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# Environmental Biotechnology Cooperative Research Centre

*Communication for effective achievement  
of outcomes and functioning*

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# Executive summary

This report outlines a strong communication strategy for the Environmental Biotechnology Cooperative Research Centre (EBCRC) supported by high level expertise.

The strategy reflects consultation with key CRC member representatives and associates, an understanding of the CRC context and the environment biotechnology industry, and knowledge of the principles for effective communication. The consultation with key member representatives indicated:

## Awareness

- a reasonable level awareness of the CRC's aims and goals
- a high level of awareness of the importance of communication by EBCRC management and industry partners
- a low to moderate awareness of the importance of communication by EBCRC research partners
- a good awareness of partners to be involved in communication
- a lack of awareness by some members and associates about the CRC's current activities and the needs of its industry members

## Concerns

- concern about the level of commitment to communication
- concern about potential barriers to communication among CRC members based around the differences across organisational cultures, research disciplines and geographic nodes
- concern about the lack of skills to communicate and the lack of connections with industry or commercial organisations/interests

## Opportunities

- a high level of commitment to the CRC by members
- there were opportunities for wider collaboration and partnership with industry and research organisations
- significant opportunities for building on the research expertise of the CRC to promote a high profile for environment biotechnology nationally and internationally
- that personal, and preferably face-to-face, communication is the most effective form of communication
- there were opportunities to strategically use the resources and existing mechanisms of some member organisations

## STRATEGY RECOMMENDATIONS

Econnect Communication recommends that the CRC:

1. gives communication the same status as Research Programs by the EBCRC Board and Management, and that this Program includes commercialisation, education and training
2. uses 10 communication objectives for achieving effective internal and external communication for the CRC
3. focuses its initial communication activities on building relationships and a shared vision of the CRC amongst its members
4. identifies the perceptions, concerns and communication needs of all its members to further inform the communication strategy
5. develops core communication messages that reflect the needs of its members and partners in the communication process
6. develops an agreed upon overarching communication message that simply summarises the CRC's essence, such as:  
     "In response to challenges of waste disposal, greenhouse gas emissions and the need to ensure safe water and food, the EBCRC is using natural biological processes to benefit both industry and the environment"
7. develops a specific communication action plan every six months to include budget allocations, roles and responsibilities and evaluation processes
8. implements two forms of evaluation: (a) ongoing evaluation of its communication by gaining direct or indirect feedback to activities; and (b) annual assessment of performance against communication objectives
9. structures communication roles and responsibilities so that:
  - (a) communication is written into the position descriptions of all staff and is assessed in annual reviews by supervisors along with other responsibilities
  - (b) each research project includes communication milestones and involves a specified 'industry' contact person/s
  - (c) a director of the communication, commercialisation and education program be appointed at a high level
  - (d) a commercialisation officer and an education officer be appointed to report to the director of the communication, commercialisation and education program (CEEP)
  - (e) liaison officers be appointed for 1-2 days per week at each of the CRCs 4 major nodes (Brisbane, Sydney, Adelaide and Perth) to develop and support networks across member organisations and with external partners; these people would also report to the Director of CEEP
  - (f) six high level respected EBCRC researchers with communication skills are appointed to a special 'ambassadorial' role with associated responsibilities for representing the CRC
10. makes strategic use of available communication resources available through member organisations and uses contractors providing specialist communication, commercialisation, marketing, education and training services when required

# Introduction

## CONSULTANCY BRIEF

The Environmental Biotechnology Cooperative Research Centre (EBCRC) Management Committee and members agreed that “a strong communication strategy is essential for the success of the CRC on all fronts”. This consultancy aimed to provide an innovative and creative strategy that delivers:

### Communication between CRC members

- Communication with members’ communication staff
- Direct communication with members about key elements of the CRC’s activities
- Communication with members and their employees
- Internal communication that can be accessed by all parties
- Communication with senior Research Fellows, postgraduate students and honours students

### Communication with stakeholders

- A high-profile image with politicians at State and Federal levels
- World-wide communication capacity
- Communication with biotechnology industries
- Profile with investors and potential users of technologies

The consultancy also aimed to identify an appropriate mix of in-house employees, consultants and member support capable of implementing such a strategy.

## CONSULTANCY METHOD AND INVOLVEMENT

Econnect Communication conducted interviews with 17 people representing:

- EBCRC management (3)
- Research partners (5)
- Industry partners (5)
- Government departments (2)
- Potential collaborators from other CRCs (2)

The interview participants identified themselves as representing the above categories. Two of those involved in EBCRC management saw themselves as representing the CRC members’ interests through the Board and shareholders, while the third person involved in EBCRC management saw themselves working across all the interests of the members, particularly in the research field. Some of the industry partners saw themselves

representing specific industry interests such as meat processors. A few in all categories saw themselves as having secondary regional representation.

These people (see Appendix One for list of participants) were interviewed over the phone or in person and were asked eight questions (see Appendix Two for list of questions). The results from these interviews were analysed according to common re-occurring themes. Econnect also looked at current documentation about the CRC (business plan, website, etc).

# Background

## CRC CONTEXT

Econnect is currently supporting Michelle Riedlinger through a Federal government (APA Industry) grant to complete her PhD investigating communication in complex, multi-disciplinary research networks characteristic to CRCs. She is using social identity theory to investigate barriers to and characteristics of effective communication in such complex networks. A key outcome of her research will be a 'model' for CRC organisational and stakeholder consultation. In writing this report, we looked at some of her preliminary findings published in: *Impact of Social Group Processes and Functional Diversity on Communication in Networked Organisations*, (Riedlinger et al, in press, Journal of Applied Communication Research).

Econnect has worked with CRCs since their inception in 1991, developing communication strategies, evaluating communication programs, conducting media campaigns, assisting with political lobbying and training staff in communication skills.

Applying our knowledge and understanding of CRCs, we believe there are a number of challenges faced by such networked organisations when they are seeking to communicate and develop relationships that will help them achieve their outcomes. These challenges result from CRCs:

- being driven by the need/availability for funds rather than a shared vision and objectives
- whose members face loyalty conflicts between their own organisation and the overall CRC usually resulting in less commitment to the CRC
- who don't allocate sufficient resources, support or incentives for communication and technology transfer
- who have a blurred management structure with no clear definition of roles and/or no clear decision making framework
- where there is conflict between scientific achievement (peer reviewed papers) and research outcomes
- who fail to reward/acknowledge participation in its activities, including its communication activities
- who fail to acknowledge the challenges involved in communicating across multiple nodes, research disciplines and organisational cultures
- who fail to reconcile the different cultures – the norms and values - of research and industry partners

- where partners perceive there is an inequitable distribution of resources or support
- who fail to incorporate conflict resolution strategies into their project planning

Riedlinger et al writes: “The ways in which members manage, their own identities and new social group identities in interactions, the impact of geography and regional differences, the influence of industry imperatives, and the effect of the program structure and funding on communication all ... influence the ability of diverse networked organisations to meet their goals,” (Riedlinger et al, in press, 2003).

Some of the solutions identified by Riedlinger to these challenges include:

- strong support by management for communication and relationship building
- high level of involvement of management in communication activities
- promotion of a collective CRC vision internally and externally
- acknowledgement and reward for collaboration and communication activities
- direct communication with as many people as possible who are involved in the CRC rather than dealing with ‘representatives’ of groups
- support for developing and maintaining strong informal methods of communicating and networking (e.g. social activities) through personal contacts
- identification of respected, credible and high profile spokespeople as champions of the CRC to members and outside stakeholders
- involvement of industry end-users in cross-disciplinary research projects and meetings to minimise conflicts and better define outcomes

## ENVIRONMENT BIOTECHNOLOGY INDUSTRY

Econnect was also involved with the CRC for Waste Management & Pollution Control, particularly during its first seven-year term, and is very familiar with the environmental industry research and development sector.

Environmental applications for biotechnology have not developed in recent years as quickly as they have in the medical and agricultural sectors. The environment industry has a different market structure to other biotechnology sectors. The range of applications is so diverse that there is no obvious and clearly defined ‘industry’ as such. For some enterprises, environmental technology is a sideline to their main business. This results in a low profile for the industry potential. Competition from less

environmentally-friendly cheaper alternatives exacerbates the development and commercialisation of technology applications.

Although biotechnology holds many potential benefits for environmental management and protection, the potential for the CRC to develop new markets has not yet been explored by creating networks amongst disparate groups.

# Consultation results

## THE CRC'S OUTPUTS AND OUTCOMES

### EB CRC's Mission

The EBCRC's stated mission [in its Business Plan] is to capitalise on the outcomes of fundamental and strategic research to develop technologies and industries that:

- transform waste into valuable products
- rapidly detect bacteria and other micro-organisms that may impact on human health
- control and manage biological processes
- restore the environment
- create new natural products
- harness fast low energy bioprocesses
- promote sustainability

Most of the interview participants mentioned all the above outputs and outcomes from the EBCRC's research, indicating a reasonable level of awareness of the CRC's aims and goals. However, four interviewees (an industry partner, potential collaborators and government representative) claimed to be unaware or critical of the CRC's likely outputs or outcomes. The industry partner said: "as eloquently put by the research manager of one of Australia's largest companies... waiting for output from the CRCs is like waiting for the grass to grow".

### Other outputs and outcomes

There was moderate awareness of the communication role played by CRCs. Some interviewees noted that it was important to gain a profile for environmental biotechnology with governments, industry and the general public to maintain funding for CRC research activities and environmental biotechnology into the future. Other outcomes expected of the CRC by those interviewed included:

- a pool of multi-skilled graduate scientists
- excellent research information, including fundamental research that may take some time to deliver outputs (one industry partner stated: "Our commitment to the CRC is demonstrated by our timeline that says we're running out of stuff to deliver and we need something new to evolve so we have something for 10 years out")
- specific solutions to industry problems
- international networks further developed and maintained.

The increasing awareness of biotechnology in general was seen to provide an avenue for increasing public awareness and acceptance of environmental biotechnology.

Some interview participants, particularly the industry members, also stressed the importance of focusing on commercial outcomes through spin-off companies, royalties, joint ventures and products that could be commercialised by industry members.

## **PARTNERS IN COMMUNICATION**

The management representatives interviewed particularly mentioned the following groups as being important communication partners:

- State, Federal and local governments, including agencies (particularly at state level)
- Member organisations
- Students – postgraduate and honours
- R&D Corporations

Researchers tended to emphasise the stakeholders they were directly working with such as:

- Meat industry sector
- Food processing sector
- Public health authorities
- Water authorities

They also highlighted other researchers in their own organisations, other R&D organisations and other relevant CRCs (Pig, Dairy, Poultry, Beef, Aquaculture, Sugar, Water Quality & Treatment).

The industry partners highlighted the particular sector they were interested in, organisations offering commercial opportunities including overseas ones, and the general public.

## **BARRIERS TO DEVELOPING RELATIONSHIPS**

### **Internal to CRC members**

Interviewees perceived the following issues as being potential barriers to developing effective relationships between members of the CRC. The number in brackets after each point indicates the number of people concerned about that issue.

- Tight budgets and time for communication (4)
- People not passing on or filtering information about the CRC through their organisation or the communication people in those organisations (3)

- Perception by members that communication is an add on rather than something that has to be done; lack of commitment to and skills in communication (3)
- The cultural differences between research disciplines and between pure researchers and those involved in applications and commercialisation – “We’re actually a group of professions that don’t communicate that well across disciplines – that role is very important... I would like to facilitate researchers who are biologists to learn something about mathematical modelling, and those that are engineers to learn something about molecular biology”; there was also concern by one researchers that “industry partners regard anyone with academic qualifications as a total idiot when it came to commercialisation and business” (3)
- Lack of awareness of industry member needs – “there needs to be better communication within the CRC so we are aware of the needs of industry partners”; although one researcher noted: “The major difficulty I have found in many cases is that commercial partners don’t know what they want, and if they do it’s not science – it’s at the application end...” (2)
- Lack of understanding of who is doing what where within the CRC – “we all need to know what we’re doing, who is the Program Leader and who we’re representing; at the moment we’re getting confusing messages” (1)
- Academics who have pet research projects that they want to hang on to and see the CRC as a funding source, “cash cow” (1)
- The different aims of the people in the CRC with control being too much in the hands of researchers (1)

### With partners outside the CRC

Interviewees saw the following constraints as potential issues when communicating with partners outside the CRC.

- Lack of commercial/industry skills by researchers, including negotiating relationships (4)
- Complex ideas involved in environmental biotechnology and the difficulty of selling scientific concepts and benefits – “Much of what they [the CRC] say is incomprehensible – it’s a very specialised area” (3)
- Lack of industry partners/collaborators, including SMEs, who can develop the technologies from the science (2)

- Commercial partners in CRC locking up the technology; competitive interests (2)
- Lack of focus on commercial outcomes (1)
- The spread of the CRC across multiple sites – “hard to get good ideas” (1)
- Low public awareness (1)

## OPPORTUNITIES FOR DEVELOPING RELATIONSHIPS

Interviewees noted the following opportunities for further developing relationships within the CRC and with external partners.

- Bringing in new members, particularly from industry and regulatory authorities (3)
- Developing wider collaboration, including with other CRCs (3)
- Using the strengths of existing research partners – especially given their world class research capacity – to link to a diverse range of partners (3)
- Building a profile for environmental biotechnology as a unique area (2)
- Building better relationships between commercial and research members (1)
- Capitalising on Australia’s advanced level of knowledge in this area compared to other places (1)
- Scanning the global environment to expose members to technology, ideas and people internationally (1)
- Responding to a specific industry site-initiated needs (1)
- Bringing environmental biotechnology industries and interests together into a common lobby group (1)

### Mechanisms for communication

The most effective mechanism for communication highlighted by most of those interviewed was inter-personal, and where possible face-to-face.

Many of those interviewed were already engaged in this type of communication as core to their everyday activities in networking and building relationships. The communication role of the CEO was perceived to be particularly important.

A few people stressed the importance of keeping communication relevant to those it is targeting.

Specific mechanisms useful for communication included:

- Exchange of staff and students with industry people
- The use of ‘ambassadors’ for the CRC – particularly young people

- Open days, field days
- Workshops, forums that bring different groups together
- Student and/or whole of CRC annual conference
- Using the publications and media that CRC members use, including in-house/stakeholder newsletters
- Website –with hyperlinks to member sites
- Promoting profile of environmental biotechnology at Australian and international biotechnology conferences (e.g. AusBiotech),
- Links to international associations/discussion groups (e.g. [www.bio.com](http://www.bio.com))
- EBCRC representatives speaking at industry events
- Short internal e-bulletin re EBCRC happenings and achievements
- Putting the CRC members on circulation lists for industry publications so they can learn more about those industries

## IMPLEMENTING COMMUNICATION

As one of industry partners stated: “A range of communication is required. There has to be scientist to scientist communication in order to advance the projects. There has to be scientist to program manager communication in order for proper communication to occur. There has to be scientist and program manager communication to the Board and the funding parties generally in order that funding can be properly distributed. Then the outputs have to be communicated on various levels in order that their significance can be judged and plans made that will lead to rapid commercialisation or implementation at actual sites within the country so that benefits will flow from the R&D.”

### Commitment to the EBCRC

All the research and industry partners interviewed, except for one industry representative, noted a very high level of commitment to the CRC. The government and potential collaboration representatives expressed a strong interest in the CRC’s activities but said they were waiting to find out more before committing further to this.

### Commitment to communication

Those involved in the EBCRC’s management and several industry partner representatives emphasised throughout their interviews the critical importance of communication to the CRC. One industry partner stated: “Communication is not simply issuing a glossy brochure or a newsletter... which often end up in the wastepaper basket. There is also important communication between the CRC and the young people who see the environment as being important. It is also critical to the commercialisation of the products that we have excellent communication...”

However, none of the people with a direct role in the CRC's research explicitly noted the importance of communication.

### **Doing the communication**

Five of those interviewed thought there needed to be a professional employed to assist the EBCRC with communication. However, interview participants had varying views of what skills such a person would require or what their role would be. These are summarised below.

- Full-time professional with a strong science and communication background, good media linkages and the ability to communicate with researchers
- A person to chase things up and make things happen
- A junior marketer/communicator who was computer literate and had marketing/communication skills

One of the industry partners saw the communication role as being more important than that of commercialisation or education.

A few noted the communication roles of the EBCRC management and the need for clearly defined communication roles for all the EBCRC members.

### **Strategic communication links**

There was a mixed reaction when interviewees were asked about opportunities for the EBCRC to link in with their own communication efforts. The research partners generally did not think they had the communication capacity for this to occur, except through potential but limited participation in university events, publications and media distribution.

The industry partners with communication resources, especially the MLA, were enthusiastic about making strong links with EBCRC's communication and in providing outlets for the CRC to communicate with its own stakeholders and members. One industry partner was willing to commit resources to communication once they saw good prospects coming out of the CRC.

Those interviewees who are not formal members of the EBCRC generally did not think there would be strong links with their communication groups, but did see possibilities for joint-promotional opportunities in the future and the opportunity to use their existing publications to disseminate information.

# Recommended Communication Strategy

The following strategy is designed to reflect the consultation, the needs of the EBCRC, as well as Econnect's professional knowledge of effective communication.

## INTRODUCTION

### EBCRC Vision

*To establish environmental biotechnology as a mainstream sector in the biotechnology industry using natural bioprocesses to benefit industry and the environment.*

A critical success factor for any CRC is a shared common vision for its members. Communication is essential for achieving this. Given that members of a CRC are from different organisations, cultures and disciplines, achieving a shared vision internally can be a challenge.

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**We recommend that communication be accorded the same status as Research Programs by the EBCRC Board and Management, and that this Program include commercialisation, education and training.**

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The following strategy should be further developed once communication, commercialisation and education staff are appointed. It should remain flexible to ensure it continues to meet the dynamic needs of its members and partners.

Research programs and projects should adapt this strategy to develop their own communication action plans with someone clearly identified as having overall responsibility for implementing such plans.

### Principles of effective communication

This strategy uses a seven-step planning based on principles of effective communication.

**Step 1 Objectives:** Determine the need for communication

**Step 2 Partners:** Identify communication partners

**Step 3 Relationships:** Understand partners and their needs

**Step 4 Messages:** Design communication messages

**Step 5 Activities:** Choose communication activities

**Step 6 Evaluation:** Build in evaluation

**Step 7 Roles & responsibilities:** Clarify communication roles and responsibilities and produce an action plan

These steps reflect the following principles of effective communication.

*Relationships and networks*

1. You understand the environment, perceptions, concerns and communication needs of those you want to communicate with
2. Your communication focuses on relationships and the quality of these relationships, rather than the mere transfer of information
3. You seek to build and maintain long-term credible relationships
4. You develop and support local partnerships and networks
5. You recognise the critical importance of informal personal networks

*Information exchange*

1. You use media and language that is relevant, shared and timely to your partners
2. You use a mix of methods to communicate rather than relying on one method; e.g. a brochure
3. You personally meet as many partners as you can through meetings, workshops, field days, etc
4. You design information products that reflect a good understanding of the needs of target audiences

*Involvement and evaluation*

1. You monitor and evaluate your communication efforts and budget for this as part of your planning
2. You ensure partners feel confident to contribute to decision-making processes, and you acknowledge their opinions and ideas
3. You develop your communication plan in collaboration with partners
4. You support partners to participate with ease in your activities (e.g. policy development, change in management practices, research etc)

**Partners** are those who are impacted on, or have an interest in, an organisation's activities, or in particular issues. Other commonly used terms include stakeholders, target audiences or publics. However, the use of the term partner signifies a desired relationship based on equity, understanding, cooperation and respect. The CRC's formal partners are referred to as 'members' in this strategy

## 1. OBJECTIVES

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**The following communication objectives are recommended for achieving effective internal and external communication for the CRC.**

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### **Between members**

#### *Relationships and networks*

1. To create and promote a shared vision for the activities and outcomes of the CRC
2. To ensure members have a mutual understanding and respect for each other's perceptions, concerns and needs
3. To provide opportunities for members to develop relationships across institutions, disciplines and geographical areas

#### *Information exchange*

4. To ensure accessible, direct and relevant exchange of information between all members

#### *Involvement and evaluation*

5. To ensure members have opportunities to provide feedback and ideas about the CRC's activities and decision-making processes

### **With external partners**

#### *Relationships and networks*

6. To develop a leading national and international profile and image for the CRC and its activities and outcomes
7. To attract new members (especially SMEs), finance, contract research, commercial development and support from industry and government
8. To provide opportunities for members to network with various organisations in Australia and internationally

#### *Information exchange*

9. To ensure accessible, direct and relevant provision of information to potential end-users

#### *Involvement and evaluation*

10. To facilitate partner opportunities to provide feedback and ideas about the CRC's activities and outputs

## 2. PARTNERS IN COMMUNICATION

**This strategy recommends an initial focus of communication activities on the CRC's existing members to build relationships and create a shared vision of the CRC.**

### Members:

(Meat and Livestock Australia, Macquarie University, Murdoch University, Orica, SARDI, SA Government, University of NSW, University of Queensland)

- Board of Directors
- Shareholders
- CEO
- Management – finance and administration, research, communication, commercialisation, education and training
- Research Programs
- Students – postgraduate and honours

### Partners external to the CRC

The external partners to the CRC have been divided into a number of categories as indicated in the following table. These categories make it easier to prioritise communication efforts and develop messages common to specific categories.

Category	Description	Examples of specific names
<b>End-users</b>	Food processors Intensive rural industries Local, State and Federal agencies involved in resource management and regulation Public health authorities Private water authorities SMEs involved in environmental industry International governments and agencies and corporations	Abattoirs Feedlots EPA, Queensland Environment Australia Gippsland Water Southern Pacific Petroleum Vivendi Waste Technologies of Australia China National Petroleum Corporation Kubota Corporation
<b>Collaborators</b>	Other CRCs Other research organisations – in Australia and internationally	CRCs: Dairy, Beef FinFish, Pig, Sugar, Water Quality & Treatment, Nanotechnology Hong Kong Baptist University Shanghai Jiao Tong University
<b>Investors</b>	R&D Corporations Local, State and Federal governments	Grains Research and Development Corporation Land & Water Australia

Category	Description	Examples of specific names
	Industry, including SMEs Venture capitalists	Environment Australia
<b>Advisors</b>	Local, State and Federal agencies Banking organisations International organisations Industry associations Research associations	Environment Australia United National Environment Programme <a href="http://www.bio.com">www.bio.com</a> Australian Water Association
<b>Community</b>	Community groups Environment groups Rural groups Urban groups Educational institutions Media	Australian Conservation Foundation National Farmers Federation Landcare groups Charles Sturt University TAFE colleges ABC Science On-Line

### 3. PARTNER RELATIONSHIPS

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**We recommend the CRC initially identifies the perceptions, concerns and communication needs of all its members. This will further inform this communication strategy.**

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Once the CRC members have a good understanding of each other's perceptions, concerns and needs, the CRC needs to also conduct market research with its external partners to better understand their needs. Member organisations will be able to assist with this process through their current knowledge and understanding of partner groups. For example, the MLA and the AMPC have a very good and often personal understanding of the communication needs of meat processors. This will also prevent duplication in communication efforts.

This knowledge will assist the CRC to better target its communication activities to achieve its objectives. It will also help in identifying cost-effective strategies for working with members and others to deliver effective communication with external parties.

### 4. MESSAGES

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**The CRC needs to develop core communication messages that reflect both the objectives of the CRC and the needs of its members and partners in the communication process.**

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The development of such messages is best done after the member and partner needs have been identified, and ideally should involve representatives of such groups in the message design process.

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**The CRC should develop and agree upon an overarching communication message that simply summarises the CRC’s essence. For example:**

**“In response to challenges of waste disposal, greenhouse gas emissions and the need to ensure safe water and food, the EBCRC is using natural biological processes to benefit both industry and the environment”.**

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This overarching message should be included in all written materials produced by the EB CRC.

## 5. ACTIVITIES

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**A specific action plan for communication needs to be developed every six months to include budget allocations, roles and responsibilities and evaluation processes. This action plan should reflect the overall Strategy.**

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The following activities are recommended as being effective, but will need to be further developed and targeted once the CRC has a better understanding of partners’ communication needs.

<b>Objective</b>	<b>Activity</b>	<b>Partners</b>
1. To create and promote shared vision for the activities and outcomes of the CRC	<ul style="list-style-type: none"> <li>• Management team meets with research groups</li> <li>• Annual meetings/retreats for all members</li> <li>• Media profile</li> <li>• Identify high profile credible ambassadors for the CRC and develop a strategy for internal promotion of the CRC</li> <li>• Promote involvement and profile of demonstration projects</li> <li>• Regular use of video-conferencing to maintain contact between members</li> <li>• Develop and institute a ‘celebration’ program to acknowledge and reward individual and team successes</li> </ul>	All members
2. To ensure members have a mutual understanding and respect for each other’s perceptions, concerns and needs	<ul style="list-style-type: none"> <li>• Find out perceptions, concerns and communication needs with as many member representatives as possible, and make this information available throughout the CRC</li> <li>• Hold industry – researcher workshops on specific issues</li> <li>• Create internal documentation on CRC programs to show how activities are</li> </ul>	All members

Objective	Activity	Partners
	complementary – ‘activity mapping’	
3.To provide opportunities for members to develop relationships across institutions, disciplines and geographical areas	<ul style="list-style-type: none"> <li>• Support informal meeting of members through social functions and opportunities</li> <li>• Invite members to present at seminars/workshops organised by other members</li> <li>• Annual student conference</li> <li>• Training workshops (in communication, commercialisation, etc skills) conducted with participants from a mix of projects and CRC sites</li> <li>• Develop and implement a ‘buddy’ program where a researcher from one discipline interacts on a regular basis with a researcher from another discipline</li> <li>• Develop and institute an industry liaison program where each research project has an relevant industry person attached to it to be involved in all meetings and communication activities; (NB. for fundamental research the ‘industry’ person may be an applied researcher)</li> </ul>	<p>All members</p> <p>Students Researchers</p> <p>Research and industry members</p>
4.To ensure accessible, direct and relevant exchange of information between all members	<ul style="list-style-type: none"> <li>• Produce and distribute a brief, well structured monthly eZine with links to the EBCRC website (for more detailed information, copies of papers etc) that details key activities and achievements of the CRC; direct personal email this to everyone involved in the CRC</li> <li>• Develop a program of workshops and field days to share information with regard to specific issues or problems</li> </ul>	<p>All members</p> <p>Research and industry partners</p>
5. To ensure members have opportunities to provide feedback and ideas about the CRC’s activities and decision-making processes	<ul style="list-style-type: none"> <li>• Management meetings with program and project teams</li> <li>• Short surveys/questionnaires for members to provide feedback on specific events, decisions to be made, publications, activities, etc</li> </ul>	<p>All members</p>
6.To develop a leading national and international profile and image for the CRC and	<ul style="list-style-type: none"> <li>• Develop and implement an ‘ambassador’ program with credible, high profile people attached to the organisation</li> <li>• Participate in relevant national and international conferences (e.g. AusBiotech)</li> </ul>	<p>All external partners, especially investors, endusers,</p>

<b>Objective</b>	<b>Activity</b>	<b>Partners</b>
its activities and outcomes	<ul style="list-style-type: none"> <li>• Personal meetings/briefings with key influential groups</li> <li>• Maintain a high quality website</li> <li>• Media strategy developed and targeted to outlets of influence too key partners (e.g. rural media, financial media, environment media, metropolitan TV)</li> </ul>	collaborators and the community
7. To attract new members (especially SMEs), finance, contract research, commercial development and support from industry and government	<ul style="list-style-type: none"> <li>• Identify key target organisations and individuals; prioritise</li> <li>• Develop and implement a program of personal liaison with key individuals or organisational representatives</li> <li>• Produce a high quality EB CRC prospectus; include this on the website</li> <li>• Scan the national and international environment for opportunities</li> <li>• Presentation and negotiation skills training for scientists targeting influential audiences</li> </ul>	Investors
8. To provide opportunities for members to network with various organisations in Australia and internationally	<ul style="list-style-type: none"> <li>• Identify and promote mechanisms that could help CRC members to network with important organisations and individuals (e.g. <a href="http://www.bio.com">www.bio.com</a>)</li> <li>• Work with member organisations to communicate effectively with endusers</li> <li>• Investigate the feasibility and usefulness of developing an Enviro-Biotech Network</li> </ul>	All external partners  Endusers
9. To ensure accessible, direct and relevant provision of information to potential end-users	<ul style="list-style-type: none"> <li>• Use member organisation networks and mechanisms to communicate with endusers (e.g. input into their newsletters, seminars, workshops, etc)</li> <li>• Maintain good relevant information on the website</li> <li>• Produce industry specific relevant summaries of research outputs/outcomes/opportunities – provide on website and as hard copy</li> </ul>	Endusers
10. To facilitate partners opportunities to provide feedback and ideas about the CRC's activities and outputs	<ul style="list-style-type: none"> <li>• Use short surveys/questionnaires asking for feedback on specific events, decisions to be made, publications, activities, etc</li> <li>• Conduct focused workshops designed to gain feedback and input from partners</li> <li>• Promote researcher involvement in solving site-specific problems through short term co-location of researchers with industry</li> </ul>	All external partners

## 6. EVALUATION

**The CRC needs to implement two forms of evaluation: (a) ongoing evaluation of its communication by gaining direct or indirect feedback to activities; and (b) annual assessment of performance against communication objectives.**

The following table suggests performance indicators for conducting an annual assessment of the CRC's performance. It also outlines possible mechanisms for assessing performance indicators.

<b>Objective</b>	<b>Performance indicator</b>	<b>Evaluation organisation</b>
1. To create and promote a shared vision for the activities and outcomes of the CRC	Level of identification with and satisfaction in the CRC Level of commitment to the CRC	Email survey of members Individual interviews with key members representatives
2. To ensure members have a mutual understanding and respect for each other's perceptions, concerns and needs	Level of awareness of activities happening in other parts of the CRC Degree of understanding of other members' perceptions, concerns and needs	Email survey  Focus groups
3. To provide opportunities for members to develop relationships across institutions, disciplines and geographical areas	Degree of interaction across institutions, disciplines and CRC sites	Email survey Analysis of meetings and records of visits
4. To ensure accessible, direct and relevant exchange of information between all members	Level of information produced Quality of information produced Degree of satisfaction with information received	Analysis of electronic and print publications  Email survey
5. To ensure members have opportunities to provide feedback and ideas about the CRC's activities and decision-making processes	Degree of satisfaction with opportunities to provide input and the response/feedback to that input	Email survey
6. To develop a leading national and international profile and image for the CRC and its activities and outcomes	Level of awareness of the CRC and its activities and outcomes Level of media coverage Quality of media coverage	Record of inquiries, contacts, invitations, web use Monitor media coverage Content analysis of media coverage

Objective	Performance indicator	Evaluation organisation
7. To attract new members (especially SMEs), finance, contract research, commercial development and support from industry and government	Level of investment in CRC	Financial records Membership records
8. To provide opportunities for members to network with various organisations in Australia and internationally	Level of networking  Degree of satisfaction with interactions between CRC members and external partners	Analysis of records – memberships, invitations, funding support applications, etc Email survey Focus group
9. To ensure accessible, direct and relevant provision of information to potential end-users	Level of information produced Quality of information produced Degree of satisfaction with information received	Analysis of electronic and print publications Level of use of CRC information in partner publications Email survey
10. To facilitate partner opportunities to provide feedback and ideas about the CRC's activities and outputs	Degree of satisfaction with opportunities to provide input and the response/feedback to that input	Email survey Questionnaires at the end of workshops Focus groups

An up-to-date database of member and partner contacts is crucial for implementing many of the activities outlined below.

## 7. ROLES AND RESPONSIBILITIES

**We recommend that:**

- (a) **Communication is written into the position descriptions of all staff and is assessed in annual reviews by supervisors along with other responsibilities**
- (b) **Each research project include communication milestones and involve a specified 'industry' contact person/s**
- (c) **A director of the communication, commercialisation and education program be appointed at a high level**
- (d) **A commercialisation officer and an education officer be appointed to report to the director of the communication, commercialisation and education program (CEEP)**
- (e) **Liaison officers be appointed for 1-2 days per week at each of the CRCs 4 major nodes (Brisbane, Sydney, Adelaide and Perth) to develop and support networks across member organisations and**

**with external partners; these people would also report to the Director of CEEP**

- (f) Six high level respected EBCRC researchers with communication skills identified and appointed to a special ‘ambassadorial’ role with associated responsibilities for representing the CRC**
  - (g) The CRC make strategic use of available communication resources/networks/communication staff from member organisations**
  - (h) Contractors providing specialist communication, commercialisation, marketing, education and training services not available through the EBCRC are used when required.**
- 

The roles and responsibilities of the positions outlined above will need to be carefully described. We see these roles as crucial in ensuring effective communication across different:

- research sites/nodes
- scientific disciplines
- research and industry cultures
- levels of employment

The CRC CEO’s ongoing and important communication role also needs to be emphasised.

We see the *Director of the proposed CEEP Program* having expertise and qualifications in project management, industry liaison, communication, marketing and training. They should have wide experience and knowledge about research environments and commercialisation.

We believe the *commercialisation officer* should have proven expertise and wide experience in assisting scientists to commercialise their research. They should have established influential contacts with financial, research and industry organisations.

The role of the *education officer* should be to assist and facilitate the implementation of the CRC’s education program. This person will work closely with the CRC students, their supervisors and industry contacts to help develop multi-skilled graduated with a good understanding of and linkages with relevant industry sectors.

The *liaison officers* may be appointed from within the member organisations or may be specifically contracted by the EBCRC. Their role is to network across member organisations and with external partners to make connections for mutual benefit. They should have a high level of communication expertise and experience and a good knowledge of the research and industry interests associated with environmental biotechnology.

# In conclusion...

Econnect Communication believes that if the recommendations outlined above are implemented, the EBCRC will achieve its vision and mission and competently deliver commercial and public good outcomes.

Building communication in to all its activities in a meaningful way at the start of its research program will make the EBCRC a leader amongst its peer CRC organisations.

## Appendix One: Interviewees

Mr	Lewis	Atkinson	Manager, Processing & Product Innovation	Meat & Livestock Association
Prof	Peter	Bergquist	Research Director	Macquarie University
Dr	Linda	Blackall	Research Director	EBCRC
Mr	Geoff	Borton		Waste Technologies of Australia
Professor	Don	Bursill	CEO	CRC for Water Quality and Treatment
Dr	John	Cole	Director	Sustainable Industries, QLD EPA
Mr	Clive	Davenport	CEO	CRC for MicroTechnology
Dr	David	Garman	Executive Director	EBCRC
Mr	Ross	Graham	CEO	Australian Meat Processor Corporation
Mr	Ian	Kiernan	Chairman	EBCRC
Prof.	Staffan	Kjelleberg	Research Director	UNSW
Dr	Martin	Kumar	Senior Scientist	SARDI

Ms	Linda	Meisel		Environment Australia
Dr	Hung	Nguyen		Orica Australia Pty Ltd
Ms	Heidi	Philpott	Processor Information Services Coordinator	MLA
Professor	Andrew	Thompson	Research Director	Murdoch University
Mr	Mack	Williams	Director	Mack Williams & Associates

# Appendix Two: Interview Questions

1. What do you see as the key outputs/outcomes of the CRC?
2. Who (groups/individuals) are you already communicating with that may be interested in/affected by the CRC's research?
3. How are you (and/or your organisation's staff) already communicating with these people and how could the CRC add value to these activities?
4. Who or what do you see yourself representing within the CRC? (i.e. who do you feel most closely aligned with? e.g. research interests, an organisation, regional interests, specific stakeholders, etc)
5. What do you think are the barriers to developing relationships within the CRC and with its stakeholders?
6. What are the opportunities to developing relationships within the CRC and with its stakeholders?
7. How would you describe your (and, if relevant, your organisation's) level of commitment to the CRC's activities? Do you have communication staff? If so, what are their roles in your organisation, and how might they be involved in the CRC's activities?
8. Anything else you'd like to add at this stage?