

IRIS
Strategic & Operational
Plans
2009-2012

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1. Preface

Established in 2009 as a federation of five research centres and associated research groups, the Institute has an ambitious mission to drive the development of a knowledge-based economy in Central Queensland.

There is no doubt that Central Queensland is emerging today as an Australian fast growing industrial region with the total value of resource-related projects in excess of \$30B.

While commercial opportunities are enormous, there are many challenges confronting resource-based industries and related communities as the economy is moving toward a 'zero carbon' future. Adoption of new technologies and processes and ongoing learning are imperative to ensure environmental sustainability and ongoing competitiveness of Australian industries and the Institute is looking to become a trusted industry partner in achieving these goals.

2. STRATEGIC PLAN

2.1 Vision

[Driving the development of a knowledge-based economy in Central Queensland]

2.2 Mission

[To deliver valuable knowledge and innovative solutions to resource industries and other customers being able to draw upon a broad multi-disciplinary expertise and experience of IRIS academics, researchers and other staff in a collaborative approach]

2.3 Values

Adopting and adhering to the core university values

- *Open*
- *Can-do*
- *All About You*
- *Adaptive*

IRIS staff will promote and support:

- *Entrepreneurial culture*
- *Internal and external collaboration*
- *Customer and stakeholder focus*
- *Dignity*

2.4 Strategy

The focus of IRIS strategy is on:

- Extending capabilities of IRIS centres and groups improving research collaboration
- Growing and strengthening links between academia and industries
- Improving value of research outputs to customers
- Promoting and supporting innovation and entrepreneurial culture

2.5 Strategy Map

A strategy map for IRIS based on outcomes from the Institute Planning Day is provided in Attachment 1. The map outlines the high-level primary objectives of the Institute. These objectives are presented in four perspectives related to:

- Customer and internal stakeholders' management
- Internal processes
- Culture, learning and training
- Knowledge & technologies.

The cause-and-effect relationships between different objectives are presented.

2.6 Goals & Objectives

Financial & Performance

- Achieve sustainable growth of external research income and increase its share in total funding
- To diversify sources of external income
- To improve the CQUni research performance and share of research income
- To contribute to the growth of CQUni teaching and learning income

Customer and Internal Stakeholders

- To improve the value of IRIS services to customers
- To grow the list of customers and strengthen links with industries
- To achieve the research performance aligned with G8 universities
- To enhance Faculties L&T programs by IRIS research
- To establish attractive conditions and career opportunities for academics, researchers and students

Internal Processes

- To improve collaboration and grow the number of projects in existing and emerging areas of research
- To grow the number of successful ARC and other NCG grants
- To grow IRIS/Centres involvement in CRC and Centre of Excellence Programs
- To establish processes for on-going growth of IRIS research capacity
- To achieve best practices in research, IP, HR and asset management

Culture & Learning and Training

- To facilitate entrepreneurial culture, research collaboration and mentoring
- To improve performance and productivity of staff and students
- To establish T&L programs for staff and students to improve their skills in leadership, research and IP management, and communication

Knowledge & Technologies

- To develop a communication platform and an information system to improve collaboration and support IRIS initiatives
- To establish and support databases for supporting IRIS strategies and initiatives

2.7 Initiatives

In order to achieve the customer and subsequent financial objectives (as per the Strategy Map in Attachment 1), the following initiatives will be progress to drive towards achieving the internal process and learning and growth objectives.

Objective	Initiatives	Timing	Responsibility
Internal Process Initiatives			
1.To improve collaboration and grow the number of research projects in existing and emerging areas extending research capabilities of all Centres and groups	1.1 To develop a map of emerging areas of IRIS research and identify new directions and opportunities for research proposals	15 Aug	IRIS & Centre directors
	1.2 To form working groups and commence the development of joint research proposals (at least one for each centre and research group)	15 Aug	Centre Directors
	Identified emerging growth areas, projects and initiatives for IRIS Centres and groups to be pursued: (as per centres' plans)	As per centres' plans	
	1.3 CEM		
	1.4 CWPS		
	1.5 CRE		
	1.6 CINS		
	1.7 Power Engineering Group		
	1.8 Business Research Group		
	1.9 To identify opportunities for joint research projects between IRIS and other research institutes	30 October	IRIS
1.10 To identify opportunities and grow the number of national and international collaborative projects	On-going	IMC	
2 To grow the number of successful ARC Linkage and other National Competitive Grants	2.1 To establish a process to assist with the development of ARC Linkage and other NCG applications	31 Aug	IRIS
	2.2 To develop a template to assist with the development of grant applications and business cases	31 July	AT
	2.3 To establish and maintain a register of grant applications to be developed in 2009-2010	31 Aug, Ongoing	AG, Centres
	2.4 To submit proposals for new NCG applications (at least one from each research centre and group)	Nov 09 May 10	AG, Centres
3. To grow the IRIS involvement in the CRC and CoE Programs	3.1 To develop a plan for growing IRIS involvement in the CRC Program	31 August	IMC
	3.2 To identify opportunities for the development of IRIS-lead CRC applications in 13 th Selection Round	31 Aug	IMC
	3.2 To submit proposals for growing involvement in existing and establishing new CRCs	31 Dec	Centres and Groups
	3.3 To submit new proposals to the Cooperative Research Centre for Rail Innovation (where CQU is a partner)	As required	CEM, CINS, and others
	3.4 To review opportunities for establishing CoE and commence with the development of a proposal	30 Nov	IMC

Objective	Initiatives	Timing	Responsibility
4. To establish processes for growing the IRIS research capacity	4.1 To establish a website portal for CQUni academics to register their interest in joining IRIS in existing and emerging areas of research	30 Sept	JG, KC
	4.2 To establish a process and provide funding support for attracting high external quality researchers to IRIS	31 July	AT, JR
	4.3 To establish processes for attracting good HD students from Australia and overseas	30 Sep	IMC
	4.4 To develop a process for the distribution of IRIS funding to support capacity growth and other research initiatives	31 July	AT
5. To achieve best practices in research, IP and resource management	5.1 To develop and implement best practice models for costing research projects and managing financial, HR and infrastructure resources	31 Sep	JR, AT IMC
	5.2 To develop best practice IP management guidelines and establish respective processes in IRIS to improve value of research outputs	2010	AT
Customer & Internal Stakeholder Initiatives			
6. To improve the value of IRIS services to customers	6.1 To establish a system for measuring impact and value of IRIS research outputs to industries and other customers	30 Oct	AT, JR
	6.2 To develop a marketing and communication plan for enhancing existing communication lines and improving the promotion of IRIS capabilities and services to customers	30 Oct	IRIS AG+ Marketing
	6.3 To introduce customers' surveys and follow up with the adoption and implementation of research outputs	30 Jan	AG
	6.4 To identify and establish new sustainable training programs and workshops for industries and other customers as spin-off from IRIS research		IMC
7. To grow the list of IRIS customers and strengthen links with industries	7.1 To commence regular networking events with industries and customers	30 Sep	IMC, AG
	7.2 To review existing forms of formal engagement with customers (advisory boards and committees) and develop recommendations for IRIS	30 Sep	IMC
	7.3 To establish and maintain a register of IRIS customers and their needs	30 Sep	Centres & groups, AG
	7.4 To explore opportunities for the development of an on-line collaborative platform for improving collaboration between industry and academics	30 Nov	AT, CINS
8. To achieve the IRIS research performance aligned with G8 / Australian universities	8.1 To develop a set of indicators for benchmarking the IRIS research performance against G8 /Australian universities	31 July	AG
	8.2 To establish performance standards for IRIS members and a system of incentives for best performers	30 Sep	AG, IMC
	8.3 To establish an information system and processes for on-going monitoring of staff and students' performance		IMC
	8.4 To identify and address factors inhibiting the performance of IRIS members (teaching load, etc.)	30 Sep	IMC & Faculties

Objective	Initiatives	Timing	Responsibility
9. To establish attractive conditions and opportunities for academics, researchers and students	9.1 To identify and address factors inhibiting performance of IRIS academic members (teaching load, etc.) (see 8.4)	30 Sep	IMC & Faculties
	9.2 To develop and communicate research career pathways for researchers and HD students	31 Jan	IMC
	9.3 To establish support services for HD students studies and investigate opportunities for establishing the CQUni School for HD Students	30 Oct	IMC & Faculties
	9.4 To establish mentoring programs for IRIS research staff	30 Oct	IMC
10. To support Faculties' T&L programs by IRIS research and establish new training programs for customers	10.1 To identify opportunities for supporting existing and developing new sustainable training programs based on IRIS research (see 6.4)		IMC
	10.2 To research and develop a sustainable model for CQUni as a T&L service provider as an IRIS initiative		
Culture and Learning & Training Initiatives			
11. To facilitate entrepreneurial culture, research collaboration and mentoring	11.1 To establish mentoring program for IRIS researchers		IMC
	11.2 To introduce co-leadership of IRIS research projects	30 Oct	Centres and groups
	11.3 To introduce regular student and staff networking events	30 Oct	IMC
	11.4 To introduce a system of incentives encouraging initiatives and research collaboration	31 August	
12. To introduce expectations/standards for performance and productivity	12.1 To approve and communicate expectations for performance and productivity of IRIS members	30 Sep	IMC
13. To develop competencies for IRIS staff and students and establish respective T&L programs	13.1 Research and research training skills		
	13.2 Management, leadership and business skills		
	13.3 Communication skills		
	13.4 Intellectual property management skills		
	13.5 Others		
Knowledge & Technologies			
14. To establish a communication platform and an information system for supporting IRIS operation and initiatives	14.1 To establish a working group for the development an IRIS information system	31 July	AG, IMC
	14.2 To completed the development of an information system	30 Oct	AG
	14.3 To establish the IRIS communication and marketing group and commence the development of the IRIS website and communication means	31 Aug	AG

Objective	Initiatives	Timing	Responsibility
	14.3 To establish the IRIS website and communication media and tools		AG
15. To establish and maintain databases required for supporting IRIS operation and initiatives	15.1 Staff and student databases	30 Sep	AG, IMC
	15.2 Customer and customer needs databases	30 Sep	AG, IMC
	15.3 Map of IRIS research direction	31 Aug	IMC
	15.4 Register of proposals and initiatives	31 July	AG, IMC
	15.5 Knowledge database of IRIS research reports and publications for research training purposes	30 Jan	IMC
	15.6 Others		

Abbreviations

IMC – IRIS Management Committee

AG – IRIS Administrative Group

AT – Anna Thomas

JR – John Rolfe

3. EXTERNAL ENVIRONMENT

3.1 Overall Trends in External Environment

Legal

- Push for quality publications from the government (ERA policy)
- New government program of investments in universities' research infrastructure
- Focus on growth of collaboration between universities and regional universities

Technological

- Extensive use of ICT for improving industry connections, networking and growing R&D collaboration
- New wireless sensor monitoring technologies

Environmental

- Long-term focus on environment protection and climate change

Social

- Customer support to energy efficient and environment friendly products and services
- Climate change agenda

3.2 Influencing Factors

- Focus on quality and impact of research

3.3 Opportunities

- To explore the opportunities of ARC Linkage grants with high success rates and other NCG funding schemes
- Explore grant options for growing international collaborations, particularly with China and India

3.4 Threats

- Financial sustainability and ongoing existence of CQUni beyond 2011
- Potential reduction in research spending by industries due to the global financial and economic downturns
- Growing competition from other R&D providers, particular in the areas of energy efficiency and a climate change

4. INTERNAL ENVIRONMENT

4.1 Strengths

IRIS:

- A capability for undertaking large scale multidisciplinary research programs using a combined expertise of Centres and research groups
- A capability to grow research in existing and emerging markets through the involvement of new academic and research staff in the institute activities
- A capability to use fund for supporting emerging research groups, new initiatives and growing entrepreneurial culture of staff and students
- A capability to assist centres with R&D financing and cash flows management improving their financial sustainability

CINS:

- Good track record of quality publications and competitive grants
- High student load with 20 HD students
- Great capabilities and a potential for working collaboratively with other research centres, such as the CRE, CPWS and CEM and the emerging power group in Smart Grid research area
- A HAL grant successfully secured jointly with CWPS
- A recent LIEF grant application submitted jointly with RMIT, QUT and UTS.

CRE:

- Opportunities for widening areas of railway research in CRCRI, and good connections with the railway industry and customers via the CRCRI
- Opportunities for earning income from the existing IP portfolio
- Capabilities to establish contracts in New Zealand and India

CWPS:

- Strong positions and good recognition in three strategic areas of research: water and environmental research led by three academics: food, emerging plants industries including nanotech and bio-fuels.
- Established exchange research programs with China and India
- Opportunities for commercialisation of some research outputs
- 20 HD students
- New opportunities for research in the re-use of waste from meat factories for cattle food and under the existing farming programs for life stock Australia.

CEM:

- Strong links with customers including industry and government organisations, a high volume of contract research and consultancies. The list of customers includes mines, road authorities, and environmental and real estate agencies.

- An experience and established capabilities in eco-toxicology, bio fuels (jointly with CWPS), coral mapping fisheries research, regional economic development, social infrastructure, impact assessment, sustainability and climate change.

PELM:

- A capability for undertaking research and consultancies in maintenance, reliability and management of assets, new material solutions;
- Capabilities to develop new research areas in air and water quality control jointly with CEM, non-destructive testing techniques, process technologies (red mud processing), and sustainability modelling

Power Group:

- Established connections with Smart Grid Australia program with over \$100 million funding,
- An application is submitted for a national test bed for grid research that would allow establishing new areas of research

Asset Management Group:

- A capability in undertaking research in asset management,
- Established connections with industry and experience in property valuation research, connection from prior involvement in CIEAM.

4.2 Weaknesses

IRIS:

- Allocation of funding on the basis of past performance to centres and groups was not helpful in growing research and pursuing opportunities
- No established reputation and lack of engagement from academics outside associated Centres and groups
- Lack of trust and limited cooperation with FHES
- Loss of key research staff observed across all research centres and groups

CINS: A young centre with no external research contracts yet established

CRE: High dependence on the CRC income, diversification of the income is desirable

CEM: The Centre is highly dependent on contract research income as currently it has no grant funding or CRC income.

PELM: The need to improve an academic performance regarding numbers of students and publications; Assistance is required with asset and finance management.

Power Group: Needs to grow in size and establish a reputation

4.3 Resources & Competencies

- Combined broad research expertise to cater for different needs of customers
- Combined research infrastructure resources for undertaking research and consultancies
- Combined R&D management expertise
- Combined knowledge of and links with industry
- Collaborative approach to allocation of available resources

4.4 Stakeholders' Expectations

University

- To increase external research income by 25% per year
- Receive external research income other than project income
- Improvement in quality publications and benchmark with other universities
- Increase number of academics active academics
- To increase HD student enrolments and on time completions
- Establish benchmarks and implement monitoring of performance
- Improve management of knowledge and intellectual property transfer to end users
- Develop opportunities for researchers, students and external stakeholders to engage
- Promote teaching-research interactions
- Consolidate existing and develop new industry, university and government partnerships that enhance research performance

Centres and Emerging Research Groups

- To grow research collaboration across the university
- To assist with the development of new large scale initiatives and grant applications
- To assist with finance and asset management, risk management, staff recruitment and training
- To simplify research management and administrative procedures and clarify responsibilities of OoR, Faculties, Centres and Institutes
- To improve staff motivation and change a negative attitude caused by high workloads and the shortage of time for undertaking R&D
- To establish mentoring and succession programs
- To improve the exploitation of existing research facilities and laboratories
- Jointly with Faculties to improve teaching program management to enable academic staff to develop their research careers

Faculties

- To align IRIS research and productively contribute to Faculties' T&L activities and performance
- To assist Faculties with attracting and retaining quality students and academics
- To assist with managing and training of HD students

Researchers

- To assist with developing research and academic careers
- To provide support to the development of new initiatives and applications

Students

- To establish career opportunities supported by relevant training programs
- Ensure quality supervision and mentoring support
- Networking and other research activities
- Adequate financial and other support for studies

5. STRATEGIC POSITIONING

The IRIS unique advantage is its capability to deliver high quality research and innovative solutions to industries and other customers by being able to draw upon a broad range of knowledge, expertise and experience of IRIS staff in a collaborative approach

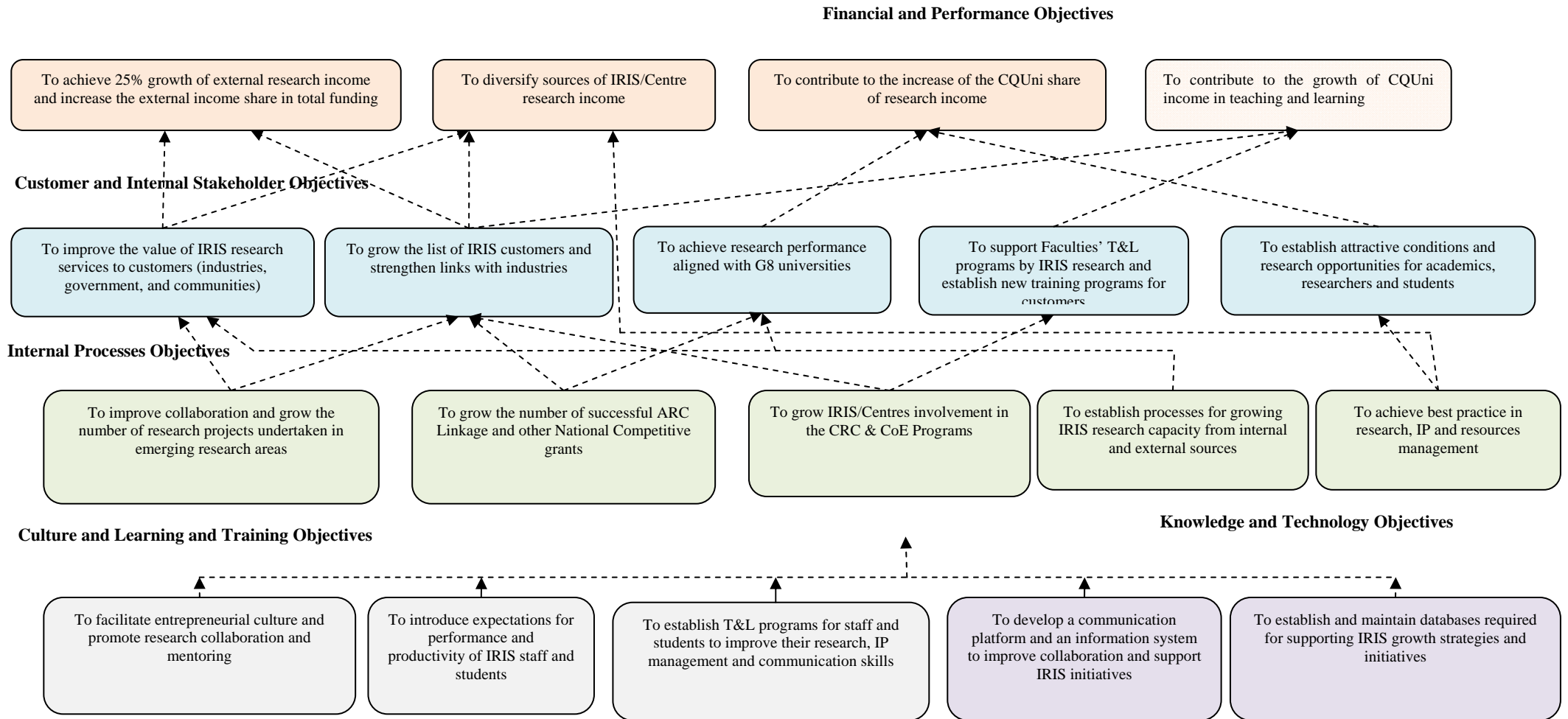
6. RISK MANAGEMENT

The major risks identified in the process of SWOT analysis (see sections 1 and 2 above) and other general risks relevant to IRIS are summarised in the Table below.

The Table also includes results of risk assessment, risk management strategies/controls and relevant policies, which have to be in place to mitigate risks.

Risk Identified	Likelihood	Impact	Control / Policy	Responsibility	Internal Audit
Financial sustainability and ongoing existence of CQUni	High-medium	Very severe	To increase external research funding and contribute to the sustainability of the university	IRIS + Centres	
Loss of key and other research staff	High-medium	Severe	Establish and implement succession plans and project co-leaders positions To create attractive research conditions and opportunities at CQUni	IRIS +Centres IRIS	
Difficulties with attracting high quality research staff and students	Medium	Significant	To create attractive research opportunities at CQUni To establish processes for attracting quality staff and students to IRIS	IRIS IRIS	
Shortfalls in funding research staff	Medium	Significant	Develop and adopt best practice in finance management	IRIS + Centres	
High teaching load and lack of time for doing research	High	Significant	To address the problem jointly with FSEH	IMG	
Perceived competition between FHES and the Institutes	High	Significant	To improve collaboration and engagement of FRC and FHES academics To assist Faculty with improving T&L performance	IRIS + Centres	

ATTACHMENT 1 – IRIS Strategy Map



ATTACHMENT 2 – Objectives, KPI's and Targets

Objective	KPIs	Units	Targets		
			2009	2010	2011
Growth and Performance Objectives					
Achieve the growth of external research income by 25% per annum	Annual growth of external income	Percentage	25	25	25
To diversify sources of IRIS/ Centres' research income	Growth of grant and CRC income share in total external income	Percentage (increase per annum)	5	5	5
To increase share of external funding in IRIS operational budget	Growth of external funding in total income	Percentage (increase per annum)	5	5	5
To contribute to the growth of CQUni share of research income	Research performance indicators benchmarked against G8 /Australian average performance	Percentage improvement	5	5	5
To contribute to the CQUni income in T&L	Income from new short-term training programs and courses for industries	# of programs \$ value		1	1
Customer and Stakeholder Objectives					
To improve the value of IRIS research to customers	Customer satisfaction surveys	Improvement in feedback (%)	-	5	5
	Cases (percentage) of adoption of research outputs by industries	Annual increase			
	Impact of research on improvements in industries productivity and performance	\$ value benefits			
To grow the market of IRIS customers and strengthen links with industries	Number of IRIS industry customers	Percentage increase	5	5	5
	Number of projects for customers	Percentage increase	5	5	5
	Number of networking events with industries	Number	2	4	4
To contribute by IRIS research to the CQUni T&L programs	Number of new training workshops and courses and additional revenue earned	Number \$ value		1	1
	Number of improvements and T&L initiatives				

Objective	KPIs	Units	Targets		
			2009	2010	2011
Internal Process Objectives					
To increase number of research projects undertaken in existing and emerging areas of research	New projects established in emerging areas	Number of new projects	2	4	4
	New projects in existing areas (as per Centres' plans):	As per centres' plans			
	CEM				
	CWPS				
	CRE				
	CINS				
	PELM				
	Power Group				
	Asset Management				
	New projects with other CQUni Institutes	number of joint projects		1	1
	New projects with other universities in Australia and overseas	New projects commenced			
To increase the number of successful ARC Linkage and other National Competitive grants applications	New grants secured	Number	2	4	4
	Growth of the total grant value	Percentage	25	25	25
To increase IRIS involvement in the CRC Program	Successful applications submitted to CRC for Rail Innovation	Number & % increase in CQUni research share			
	Projects initiated in other existing CRCs (CAST)	Number \$ value			
	Joining existing and establishing CRCs	Number of CRCs joined		1	1
	New CRC initiatives/rate of success	Number		1	1
To achieve best practice in research management and resource use	Adoption of the best practice model for costing projects and finance management			√	
	Adoption of the best model for asset costing and management			√	

Objective	KPIs	Units	Targets		
			2009	2010	2011
	Adoption of effective processes for IP management and exploitation			√	
Culture, Learning & Training Objectives					
Research collaboration and mentoring	Proportion of research projects with co-leaders	Percentage	20	50	100
	Proportion of IRIS research staff with mentors	Percentage	20	80	100
	Succession plans for all centres and groups' leaders	Percentage	40	80	100
	% of IRIS staff suggested initiatives	Percentage			
Performance against expectations/standards	% of staff who achieved the performance aligned with the expectations	Percentage			
Training & Learning workshops	T&L workshops organised	Number	1	2	4
	Proportion of staff and students participated in T&L events	Percentage			
	Satisfaction / feedback from events	% Level of satisfaction			