



# SAFETY CULTURE RESEARCH IN THE CONSTRUCTION SECTOR

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Self Insurers of South Australia Conference : Closing the Loop.

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Centre for Accident Research & Road Safety - Queensland

CARRS-Q is a joint venture initiative of the  
Motor Accident Insurance Commission  
and Queensland University of Technology



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CRICOS No. 00213J

# **SAFETY CULTURE RESEARCH IN THE CONSTRUCTION SECTOR**

An outline of interlocked projects  
in safety competency and safety  
effectiveness indicators

# Outline of Presentation

- View from the Construction sector as to the need to improve OHS culture
- What were the goals and the outcomes of the CRC Construction Innovation research
- Leadership behaviours to drive OHS culture change in industry
- What benefits to the construction sector have occurred through these initiatives
- What we have learnt on the journey

# Why pursue safety culture change?

- High risk industry
- Fatalities and other indices had reached a plateau
- “Carrot and Stick” regulatory approach was no longer driving change
- Behavioural and attitudinal change required at all levels
- Leadership on safety culture required across management teams

# Goals and Outcomes of the CRC Construction Innovation research

- Projects: A Construction Safety Competency Framework
  - Improving OH&S performance by creating and maintaining a safety culture
    - The development of a safety culture
    - Identification of safety management task (SMT's) and safety critical positions
    - Tasks and Positions Competency Matrix
    - Basic Guidelines for implementing the Framework
    - SMT's and achievable Culture Outcomes
    - Explore and develop safety effectiveness indicators (SEI's)

# Useful References: Google CRC CI for free downloads

- A Construction Safety Competency Framework.
- A Practical Guide to Safety Leadership
- Safety Effectiveness Indicators



# Safety Competency: Key Elements

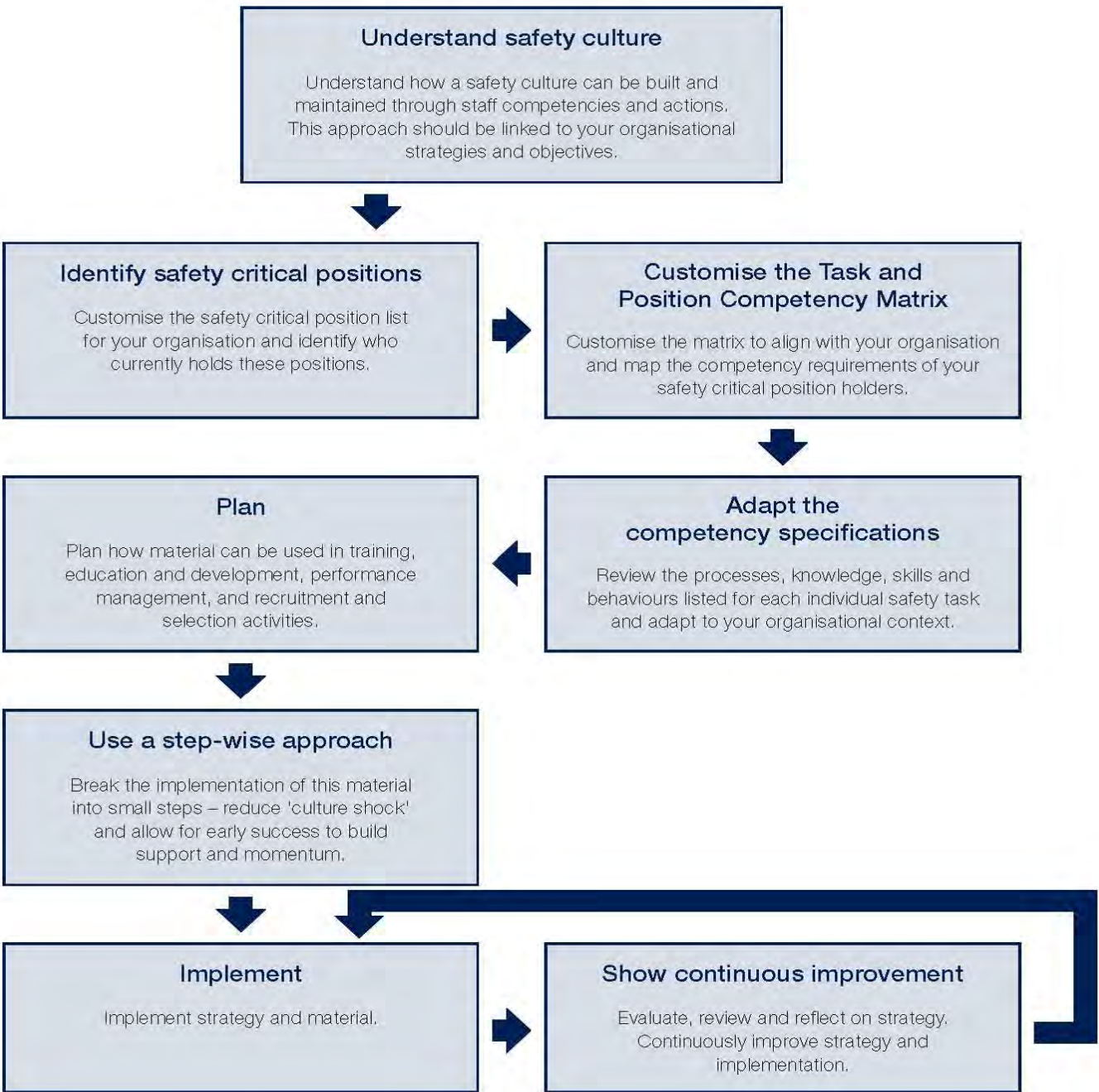
**Increased  
Safety Knowledge**

**Demonstrated  
Leadership  
Behaviours**

**Safety Competency**

**Good  
Interpersonal  
Communication**

**Positive Safety Attitudes &  
Beliefs**



# Leadership Behaviours to develop safety initiatives

- Provision of appropriate resources (time, funds and people) to manage safety
  - Safety policies are developed using consultation and are adhered to
  - Safety related programs – such as effective and high quality training – are undertaken and supported
  - Enough staff are employed in the company so that it is possible to manage safety as well as productivity

# Leadership Behaviours to develop safety initiatives

- Set safety, health and welfare as a high-status organisational value
  - Formal and informal communication promotes and validates safety
  - Supportive and trusting relationships are formed with staff
  - Stated values are adhered to, consistently communicated, clarified and reinforced

# Leadership Behaviours to develop safety initiatives

- Allocate own work time to safety management activities
  - Visible safety tasks and responsibilities are assigned and undertaken by senior management

# Leadership Behaviours to develop safety initiatives

- Provide Leadership
  - Concern for individuals (via mentoring, coaching and through supportive behaviours) is shown and communicated
  - Intellectual stimulation is provided (challenging, inspiring and encouraging people to think about things in different ways and engage mentally with issues)
  - Motivation and energy is provided to situations and a vision or plan is effectively communicated

# Current Measures

- Positive Performance Indicators
  - Limited uptake
  - Lack capacity to actually measure safety performance
  - Measure OHS processes
  - Lack follow up actions
- Need for reliable safety performance measurement e.g. SEI's

# Framework Document and Safety Effectiveness Indicators (SEI's)

- Determined safe behaviours and safety management tasks (SMTs)
- Develop these SMTs to measures to proactively assess safety performance (SEI's)
- Creation of a mechanism to measure safety effectiveness that is
  - Standardized
  - Valid
  - User-friendly

# Challenges

- Varied work undertaken
- Many levels used in construction
- Use of sub contractors
- Workforce can be used for short periods

# Considerations

- Need to develop reliable, comparable and constant indicators
- Do not have drawbacks of PPIs
- Easy to measure
- Benchmarkable
- Implement uniformly over different sectors
- Simple
- Not capital or human resource intensive

# Development of SEI's

- Developed from 39 SMT's, critical to enhancing safety performance
- Developed into set of qualitative values based on quantitative scale
- Metrics is common practice in the Industry so need to retain this measure

# Development of SEI's

- Currently, Positive Performance Indicators (PPIs) are only able to measure numbers of activities undertaken. They do not provide information on whether each activity is being undertaken effectively and therefore do not provide data which can be used by industry to target areas of focus and improvement.


# Development of SEI's

- The initial workbook contained 6 Safety Management Tasks, and was piloted on various construction sites during August 2008. Through feedback from the pilot the workbook was refined and 13 SMTs were used in a field trial during the months of October, November and December 2008. The Project Team also carried out 12 focus groups in Brisbane, Canberra, Sydney and Melbourne, during April, May, and June 2008 and, through these groups and team workshops, developed an initial format of this workbook.


# Development of SEI's

- Requested changes concentrated on simplification of the language, which we have attempted to do throughout this project. This has proven to be a challenge; ensuring we keep the descriptions short, to the point and relevant to all companies, without making them too specific. We also altered the scale used, as suggested by the majority of the construction industry participants, to the Yes/No/Not Applicable format used in this workbook. These considerations were finalised in the first quarter of 2009.

## SAFETY EFFECTIVENESS INDICATOR FOR SAFETY MANAGEMENT

 <b>TASK 13: PLAN AND DELIVER TOOLBOX TALKS</b>							
<b>Job title</b>							
<b>Date of evaluation</b>							
<b>Evaluator status</b> (CIRCLE ONLY ONE)	Independent observer <input type="checkbox"/> OR Leader/facilitator <input type="checkbox"/> OR Participant <input type="checkbox"/>						
<b>Evaluator role</b>							
<b>Workplace name and company</b>							
<b>SEIR description</b>	This SE measures how to plan and hold a successful, value adding toolbox talk that achieves involvement and awareness.						
<b>Why SEIT is undertaken</b>	Toolbox talks are held as one way of ensuring effective consultation, exchange of ideas and information between work crews and their supervisors leading to increased awareness of safety issues, hazards and safety actions on site.						
<b>Element 1</b>	<b>Facilitator/leader encourages and gains participation. Facilitator provides opportunities for input from all participants.</b>						
<b>Descriptors</b>	<table border="1"> <tr> <td> <ul style="list-style-type: none"> <li>Participants are actively encouraged to participate and to provide input.</li> </ul> </td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>Facilitator is open to feedback, encouraging discussion that increases the level of risk awareness relevant to the team and site.</li> </ul> </td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> </table>	<ul style="list-style-type: none"> <li>Participants are actively encouraged to participate and to provide input.</li> </ul>	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	<ul style="list-style-type: none"> <li>Facilitator is open to feedback, encouraging discussion that increases the level of risk awareness relevant to the team and site.</li> </ul>	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>		
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<b>Comments</b>							
<b>Element 2</b>	<b>Facilitator/leader organises action arising from toolbox talk and identifies responsibilities.</b>						
<b>Descriptors</b>	<table border="1"> <tr> <td> <ul style="list-style-type: none"> <li>Action owners are consulted by facilitator/leader before task allocation.</li> </ul> </td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>Facilitator/leader confirms understanding of individual responsibilities, milestones and timoframes, and any other action owners involved.</li> </ul> </td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>Action owners recognise and support the need for change and the outcomes wanted from the actions.</li> </ul> </td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> </table>	<ul style="list-style-type: none"> <li>Action owners are consulted by facilitator/leader before task allocation.</li> </ul>	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	<ul style="list-style-type: none"> <li>Facilitator/leader confirms understanding of individual responsibilities, milestones and timoframes, and any other action owners involved.</li> </ul>	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	<ul style="list-style-type: none"> <li>Action owners recognise and support the need for change and the outcomes wanted from the actions.</li> </ul>	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>
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<b>Comments</b>							
<b>Element 3</b>	<b>Facilitator/leader records relevant actions, identifies agreed actions, and creates priority action and time frames.</b>						
<b>Descriptors</b>	<table border="1"> <tr> <td> <ul style="list-style-type: none"> <li>Toolbox talk is accurately documented and distribution process agreed.</li> </ul> </td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>Awareness strategies, opportunities and any improvements or requests raised or identified are accurately captured.</li> </ul> </td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>Agreed action owners, activities and time frames are recorded and allocated.</li> </ul> </td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> </table>	<ul style="list-style-type: none"> <li>Toolbox talk is accurately documented and distribution process agreed.</li> </ul>	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	<ul style="list-style-type: none"> <li>Awareness strategies, opportunities and any improvements or requests raised or identified are accurately captured.</li> </ul>	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	<ul style="list-style-type: none"> <li>Agreed action owners, activities and time frames are recorded and allocated.</li> </ul>	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>
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<b>Comments</b>							

## SAFETY EFFECTIVENESS INDICATOR FOR SAFETY MANAGEMENT

 <b>TASK 36: WORK WITH PEOPLE TO SOLVE SAFETY PROBLEMS</b>							
<b>Job title</b>							
<b>Date of evaluation</b>							
<b>Evaluator status (CIRCLE ONLY ONE)</b>	Independent observer <input type="checkbox"/> OR Leader/facilitator <input type="checkbox"/> OR Participant <input type="checkbox"/>						
<b>Evaluator role</b>							
<b>Workplace name and company</b>							
<b>S&amp;E 36 description</b>	Display and use of an effective process that actively involves all relevant people in problem solving.						
<b>Why S&amp;E 36 is undertaken</b>	To ensure interactive workforce engagement and collaboration in interventions before risk exposure occurs.						
<b>Element 1 Collaborative and proactive approach to identifying hazards and issues.</b>							
<b>Descriptors</b>	<table border="1"> <tbody> <tr> <td>• Consultation process is understood and applied.</td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td>• Inspections identify hazards for routine work and planned high risk tasks.</td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td>• Inspections are conducted by a range of trained relevant site people.</td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> </tbody> </table>	• Consultation process is understood and applied.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	• Inspections identify hazards for routine work and planned high risk tasks.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	• Inspections are conducted by a range of trained relevant site people.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>
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• Inspections are conducted by a range of trained relevant site people.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>						
<b>Comments</b>							
<b>Element 2 Seek input from all relevant people.</b>							
<b>Descriptors</b>	<table border="1"> <tbody> <tr> <td>• Input is encouraged, constructive, clear and non-biased.</td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td>• Issues are elevated to the appropriate levels for input from anyone, or all affected.</td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> </tbody> </table>	• Input is encouraged, constructive, clear and non-biased.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	• Issues are elevated to the appropriate levels for input from anyone, or all affected.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>		
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• Issues are elevated to the appropriate levels for input from anyone, or all affected.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>						
<b>Comments</b>							
<b>Element 3 Collaboratively develop and implement solutions.</b>							
<b>Descriptors</b>	<table border="1"> <tbody> <tr> <td>• Interactive stakeholder engagement and collaboration in interventions or solutions before risk exposure occurs.</td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td>• Issues are resolved with shared consensus.</td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> <tr> <td>• Solutions communicated to those impacted.</td> <td>Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/></td> </tr> </tbody> </table>	• Interactive stakeholder engagement and collaboration in interventions or solutions before risk exposure occurs.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	• Issues are resolved with shared consensus.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>	• Solutions communicated to those impacted.	Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable <input type="checkbox"/>
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<b>Comments</b>							

# Development of SEI's

- This workbook we have produced has been constructed from industry feedback and for use on site by various construction companies and contains 13 Safety Effectiveness Indicators. You are invited, however, to personalise the wording to better suit your individual company and workplaces.
- Workbook available from the CRC CI

# Benefits to the Construction Sector through these initiatives

- Increased awareness and practice of distributed responsibility across the management team and industry
- Greater integration of performance management and safety management processes
- Increased use by Smaller Operators of an “Implementation Pack” to develop their own customised safety competency framework
- Incentives to involve the contracting workforce in safety management initiatives

# What we have learnt on the journey

- Fundamental necessity to consult with industry. Outcomes are from industry and for industry use
- No substitute for field data and site visitations
- Multi party solution is the best solution (industry, researchers, industry associations, unions, regulators, funders)
- Solutions are constantly emerging and good practice should always evolve
- Lessons learnt in one industry sector can often transfer to good practice in another

# Thank you for your attention!

- Questions?
- (h.biggs@qut.edu.au)