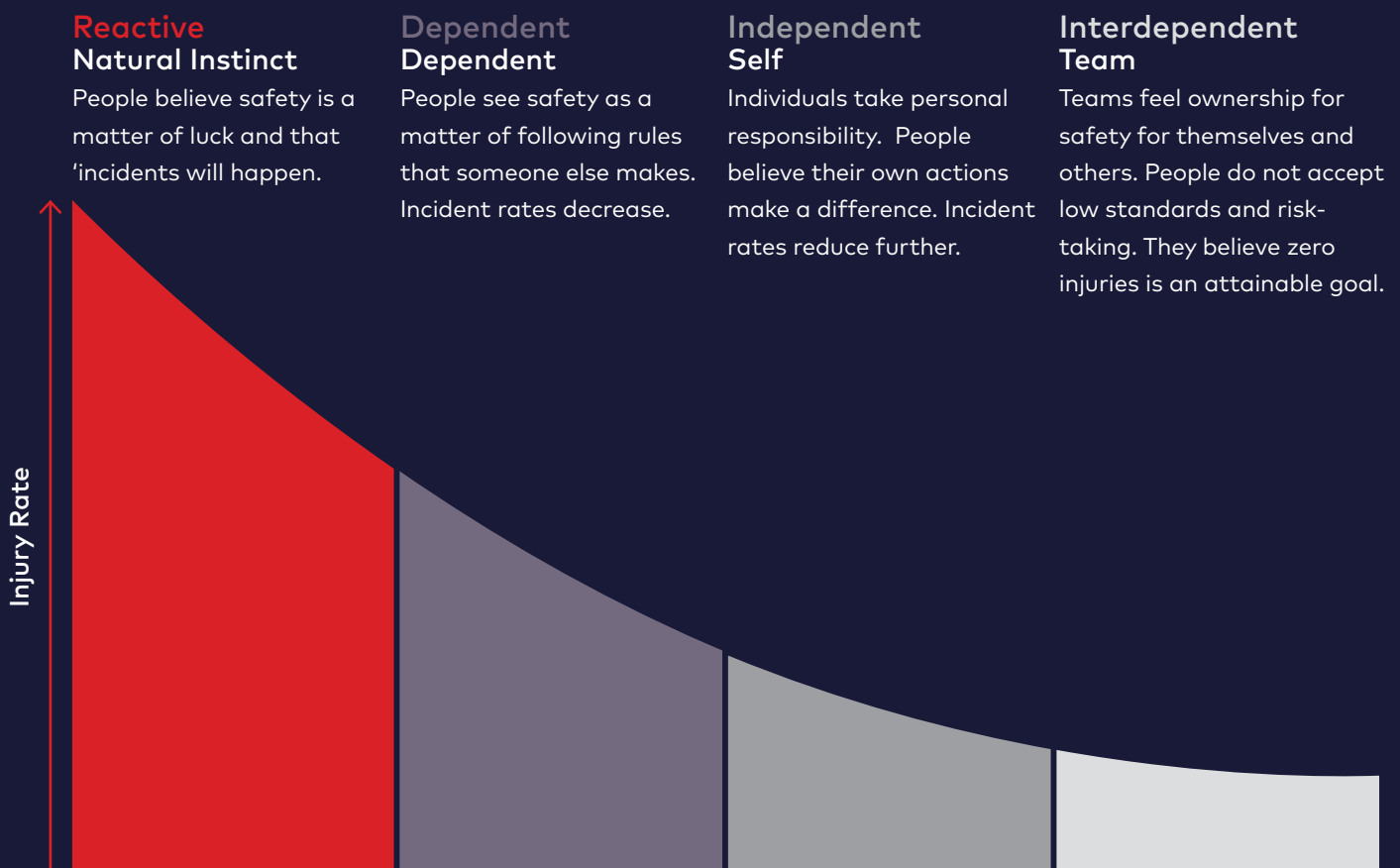
The **dss+** Approach

Utilising the Bradley Curve™—our model for gauging and talking about safety culture and performance—dss+ has worked with a number of ANZ-based organisations in the agriculture, food and beverage sector, helping them take the challenging step out of a Dependent culture on the left-hand side of the curve and into a higher performing Independent culture (and, ultimately, an Interdependent culture) on the right.

We have seen that the shift from an underperforming Dependent to a higher performing Independent safety culture dramatically gains momentum when everyone can access, understand, and act on data. What's more, when employees use data to take ownership of safety, they discover operational improvements along the way.

In making this transition, leaders and employees each have important roles to play.

dss+ Bradley Curve™





Leadership: Modelling and Sharing

By consistently demonstrating good data-driven decision-making practices, including how data can guide actions and improve outcomes, leaders can inspire employees to do the same.

Good practices:

- Explain how new ideas and decisions are supported by data
- Be clear about what data is being collected and why
- Share data-driven success stories during meetings
- Encourage team members to present their own data analyses and solutions



Employees: Empowerment to Seek Insights

Providing access to safety and performance metrics builds trust and engagement as employees start to see the impacts of their actions. This leads to a sense of ownership, which impels employees to perform to a higher standard as they see the results of their contributions.

Good practices:

- Provide safety metrics and operational KPIs on real-time dashboards
- Train employees to analyse data and propose or act on insights
- Recognise initiative when employees use data to inform decision making



Overcoming Implementation Challenges

Despite its potential, many organisations struggle to leverage data effectively. Common challenges include resistance to transparency, lack of skills to interpret information and over-reliance on management for analysis.

These barriers can be addressed through leadership and change management strategies:

- Foster openness by clearly conveying the purpose and benefits of data collection
- Invest in training to build analytical skills in line with safety leadership development
- Gradually delegate data responsibilities to employees while continuing to provide guidance and support
- Create safe spaces for employees to trial, fail and learn using data-driven approaches



Data as a Bridge to a Higher Performing Safety Culture

Data collection and analysis are powerful tools for supporting an Independent—and, ultimately, an Interdependent—culture. Equipping employees with actionable insights, ensuring transparency, and promoting proactive use of information, empowers individuals to take ownership of their own and their colleagues' safety. This opens the door to valuable discussions and better decision making.

This data-driven approach not only contributes to a more mature safety culture, but also drives continuous improvement, minimising risks and enhancing performance. dss+ has worked with many companies across Australia and New Zealand and beyond, and have seen first-hand how data becomes more than a tool. Find out how we can help you make data a cornerstone of organisational maturity and business success.



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About dss+

dss+ is the operational transformation partner for complex and high-hazard industries. Driven by our purpose, we help organisations achieve breakthroughs in safety, performance and sustainability that build business endurance and ensure long-term success. We engage deeply within organisations to empower teams to shift mindsets, shape cultures, and establish the capabilities required at every level. We combine technical expertise and operational experience with a people-centered approach and data-driven insight.



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