



# Shaping the future of rail

## Workforce Development

The CRC for Rail Innovation continues to support a wide portfolio of research into workforce development. Significant research developments have expanded knowledge and understanding and resulted in improvements to the Australasian workforce.



An Australian Government Initiative





# Our projects

## EVALUATION METHODOLOGY FOR TRAINING COURSES P4.105

An earlier CRC scoping project provided a review of selected courses used in the rail industry to develop staff competence in areas of safety, compliance and technical expertise. This next piece of research developed a model to evaluate training in any selected area of the rail industry. The model places particular emphasis on understanding the different contexts (jurisdictional, legislative and policy) and the operating environments of rail operators and how these impact on the decision to choose training programs.

Rail managers, operators and staff have benefitted from a unified approach to rail training. Such training has offered the rail industry a national approach to training, program consistency and the recognition of prior learning. The choice between in-house programs and externally provided courses are now being made from an informed and objective perspective.

## NATIONAL TRAINING CURRICULUM FOR RAIL P4.114

The Transport and Logistics Industry Skills Council (TLISC) developed a new framework of qualifications for occupational groups such as Infrastructure Workers and Rail Operators. These qualifications are aligned with the Australian Qualifications Framework at Level 2 and 3. The successful implementation of the new framework requires the development of a national curriculum and training package.

This project provided a ready-made suite of resources for use by training practitioners within the rail industry. These resources have enhanced the quality of training and development offered. As a result of training curriculum standardisation, harmonisation and portability, the rail industry will have a higher qualified workforce with an increased performance capacity.

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## SKILLED MIGRATION R1.111

Skill shortages in key engineering, technical and trade areas can seriously affect the rail industry's ability to perform. The rail industry is in strong competition with other industries such as mining, electricity, water, gas and construction to attract skilled workers. In order to reduce the impact of skill shortages on the rail industry's ability to perform, an information kit for recruiting and training staff both onshore and offshore was developed. This is designed to reach potential workers in distant locations and to entice them to Australia through a commitment to work for the rail industry.

The information provided in the kit has enabled rail industry practitioners, such as human resource managers and operations managers, to become well-informed about the practical requirements and realities of recruiting migrants through Australia's skilled migration visa programs.

## CAREER PATHWAYS FOR RAIL P4.122

The rail industry has many unique challenges influencing the efficient training of employees, such as staff engagement and retention, remote working arrangements, diverse occupational interests and an ageing workforce. The development and implementation of a clear national career pathways framework will assist in guiding people in their occupational choices. Such a framework would enable individuals and organisations to better understand current industry roles and discover the options and requirements needed to progress within the rail industry. Users would also be able to map out and explore possible career paths available to them.

The Career Pathways Guide for the Australasian Rail Industry provides rail employees with a clear-cut guide to jobs in rail and their possible career paths that are linked to competencies and learning and development requirements. This information has benefitted both organisations and individuals and has contributed to the attraction, retention, development and engagement of employees within the rail industry.

## DEVELOPING A CAPABILITY FRAMEWORK FOR LEADERSHIP AND MANAGEMENT DEVELOPMENT P4.104

Leadership and management training in the rail industry play a critical role in the success of day to day company operations. An early scoping report of the CRC revealed that although management training took place, there was no evidence of how such capability was assessed and evaluated. More in-depth and quantitative research was required to gain essential knowledge on the range of management capabilities being developed in the rail industry.

The platform has the potential to influence national rail leadership development. It guides HR practitioners and external training providers through best practice strategies which use a bespoke framework that caters for leaders at all levels. The platform aligns with national qualifications and readily-accessible development tools, helps to reduce cost of training and improves the consistency of training across the industry.

## MENTORING AND COACHING P4.119

Mentoring and coaching are two distinct processes and practices related to human resource management. Together they form a cohesive approach to career and succession planning, performance management, supervisory capacity building, tacit knowledge transfer, workplace learning, retention and engagement and diversity management. Effective mentoring and coaching practices can increase workforce capacity and renewal, identify workplace learning and improve competencies to benefit employers and employees alike.

Mentoring and coaching are improvement methods for managers which operate separately from the formal learning tradition. The research shows ways to make the most of mentoring and coaching opportunities through a practitioner handbook, frameworks, tools and tips and other helpful resources.

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## ELECTRICAL TRACTION ENGINEERING P4.121

Electrified rail systems have a constant need for skilled and qualified traction engineers to design, maintain and assure the integrity of the infrastructure. Recognising this need, the CRC has supported the development of a Master and Graduate certificate in Electrical Traction Infrastructure Engineering. From spring 2013, the University of Wollongong is providing the courses which have been jointly developed by the University of Wollongong and Central Queensland University. Students completing the courses will meet the requirements of a competency-based assurance framework for the Australian rail industry.

Through the structured approach to learning and establishing proficiency and competency in traction engineering, the students will graduate at a level suited to meet industry needs. The pressure on rail organisations to train traction engineers in-house will be reduced as training courses will be available at the University of Wollongong.

## NATIONAL RAIL SAFETY MANAGEMENT PROGRAM

R2.107

Rail Safety Management centres on the study of people at work and has the basic goal of increasing productivity and enhancing safety. One of the major contributions of safety management is in understanding the risk profile of rail operations. The CRC project has designed a curriculum tailored specifically to rail industry requirements, and available through distance learning, the Rail Safety Management curriculum is available both as a graduate diploma and a Masters.

The course learning includes distance learning and face-to-face interactions at residential schools. Graduates will possess a sophisticated set of skills and knowledge qualifying them as leaders in rail safety management, eligible for employment in the industry. Potential employment for course graduates would be as human factors specialists, consultants, researchers and safety managers.

## RAIL INCIDENT INVESTIGATOR TRAINING P4.113

The activation of the National Safety Regulator office has led to the identification of the need for a uniform national standard for teaching staff who will be carrying out the regulator's duties across Australia. The CRC project brings together various rail industry safety agencies, in collaboration with education providers, to develop the framework for Rail Safety Investigators Competence Training which is aligned with the Australian Qualification Framework level four.

A national standard for Rail Safety Investigation will be instituted across state and organisational boundaries which will both empower the next generation of inspectors and improve the efficiency of their work. The administration and costs of operation will also benefit from a uniform approach to rail incident investigation.



Committed to industry led research for  
the Australasian Rail Industry...



# Improving workforce development

Changes in today's competitive environments challenge the rail industry on a regular basis. Rail operators must now, more so than ever, ensure the future of rail by upgrading aspects of their services to meet these challenges. One of the biggest challenges is in the area of Workforce Development. High competencies are required to look after the trains, maintain the quality of service and ensure that both customers and equipment are managed to levels of excellence. With an ageing workforce, skill shortages

and competition with other industries, the area of Workforce Development is emerging as one of the greatest challenges facing the Rail Industry.

The CRC for Rail Innovation is supporting a number of research projects which have resulted in expanded knowledge and understanding of workforce development in the Australasian workforce.

Developments of these CRC for Rail Innovation projects are summarised in the following sections.

# For more information

Visit [www.railcrc.net.au](http://www.railcrc.net.au) for full details on Workforce Development projects and a range of others covering the Australasian Rail Industry.

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Featured Projects		Scoping and Other Projects					
P4.105	Evaluation Methodology for Training Courses	P4.100	S	Course Evaluations	P4.112	S	Electrical Traction on Engineering Courses
P4.114	National Training Curriculum for Rail	P4.101	S	Driver Performance Courses	P4.115	S	Career Pathways
R1.111	Skilled Migration	P4.102	S	Rail Management and Leadership	P4.116	S	Advanced Project Management
P4.122	Career Pathways for Rail	P4.103		Simulator Evaluation on	P4.117	S	Workplace Assessment
P4.104	Developing a Capability Framework for Leadership and Management Development	P4.106		National Competence Assurance for Train Drivers	P4.118	S	Rail Asset Management
P4.119	Mentoring and Coaching	P4.107	S	Scoping a Rail Safety Investigator Competency Framework	P4.120	S	Career Pathways (Bridging)
P4.121	Electrical Traction Engineering	P4.108	S	Scoping the potential of E-Learning in Rail	R1.101	S	Labour Supply Literature Review
R2.107	National Rail Safety Management Program	P4.109	S	Scoping the potential of skills recognition on in Rail	R1.112		Attraction and Industry Image
P4.113	Rail Incident Investigator Training	P4.110		E-Learning in Rail	R1.113		Staff Retention and Engagement
		P4.111		Skills Recognition on			

S = Scoping