



Australian Government

Australian Research Council

***Linkage Infrastructure Equipment and
Facilities***

**Funding Rules for Funding commencing in
2006**

Australian Research Council
Linkage Infrastructure Equipment and Facilities
Funding Rules for Funding commencing in 2006

Table of Contents

ACRONYMS	4
KEY DATES	5
CONTACTS	5
1. INTRODUCTION	6
1.1 NCGP OBJECTIVES	6
1.2 LINKAGE INFRASTRUCTURE EQUIPMENT AND FACILITIES	7
1.3 FUNDAMENTAL PRINCIPLES AND REQUIREMENTS	7
1.3.1 <i>Ethics and Research Practices</i>	7
1.3.2 <i>Duplication</i>	7
1.3.3 <i>Conflict of Interest</i>	7
1.3.4 <i>Acknowledging ARC support</i>	8
2. CHANGES FROM LAST YEAR	8
3. FUNDING	9
3.1 LEVEL OF FUNDING	9
3.2 DURATION OF FUNDING	9
3.3 TYPES OF RESEARCH SUPPORTED	9
3.3.1 <i>Collaboration</i>	9
3.3.2 <i>Expenditure on equipment and facilities</i>	9
3.3.3 <i>Integrated facilities</i>	10
3.3.4 <i>Ownership and location of equipment and facilities</i>	10
3.3.5 <i>Cash contribution by organisations</i>	10
3.4 AREAS OF INVESTIGATION/WORK NOT SUPPORTED	11
3.5 BUDGET ITEMS NOT SUPPORTED	11
3.6 NUMBER OF APPLICATIONS	11
3.7 GOODS AND SERVICES TAX (GST)	12
4. ORGANISATIONAL TYPES, ROLES AND ELIGIBILITY	12
4.1 ELIGIBLE ORGANISATIONS	12
4.1.1 <i>Single organisation applications</i>	12
4.1.2 <i>Applications involving other organisations</i>	12
5. INVESTIGATOR TYPES, ROLES AND ELIGIBILITY	13
5.1 ELIGIBILITY CRITERIA FOR CHIEF INVESTIGATORS	13
6. CROSS-SCHEME FUNDING	13
7. APPLICATION PROCESS	13
7.1 ELIGIBILITY EXEMPTIONS	13
7.2 APPLICATIONS	13
7.3 CERTIFICATION	13
7.4 SUBMISSION OF APPLICATIONS	14
7.4.1 <i>Application format</i>	14
7.4.2 <i>Application form and instructions to applicants</i>	14
7.4.2.1 <i>Additional text</i>	14
7.4.2.2 <i>Supporting documentation and curricula vitae</i>	15
7.4.3 <i>How to complete and submit applications</i>	15
7.4.4 <i>Number of copies</i>	16

7.4.5 Closing date for applications.....	16
8. SELECTION AND APPROVAL PROCESS.....	16
8.1 SELECTION CRITERIA	16
8.2 ASSESSMENT AND SELECTION PROCEDURE	17
8.2.1 Exclusion.....	17
8.2.2 Recommendations	18
8.3. OFFER OF GRANT	18
9. APPEALS PROCESS	18
10. ADMINISTRATION OF GRANTS.....	18
10.1 FUNDING AGREEMENT	18
10.1.1 Varying the Funding Agreement	18
10.1.2 Varying the Funding Approval	19
10.1.3 Reports.....	19
11. OTHER MATTERS.....	19
11.1 APPLICABLE LAW	19
11.2 CONFIDENTIALITY	19
11.3 PROJECT TITLES	19
11.4 INTELLECTUAL PROPERTY	20
11.5 INCOMPLETE OR MISLEADING INFORMATION	20
11.6 INSURANCE AND LIABILITIES	20
APPENDIX 1: DESCRIPTIONS OF NATIONAL RESEARCH PRIORITIES AND ASSOCIATED PRIORITY GOALS.....	21
APPENDIX 2: ELIGIBLE ORGANISATIONS.....	30
APPENDIX 3: LIBRARY AND INFORMATION INFRASTRUCTURE	32

Acronyms

The following acronyms are used in ARC Funding Rules:

AEST	Australian Eastern Standard Time
AEDT	Australian Eastern Daylight Saving (Summer) Time
AIMS	Australian Institute of Marine Science
ANSTO	Australian Nuclear Science and Technology Organisation
APA	Australian Postgraduate Award
APAI	Australian Postgraduate Award (Industry)
APD	Australian Postdoctoral Fellowship
APDC	Australian Postdoctoral Fellowship (CSIRO)
APDI	Australian Postdoctoral Fellowship (Industry)
APF	Australian Professorial Fellowship
ARC	Australian Research Council
ARCIF	Australian Research Council International Fellowship
ARF	Australian Research Fellowship
AVCC	Australian Vice-Chancellors' Committee
CoE	College of Experts
CI	Chief Investigator
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DSTO	Defence Science and Technology Organisation
ECR	Early Career Researcher
ERISS	Environmental Research Institute of the Supervising Scientist
GA	Geoscience Australia
GAMS	Grant Application Management System
GST	Goods and Services Tax
HECS	Higher Education Contribution Scheme
KCTR	Key Centre for Teaching and Research
LASP	Learned Academies Special Projects
LIEF	Linkage Infrastructure Equipment and Facilities Program
LIF	Linkage Industry Fellowship
NC	Network Convenor
NCGP	National Competitive Grants Program
NHMRC	National Health and Medical Research Council
NP	Network Participant
PI	Partner Investigator
QEII	Queen Elizabeth II Fellowship
SPIRT	Strategic Partnerships with Industry – Research and Training
SRC	Special Research Centres
URL	Universal Resource Locator

Key Dates

Closing date for applications - Friday 27 May 2005 5pm AEST

Contacts

The ARC deals with many thousands of applications each year. Where possible, applicants should direct requests for information to the Research Office or equivalent within their organisation.

Enquiries about *Linkage Infrastructure Equipment and Facilities* may be addressed to:

Linkage Infrastructure Equipment and Facilities Coordinator
Disciplines and Programs
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601

Email: ncgp@arc.gov.au
Phone: 02 6284 6600
Fax: 02 6284 6638
Web: www.arc.gov.au

Australian Research Council
Linkage Infrastructure Equipment and Facilities
Funding Rules for Funding commencing in 2006

1. Introduction

This document sets out the Funding Rules for *Linkage Infrastructure Equipment and Facilities* (the Funding Rules), a scheme funded under the Australian Research Council's National Competitive Grants Program (NCGP), which comply with the requirements of the *Australian Research Council Act 2001* (ARC Act).

Applicants should read and understand the entire Funding Rules and the ARC's standard Funding Agreement, available at www.arc.gov.au, before submitting an application to the ARC. Applicants are responsible for ensuring that their applications are complete and accurate.

1.1 NCGP Objectives

The Australian Research Council (ARC) is an Australian Government statutory authority established under the ARC Act. The primary functions of the ARC, as specified by the ARC Act, are to make recommendations regarding the funding of research programs, to administer funding to support research programs, and to provide policy advice related to research and research training.

The ARC has established a range of competitive funding schemes for the support of research and research training under the framework of the NCGP. A list of current NCGP funding schemes is available on the ARC web site at www.arc.gov.au.

By the operation of a range of funding schemes under the NCGP, the ARC aims to:

- a. maintain and build on existing research and research training;
- b. build the scale and focus of research and research training;
- c. encourage inter-disciplinary approaches to research and research training;
- d. facilitate collaborative approaches to research and research training; and
- e. support research and research training in the following National Research Priority Areas:
 - i. An Environmentally Sustainable Australia,
 - ii. Promoting and Maintaining Good Health,
 - iii. Frontier Technologies for Building and Transforming Australian Industries, and
 - iv. Safeguarding Australia.

Full descriptions of these National Research Priority Areas and their associated Priority Goals can be found in Appendix 1, and on the ARC web site (www.arc.gov.au). Assessment of the degree to which a proposed project would contribute to National Research Priority Areas and Priority Goals may be used as part of the selection process in NCGP schemes.

1.2 Linkage Infrastructure Equipment and Facilities

The Australian Research Council's infrastructure fund has existed continuously for more than ten years. *Linkage Infrastructure Equipment and Facilities* commenced in 2001, replacing the *Research Infrastructure Equipment and Facilities* scheme. *Linkage Infrastructure Equipment and Facilities* provides funding to organisations for research infrastructure that will be used to support high-quality research projects. The scheme is managed on an annual basis and funding is normally provided for one year only. However, funding may be provided for up to five years, subject to parliamentary appropriation, in the case of subscriptions to or other payments in respect of major international facilities.

The Funding Rules are written on the basis that it is the Chief Investigator (see Section 5.1) who is the applicant. However, grants from the ARC are made to eligible organisations (see Section 4.1), not to individual researchers.

Linkage Infrastructure Equipment and Facilities aims to:

- a. encourage organisations to develop collaborative arrangements among themselves, across the higher education sector and with organisations outside the sector, in order to develop research infrastructure;
- b. support large-scale cooperative initiatives involving two or more organisations, thereby allowing expensive facilities to be shared;
- c. enhance support for areas of research strength; or
- d. ensure that researchers in fields of recognised research potential have access to the support necessary for development.

Research infrastructure consists of the organisational resources essential for mounting high-quality research projects in a particular field, including associated indirect costs. It excludes any direct project costs that can be covered from other sources of funding.

1.3 Fundamental principles and requirements

1.3.1 Ethics and Research Practices

The National Health and Medical Research Council (NHMRC) website, <http://www.nhmrc.gov.au>, provides a series of publications which outline the principles of ethical conduct in research. All research proposals should conform with the principles outlined in:

- a. the Joint NHMRC/AVCC *Statement and Guidelines on Research Practice (1997)*;
- b. as applicable, the NHMRC's *National Statement on Ethical Conduct in Research Involving Humans*; and
- c. as applicable, the principles outlined in the NHMRC's codes on animal research.

1.3.2 Duplication

The ARC will not duplicate financial assistance for research already funded by the Commonwealth.

1.3.3 Conflict of Interest

All applicants associated with ARC funding proposals have an obligation to disclose affiliations with or financial involvement in any organisation with a direct interest in the subject matter or

outputs of the researchers. Researchers have an obligation to disclose at the time of applying for an ARC grant, or reporting on it, any conflict of interest which has the potential to influence their research and investigations, publication and media reports, or grant applications.

1.3.4 Acknowledging ARC support

The ARC requires that research funded by the ARC will be appropriately acknowledged. When, at any time during or after completion of a project, the organisation or researcher publishes or produces material such as books, articles, newsletters or other literary or artistic works which relate to the project, the organisation or researcher shall acknowledge, at a prominent place in the publication, the support of the ARC in a form acceptable to the ARC. Similar efforts should be made to acknowledge ARC support when participating in television and radio programs, and when interviewed by the print media.

Advice on acceptable forms of acknowledgement and use of the logo is provided on the ARC website at www.arc.gov.au.

2. Changes from last year

A number of clarifications and revisions have been made in the 2006 *Linkage Infrastructure Equipment and Facilities* Funding Rules. Significant changes from the 2005 *Linkage Infrastructure Equipment and Facilities* Funding Rules are listed below:

Section 3.3.5: Except for consortium-based applications where a peak body or similar grouping applies on behalf of a consortium of collaborating organisations, each collaborating organisation must contribute at least 20% of the highest contribution made by any of the collaborating organisations.

Section 3.3.5: In cases where a vendor or supplier of an item of equipment or a facility which is the subject of a proposal for funding is also listed as a partner organisation in the application, the cash contribution of that partner organisation will be considered as a discount towards the equipment or facility.

Section 11.3: If the ARC judges that a project title and description do not adequately reflect the objectives and outcomes sought, the ARC reserves the right to change the project title and description.

Appendix 2: In the case of international subscriptions or other payments in respect of international facilities, peak bodies or similar groupings representing the higher education community may act as catalysts in developing cooperative arrangements. In such cases and only with the prior approval of the ARC, the peak body or similar grouping may apply on behalf of, and with the full written agreement of, the eligible organisations involved. Such applications must identify the mechanism for accountability and distribution of the funding between the eligible organisations involved.

3. Funding

3.1 Level of funding

The minimum funding sought from the ARC for a grant under *Linkage Infrastructure Equipment and Facilities* is \$100,000 (net of GST) per annum (see Section 3.3.5).

3.2 Duration of funding

Funding is normally for one year only. However, applications for up to five years of funding, subject to parliamentary appropriation, may be considered in the case of subscriptions to or other payments in respect of major international facilities. Normally this would occur only under an international agreement approved by the ARC. The ARC will approve such agreements only if there are significant benefits to Australia by way of access to a facility not otherwise available to Australians. If funding is required for more than five years, a review of the project will be conducted early in the fourth year, before any application for further funding is considered.

The ARC may recommend project grants for a duration different from that requested.

3.3 Types of research supported

3.3.1. Collaboration

Projects that demonstrate genuine collaboration between two or more eligible organisations (see Section 4.1) are preferred. Projects must relate to high-quality research activity and must be broadly in line with the research directions of the organisation(s) involved.

Collaboration will typically involve the shared use of facilities on different projects and/or collaborative projects. Where the equipment required will be located in more than one eligible organisation, the application must demonstrate clearly that:

- a. the facility is genuinely integrated and collaborative;
- b. the items of equipment are complementary in nature; and
- c. overall research outcomes will be enhanced.

3.3.2 Expenditure on equipment and facilities

Funding may be sought only for expenditure related to research infrastructure and equipment and facilities such as:

- a. equipment purchase and installation;
- b. computing/data facilities, centrifugation facilities, animal houses, herbaria, experimental farms but not including capital works (see Section 3.5);
- c. salaries if these are directly associated with creating and installing the facility;
- d. consortium membership costs, travel to the facility, and secretariat costs in the case of Australia's participation in significant international-scale projects; or
- e. library and information infrastructure (non-capital aspects only to support specific research projects). Applicants should refer to the advice at Appendix 3.

3.3.3 Integrated facilities

Linkage Infrastructure Equipment and Facilities supports major facilities and equipment. Minor items of equipment are the responsibility of eligible organisations. However, there may be special circumstances in which a case can be made for an integrated facility consisting of a number of small items. Such applications will be considered only where a convincing case can be made that an integrated facility is necessary to support research activities.

3.3.4 Ownership and location of equipment and facilities

Except with the written approval of the ARC, ownership of shared facilities and equipment funded under *Linkage Infrastructure Equipment and Facilities* is to be vested in the administering organisation (see Section 4.1), listed in its assets register and located on campus. Collaborating organisations (see Section 4.1) must reach agreement on time-sharing and access to equipment or facilities before applying for funding. Details of applicants' time-sharing and access arrangements must be included in their *Linkage Infrastructure Equipment and Facilities* application.

It is recognised that it may be desirable, in very special circumstances, to fund and support the location of equipment or major national facilities outside an eligible organisation's campus, when access is provided to several collaborating organisations to better utilise research potential. In these circumstances, the terms of access must be guaranteed and agreed to by the parties in a contract prior to application. The costs of managing the equipment or facility should then be proportionally distributed across the users of the facility and agreed to prior to application. A copy of the signed agreement specifying location, access and sharing of recurrent costs must be attached to the application. The copy of the signed agreement will not be counted towards the page limit (see Section 7.4.2.1).

3.3.5 Cash contribution by organisations

The cost of acquiring and/or accessing equipment or facilities must be itemised on the application form as cash and in-kind contributions by collaborating organisations. *Linkage Infrastructure Equipment and Facilities* will fund up to a maximum of 75 per cent of the direct cost of purchasing and/or accessing the equipment or creating the facility (net of GST). Except for consortium-based applications where a peak body (see Section 4.1) applies on behalf of a consortium of collaborating organisations, each collaborating organisation must contribute at least 20% of the highest contribution of the collaborating organisations.

Salaries of support or academic staff and the cost of buildings or other infrastructure may not be counted as cash contributions towards the purchase of a new item of equipment or facility. Such items may be included only as in-kind contributions. Supplier discounts on infrastructure items must be included in the application but may not be identified as cash or in-kind contributions. In cases where a vendor or supplier of an item of equipment or a facility which is the subject of a proposal for funding is also listed as a partner organisation in the application, the cash contribution of that partner organisation will be considered as a discount towards the equipment or facility.

The Minister may approve a lesser amount of funding than that sought by an applicant. In such cases, each collaborating organisation is nonetheless required to contribute pro rata to the funded items at the rate identified in the funding application, irrespective of where those items are to be located. Collaborating organisations are required to contribute at a minimum the pro rata sum required, but may maintain the original level of commitment offered. If a collaborating

organisation fails to make its required contribution, the ARC may recover all or part of the funding provided to the administering organisation.

3.4 Areas of investigation/work not supported

Linkage Infrastructure Equipment and Facilities does not support the following work:

- a. clinical medicine and dental research that are covered by the NHMRC;
- b. activities leading solely to the creation or performance of a work of art, including visual art, musical compositions, drama, dance, designs and literary works, for which Commonwealth Government support is provided through the Australia Council for the Arts;
- c. scholarly investigations that, while important in themselves, do not lead to conceptual advances or discoveries, or to novel practical outcomes or applications. Projects such as uncritical biographical compilations and purely descriptive catalogues or editions that do not involve original research are not funded;
- d. production of teaching materials, even though some research may be involved in their production;
- e. compilation of data, unless this is an integral part of a project, in which case applicants must provide a statement indicating the research objectives to which the data would contribute;
- f. development of research aids and tools (including computer programs), unless they form an integral part of a project, in which case applicants must provide a statement indicating the research objectives to which these activities would contribute.

3.5 Budget items not supported

The following items are not regarded as elements of research infrastructure, for the purposes of *Linkage Infrastructure Equipment and Facilities*, and are not eligible for support:

- a. capital works (such as the construction of buildings), because organisations receive operating grant funding for capital works;
- b. rental of accommodation;
- c. operational costs, including salaries of staff engaged in teaching and research, outreach, community relations, and in research only (including the cost of 'buying time' to free such staff to do more research) except, at the ARC's discretion, where subscriptions for major international facilities may cover such costs;
- d. salaries of staff supporting research at the organisational level (for example, Deputy or Pro Vice-Chancellor Research, Research Grants Officer);
- e. stipends of postgraduate research students;
- f. travel costs directly associated with individual projects (with the exception of travel costs to allow participation in international consortia); and
- g. inexpensive pieces of equipment that should be funded by eligible organisations (such as personal computers).

Applications that seek non-capital works aspects of library or information infrastructure may include salaries and minor pieces of equipment to build an integrated facility if the entire project is a cohesive attempt to provide infrastructure support to research. Please refer to Appendix 3 for further details.

3.6 Number of applications

Individual researchers must not be named as Chief Investigators on more than two *Linkage Infrastructure Equipment and Facilities* applications in the same application round. Contravention

of this limit may result in the exclusion of all *Linkage Infrastructure Equipment and Facilities* applications involving that researcher as a Chief Investigator.

3.7 Goods and Services Tax (GST)

Government-related entities do not pay GST on the funding transaction with the ARC. However, non-government-related entities which are liable to pay GST on the transaction with the ARC will receive base funding plus GST.

If the organisation is able to claim input tax credits for the GST component in the cost of goods and services purchased in the course of carrying out the project, then the GST component of these costs should not be included in the project cost. The ARC will make GST adjustments to payments depending on whether the funding has been provided to a government-related or non-government-related entity. Applicants are therefore required to provide their budgets exclusive of GST.

4. Organisational types, roles and eligibility

4.1 Eligible organisations

To be eligible for consideration, an application in *Linkage Infrastructure Equipment and Facilities* must be submitted by an organisation which is eligible to receive and administer ARC financial assistance (eligible organisation). Appendix 2 lists the eligible organisations for *Linkage Infrastructure Equipment and Facilities*.

Each application must identify a single eligible organisation (administering organisation) which will receive and administer ARC financial assistance if the application is successful.

In general, applications for *Linkage Infrastructure Equipment and Facilities* should involve two or more eligible organisations (collaborating organisations).

4.1.1 Single organisation applications

A single organisation application is defined as an application whose list of participants includes only one eligible organisation, as indicated in Appendix 2. A single organisation application must demonstrate clearly that:

- a. collaborative use of the new equipment or facility by other eligible organisations is not practicable; and
- b. the project does not duplicate equipment or a similar facility at another eligible organisation where collaborative arrangements would be practicable. If a similar facility is available at another eligible organisation, that organisation may provide a letter with the application explaining why the collaborative use of its facility is not practicable.

4.1.2 Applications involving other organisations

Applications involving organisations that are not eligible organisations, such as government research organisations and businesses (partner organisations) are also encouraged, provided that:

- a. at least one eligible organisation is involved in the application; and
- b. any funds allocated support the proposed research within the higher education sector.

If only one eligible organisation is involved in an application, the application must be justified as a single organisation application. This applies to applications that involve a number of industry or government partner organisations but only one eligible organisation.

5. Investigator types, roles and eligibility

5.1 Eligibility Criteria for Chief Investigators

A Chief Investigator should be an established researcher who will be primarily involved in the use of the equipment or facility. Normally, there will be at least one Chief Investigator from each of the collaborating organisations.

Chief Investigators must have fulfilled to the satisfaction of the ARC all obligations from previous and current ARC awards (including progress and final reports).

6. Cross-scheme funding

The ARC will not duplicate financial assistance for research already funded by the Commonwealth. The ARC reserves the right to determine if a proposal would duplicate research already being funded. It may declare ineligible, or reduce funding to, any such proposal.

7. Application process

7.1 Eligibility exemptions

This item is not relevant to *Linkage Infrastructure Equipment and Facilities*.

7.2 Applications

The application must contain all the information necessary for assessment of the project without the need for further written or oral explanation, or reference to additional documentation unless requested by the ARC or its College of Experts.

All details in the application, particularly concerning any successful grants, must be current at the time of submission.

Applications must not be marked commercial-in-confidence as, if so, they cannot be assessed under the ARC procedures for peer assessment and will be excluded.

7.3 Certification

It is the legal responsibility of the administering organisation to obtain signatures of all participants named in the application form. These signatures are to be retained by the administering organisation which must provide these certifications if requested. A pro forma is available for this purpose on the ARC web site (www.arc.gov.au).

7.4 Submission of applications

Applications under *Linkage Infrastructure Equipment and Facilities* consist of two parts:

- a. application form to be completed in the ARC Grant Application Management System (GAMS); and
- b. additional text (see Section 7.4.2.1).

7.4.1 Application format

All documents must be written in English and must comply strictly with the format and submission requirements.

All pages must be in black type, use a single column and 12 point font size on white A4 paper, printed on one side only and unbound, with at least 2 cm margins on each side. As applications are scanned electronically, applicants must use a highly legible font type, such as Arial, Courier, Palatino, Times New Roman or Helvetica. Variants such as mathematical typesetting languages may also be used. References may be reproduced in 10-point font size. Colour graphs or colour photographs may be included but will be reproduced in black and white and the reproduction quality may be degraded. Fine graphics and grey scale may also not be precisely reproduced.

The pages of the application should be numbered consecutively starting from page one.

7.4.2 Application form and instructions to applicants

Applicants must use the application form produced by GAMS on the ARC web site (www.arc.gov.au).

Applicants should note that a separate document, *Linkage Infrastructure Equipment and Facilities Instructions to Applicants for Funding commencing in 2006*, is available from the ARC website (www.arc.gov.au) to assist in preparing applications.

7.4.2.1 Additional text

The additional text is to be no longer than ten A4 pages. It should, within the required format, address the selection criteria listed in Section 8.1 of these Funding Rules and include the following details:

- a. a description of the research activities to be supported, stating how the research will be enhanced and why it is important. Comments must be related to the research priorities of the organisation/s involved;
- b. the need for Australian researchers to access the proposed equipment or facilities and the accessibility of comparable infrastructure elsewhere;
- c. a description of the collaborative arrangements proposed, including the involvement of each organisation. A single organisation application must justify why collaborative arrangements are not practicable or appropriate;
- d. a detailed budget justification that states the amount required for each item and the priority afforded each item (A, B or C). Each budget item and its priority must be justified;
- e. funding from sources other than the collaborating organisations, or partner organisations, and whether the application is contingent on these funds from such sources;
- f. details of staff, students and resources involved in the research activities; and

- g. the arrangements proposed for the purchase or construction of the equipment, its location, installation, day-to-day management and operation, maintenance, access by users to the facility, and the sharing of time and resources to maximise its use.

Applicants for library or information infrastructure must also address the issues identified in Appendix 3 of these Funding Rules. Applicants must list the specific research projects that will use the resource created by this library or information infrastructure proposal.

7.4.2.2 Supporting documentation and curricula vitae

All the documents listed below are mandatory except for the agreement on access. These documents are not included in the quota of pages for the additional text. After the additional text applicants must include:

- a. a curriculum vitae (CV) for each Chief Investigator, each no more than one A4 page in length (including publication details). CVs longer than one A4 page may be removed from the application before assessment. CVs must include the following details:
 - i. name,
 - ii. qualifications and current appointment,
 - iii. relevant employment history,
 - iv. a list of the ten most significant relevant publications for the last five years and the total number of peer-reviewed research publications over the last five years,
 - v. brief details of all competitive grant funding for the last five years,
- b. summary of quotes for items to be purchased, one A4 page in length, to be included in the application after the additional text and CVs:
 - i. quotes must include all discounts to be provided by suppliers,
 - ii. quotes for items in foreign currency must include the exchange rate at the time of applying, and
- c. if equipment is to be located outside an eligible organisation (as listed at Appendix 2), a copy of an agreement on access, use and maintenance between collaborating and partner organisations must be attached.

7.4.3 How to complete and submit applications

Linkage Infrastructure Equipment and Facilities application forms are produced using the ARC's web-based GAMS. Applicants applying through an eligible organisation should submit their applications through the Research Office by the organisation's internal closing date. Organisations' Research Offices or equivalent have access to GAMS and will allocate GAMS UserIDs and passwords to enable applicants at their organisation to access the system and create applications.

Researchers in organisations other than eligible organisations should complete their application forms using GAMS. Organisations should identify a GAMS Contact who should contact the ARC directly. The ARC will assist the GAMS Contact to gain access to the system and to create applications.

If an applicant has previously been allocated access to GAMS, her/his UserID and password should still be current. Applicants who may not have a GAMS ID should first contact their Research Office/GAMS Contact. If they do not have a Research Office/GAMS Contact they should email gamsids@arc.gov.au.

Eligible organisations' Research Offices and equivalent should submit application forms in GAMS and forward the full paper application and copy which must match identically the contents of the GAMS application form. Applications should be sent:

by mail, to

Linkage Infrastructure Equipment and Facilities Coordinator
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601

by courier, to

Linkage Infrastructure Equipment and Facilities Coordinator
Australian Research Council
Geoscience Australia Building
cnr Hindmarsh Drive and
Jerrabomberra Avenue
SYMONSTON ACT 2609

7.4.4 Number of copies

An original and one identical printed copy only are required. The application must be clipped with NAL clips, not stapled. The application form should be submitted with the additional text, including supporting documentation, interleaved appropriately (see *Linkage Infrastructure Equipment and Facilities Instructions to Applicants for Funding commencing in 2006*).

7.4.5 Closing date for applications

By close of business **5:00pm AEST 27 May 2005**, paper originals of applications for *Linkage Infrastructure Equipment and Facilities* must be received by the ARC, and the application form completed using GAMS must be submitted. Applications may be withdrawn but may not be changed after submission. Additions, deletions and modifications will not be accepted after submission. Applications received after close of business 5:00pm AEST 27 May 2005 will not be accepted. The ARC may, in its absolute discretion, and only in exceptional circumstances, accept late applications.

8. Selection and approval process

8.1 Selection criteria

Assessment will be based on the following criteria:

- a. *Need for Australian researchers to access the proposed equipment or facilities*
The application should indicate the relevance of the proposed infrastructure to National Research Priorities and national needs, and the accessibility of comparable infrastructure elsewhere;
- b. *Excellence of the researchers and research activity to be supported*
Evidence must be presented to show that the proposed research and the Chief Investigators' track records are of high quality, including details of the research proposed, complemented in

the attached curricula vitae of the principal proponents by details of recent relevant publications and competitive grants. This assessment will take into account the opportunities that have been made available to the researchers to date;

- c. *Effectiveness of the cooperative arrangements between organisations, including access and resource sharing*

The application should detail the nature and degree of cooperation involved between the collaborating organisations. Where possible (and relevant), applications should also detail past and present cooperation and collaboration between the organisations concerned. Where the application seeks an extension of existing equipment facilities and/or additional equipment for a facility previously funded under *Linkage Infrastructure Equipment and Facilities* or *Research Infrastructure Equipment and Facilities*, then the extent of the current usage should be set out; and

- d. *The commitment of each collaborating organisation*

The application must provide clear evidence of the extent of financial and other support from the collaborating organisations and partner organisations, and must be consistent with the organisations' research management plans.

8.2 Assessment and selection procedure

Assessment of applications is undertaken by the ARC, which has the right to make recommendations solely on the basis of its expertise, and which may:

- a. exclude ineligible applications;
- b. rank each application relative to the others on the basis of the application;
- c. assess and recommend budgets; and
- d. prepare funding recommendations that are submitted to the ARC Board.

The ARC has procedures for managing organisational and personal conflicts of interest experienced by College of Experts members, and for enabling members to withdraw from the assessment process of particular applications.

8.2.1 Exclusion

Exclusion of applications by the ARC may take place at any time during the selection process. Applications which contravene the Funding Rules in any way may be excluded. The ARC will determine if the breach of the Funding Rules has a potential material impact on the assessment of the application. If it is so determined the application will be excluded. Grounds for exclusion include, but are not limited to:

- a. failing to submit the application through the appropriate Research Office/Chief Executive Officer for certification;
- b. submitting similar or duplicate applications;
- c. not meeting the eligibility criteria;
- d. submitting applications in clinical medicine and dental research and training (see Section 3.4);
- e. providing incomplete, inaccurate or misleading information (see Section 11.5);
- f. designating all or any part of the application as 'commercial-in-confidence';
- g. not meeting the funding threshold when inappropriate budget items are removed; and
- h. applications received by the ARC after the closing date (see Section 7.4.5)

8.2.2 Recommendations

Recommendations are submitted by the ARC Board to the Minister for Education, Science and Training for consideration. The Minister determines which applications will be offered funding.

8.3. Offer of grant

The successful administering organisation will be notified in a letter of offer that will indicate the funding to be provided and will include the Funding Agreement.

9. Appeals process

Appeals will be considered only against process issues and not against committee recommendations or assessor ratings and comments.

Appeals must be made on the appeals form available from the ARC website (www.arc.gov.au). The form must be lodged through the administering organisation's Research Office or equivalent, and be received within 28 days of the date on the letter notifying the outcome of applications by:

The Appeals Officer
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601

10. Administration of grants

10.1 Funding Agreement

Funding may not be expended before the Funding Agreement is signed by the administering organisation and the ARC, and until such time the ARC will not recognise the project as having begun.

Collaborating organisations will be advised of the details of relevant funding offers.

Successful applicants should familiarise themselves with the Funding Agreement. They must accept the terms of the Funding Agreement and the administering organisation must sign the Funding Agreement before funds can be paid.

Projects must commence as required by the Funding Agreement.

Administering organisations should note that the Funding Agreement covers the post-award management including reporting requirements and financial management. A draft Funding Agreement can be viewed on the ARC website (www.arc.gov.au).

10.1.1 Varying the Funding Agreement

Requests to vary the Funding Agreement must be forwarded in writing by the administering organisation's Research Office, to the ARC. Forms are available for variation requests on the ARC website (www.arc.gov.au).

10.1.2 Varying the Funding Approval

Requests to vary the Funding Approval must be forwarded in writing by the administering organisation's Research Office, to the ARC.

The Funding Approval may be varied by varying the amount of financial assistance, the duration of financial assistance, the name of the person leading the research program and the name of the organisation receiving financial assistance.

The Funding Approval may be varied where:

- a. the organisation's involvement with the research program ends or substantially changes;
- b. the research program changes so that it is no longer consistent with the description in the Funding Approval;
- c. the person named in the funding approval as the person leading the research program ceases to lead the program; and
- d. any of the collaborating organisations involved in the research program end or substantially change their involvement with the program.

10.1.3 Reports

Administering organisations are required to submit reports concerning funded projects to the ARC, in the format and by the due dates detailed in the Funding Agreement.

11. Other matters

11.1 Applicable law

The ARC is required to comply with the requirements of the *Privacy Act 1988* and the *Freedom of Information Act 1982*.

11.2 Confidentiality

Information contained in applications is regarded as confidential unless otherwise stated and, subject to the need to provide applications to assessors, and statutory requirements for the ARC to provide information to Parliament and other organisations, applications will be received and treated as confidential.

Notwithstanding the above, the ARC may publicise and report offers or awards of funding, including information about the proposed research, the name and organisation of any applicant, the identity of the administering organisation and any other organisation involved in the project, the title and summary descriptions of the project and its intended outcomes, and the level and nature of financial assistance from the ARC.

11.3 Project Titles

If the ARC judges that a project title and description do not adequately reflect the objectives and outcomes sought, the ARC reserves the right to change the project title and description.

11.4 Intellectual property

Applicants must agree to comply with the *National Principles of Intellectual Property Management for Publicly Funded Research* available at the ARC website (www.arc.gov.au) and act in accordance with any intellectual property policies of the applicant's organisation.

11.5 Incomplete or misleading information

It is a serious offence to provide false or misleading information to the Commonwealth.

If an application is incomplete, is inaccurate or contains misleading information, it may be excluded from any further consideration for funding.

If the ARC believes that omissions or inclusion of misleading information are intentional, or if there is evidence of malpractice, the ARC will refer the matter for investigation with a view to prosecution under Commonwealth criminal law. The Australian Government is committed to protecting its revenue, expenditure and property from any attempt, by members of the public, contractors, sub-contractors, agents, intermediaries or its own employees, to gain financial or other benefits by deceit.

Examples of malpractice include, but are not restricted to:

- a. providing fictitious track records; or
- b. falsifying claims in publications records (such as describing a paper as accepted for publication when it has only been submitted).

11.6 Insurance and liabilities

Organisations are subject to the liability, indemnity and insurance provisions of the Funding Agreement. The draft Funding Agreement can be viewed on the ARC website (www.arc.gov.au).

Appendix 1: Descriptions of National Research Priorities and associated Priority Goals

Research Priority 1: An Environmentally Sustainable Australia

Transforming the way we utilise our land, water, mineral and energy resources through a better understanding of human and environmental systems and the use of new technologies

Natural resources have traditionally fuelled our national and regional economies. They have the potential to generate further wealth and employment opportunities in the future. But our natural resources and biodiversity must be used on a sustainable basis so that the benefits continue to be enjoyed by future generations.

Australia faces significant environmental challenges:

- efficient and sustainable water use is a critically important issue for our economic and social development;
- significant land degradation issues, such as salinity, need to be arrested to underpin our agricultural production systems;
- climate change can be expected to have complex, long-term consequences for the environment, for our agricultural and marine production systems and for communities; and
- the cleanliness and efficiency of our energy production systems should be enhanced.

There is substantial effort underway to develop more efficient water utilisation practices, to protect our rivers and groundwater resources, and to protect and remediate our fragile soils.

Our agricultural and mining industries are being transformed through the adoption of new technologies, and the development of new types of foods.

This will help to revitalise our regional communities and generate substantial export earnings for the nation over the coming decades.

The Government is committed to meeting the greenhouse gas emissions target set for Australia at Kyoto.

Australia is well placed to take an international lead in developing new and improved energy technologies and in capturing and 'sequestering' carbon dioxide.

Other opportunities lie in managing and using our unique, rich land- and marine-based biodiversity, and in developing our deep earth resources.

Australia has a strong record of achievement in research in fields in the natural sciences, such as agriculture, natural resource management, climate change, horticulture, forestry, mining, energy, and marine sciences, as well as in the social sciences and humanities.

We must build on these strengths to improve our competitive advantages while enhancing our understanding of natural systems and the interplay of human activities.

In particular, there needs to be an increased understanding of the contributions of human behaviour to environmental and climate change, and on appropriate adaptive responses and strategies.

To understand and manage these complex interactions better will require significant collaboration within the research community and with other stakeholders.

Priority goals for research fall in the seven areas of water utilisation, transforming resource-based industries, overcoming land degradation, developing cleaner, more efficient fuels and energy sources, managing biodiversity, deep earth resources and responding to climate change and variability.

Priority Goals

- **Water – a critical resource**
Sustainable ways of improving water productivity, using less water in agriculture and other industries, providing increased protection of rivers and groundwater and the re-use of urban and industrial waste waters.
Australia is one of the driest continents and is dependent upon access to freshwater supplies for economic and social development. It has a complex geological structure, a highly variable climate, unique ecosystems, flora and fauna and a distinctive indigenous and settler history. Enhancing our understanding of the links between these factors and water availability will result in a better understanding of sustainable water management practices.
- **Transforming existing industries**
New technologies for resource-based industries to deliver substantial increases in national wealth while minimising environmental impacts on land and sea.
Resource-based industries underpin much of Australia's prosperity and have the potential to do so in the future. For example, Australia remains highly prospective for minerals discoveries and highly attractive for the development of new era foods from agricultural and marine sources. Our competitive advantage and national well being will depend on research and on the development and adoption of new technologies.
- **Overcoming soil loss, salinity and acidity**
Identifying causes and solutions to land degradation using a multidisciplinary approach to restore land surfaces.
The Australian landscape is fragile: soil salinity, acidity, and nutrient levels pose significant, long term challenges for agriculture and the environment. Research is helping to find solutions to these problems. For example, the National Land and Water Resources Audit shows the extent of salinity, soil erosion and soil acidification in the Australian environment and illustrates Australia's leading edge in national mapping of critical resource data. Further multidisciplinary effort is required to develop sustainable land management practices that are appropriate for Australian conditions and mitigate major land degradation processes and increase biodiversity.
- **Reducing and capturing emissions in transport and energy generation**
Alternative transport technologies and clean combustion and efficient new power generation systems and capture and sequestration of carbon dioxide.
Australia is well positioned to produce world class solutions to reduce and capture greenhouse gas emissions and the Government is committed to meeting the emissions target set for Australia at Kyoto. We are also well placed to develop alternative energy technologies and ecologically sustainable transport and power generation systems.

- Sustainable use of Australia’s biodiversity**
Managing and protecting Australia’s terrestrial and marine biodiversity both for its own value and to develop long term use of ecosystem goods and services ranging from fisheries to ecotourism.

Australia has a unique and rich flora and fauna. Many of our complex ecosystems – on which our agricultural, fisheries and tourism industries depend - have adapted to events such as drought and fire, and have been shaped by indigenous and settler management practices. There is a need for a more comprehensive understanding of these natural systems and the interplay with human activities, and the effects of management and protection measures.
- Developing deep earth resources**
Smart high-technology exploration methodologies, including imaging and mapping the deep earth and ocean floors, and novel efficient ways of commodity extraction and processing (examples include minerals, oil and gas) while minimising negative ecological and social impacts.

Many of Australia’s known mineral assets may be nearly exhausted within the next decade. New land-based deposits are believed to be buried deeper in the crust and the deep marine areas surrounding Australia are also largely unexplored. New technologies, such as remote sensing, indicate scientists are on the brink of being able to ‘see’ inside the earth and identify deeply buried deposits.
- Responding to climate change and variability**
Increasing our understanding of the impact of climate change and variability at the regional level across Australia, and addressing the consequences of these factors on the environment and on communities.

Australia already has a highly variable climate, and climate change can be expected to have further significant impacts. It is important to enhance our understanding of the consequences of climate change and variability at the regional level across Australia, and the implications for the environment and for communities. It is also important to explore beneficial adaptation strategies to climate change and variability to ensure ongoing social, economic and environmental well being.

Research Priority 2: Promoting and Maintaining Good Health

Promoting good health and well being for all Australians

Average life expectancies have increased markedly in recent decades. Australians also expect to lead longer and healthier lives in the future, and to remain productive and independent over an extended period.

Enabling individuals and families to make choices that lead to healthy, productive and fulfilling lives will yield economic and social benefits and add materially to national well being.

Australians expect that their children and grandchildren should have a healthy start to life.

Developing strategies to promote the healthy development of young Australians, and addressing the causes and reducing the impact of the genetic, social and environmental factors which diminish their life potential will be critical.

A revolution is also underway at the other end of the life cycle. Australia, like many other developed nations, is undergoing a major demographic shift involving significant growth in the aged population.

To meet this challenge, it will be important to promote healthy ageing by developing better social and medical strategies to ensure that older Australians enjoy healthy and productive lives.

Informed insights into the causes of disease and of mental and physical degeneration will contribute to the achievement of this goal.

All Australians stand to benefit from preventive healthcare through the adoption of healthier attitudes, habits and lifestyles.

Evidence-based preventive interventions may help reduce the incidence and severity of many diseases, including major health problems such as cardiovascular and neurodegenerative diseases, mental ill-health, obesity, diabetes, asthma and chronic inflammatory conditions. These could include interventions that reduce exposure to contamination of the physical environment (eg air pollution).

Improvements in the health and well being of the young, of older Australians and in preventive healthcare will be underpinned by research.

However, while Australia has an enviable record in health and medical research, the research effort is spread across the many universities, hospitals and health and medical research institutes, resulting in critical mass only in limited areas of research.

There is also a need to draw on multidisciplinary approaches that include research contributions from the social sciences and humanities.

This priority is designed to promote health and prevent disease through a more focused and collaborative effort.

Priority goals for research fall in the four areas of a healthy start to life, ageing well, ageing productively, preventive healthcare and strengthening Australia's social and economic fabric.

Priority Goals

- **A healthy start to life**
Counteracting the impact of genetic, social and environmental factors which predispose infants and children to ill health and reduce their well being and life potential.
Human health in the developing foetus and in early childhood is critical to the future well being of the adult. Research shows that health and well being in early childhood is predictive of later positive outcomes, and that health in middle and late childhood is also crucial. This goal supports the Government's National Agenda for Early Childhood initiative.
- **Ageing well, ageing productively**
Developing better social, medical and population health strategies to improve the mental and physical capacities of ageing people.
Australia's population is ageing, with a significant projected increase in the number of people aged over 65 and over 85. While Australia is relatively well placed compared with many OECD nations, major shifts in cultural expectations and attitudes about ageing are necessary to respond constructively, at both an individual and population level. A healthy aged population will contribute actively to the life of the nation through participation in the labour market or

through voluntary work. This goal supports the Government's National Strategy for an Ageing Australia.

- **Preventive healthcare**

New ethical, evidence-based strategies to promote health and prevent disease through the adoption of healthier lifestyles and diet, and the development of health-promoting products. Preventive healthcare research will improve the prediction and prevention of disease and injury for all Australians through the adoption of healthier behaviours, lifestyles and environments. Research will generate an improvement in the design, delivery and uptake of programmes such as exercise-based rehabilitation. There are several major disease targets amenable to immediate study, such as cardiovascular health, neurodegenerative diseases, mental ill-health, obesity, diabetes, asthma and chronic inflammatory conditions. Research on prevention will emphasise interdisciplinary approaches, including research on ethics, drawing on contributions from the social sciences and humanities, as well as from the health and medical sciences. It will also focus on developing new health promoting foods and nutraceuticals. This goal supports the Government's Focus on Prevention initiative.

- **Strengthening Australia's social and economic fabric**

Understanding and strengthening key elements of Australia's social and economic fabric to help families and individuals live healthy, productive, and fulfilling lives. Living in today's society involves a complex web of choices, yet many of the traditional support structures are weaker than they have been in the past. Enabling people to make choices that lead to positive pathways to self reliance and supportive family structures is more important than ever. The interactions between the social safety net, social and economic participation, financial incentives and community and private sources of support are critical in helping people maximise their potential and achieve good, healthy, lifetime outcomes. In the decade ahead, it will be vital to understand and support the drivers for workforce participation and the broader social and economic trends influencing Australian families and communities. This goal supports the Government's welfare reform and participation agendas. Research in this area will emphasise interdisciplinary approaches, drawing on contributions from the economic, behavioural and social sciences

Research Priority 3: Frontier Technologies for Building and Transforming Australian Industries

Stimulating the growth of world-class Australian industries using innovative technologies developed from cutting-edge research

Progress and wealth often derive from the unforeseen application of new discoveries. Australia must be at the leading edge if it is to stay abreast of international developments and take advantage of opportunities.

Our national capabilities in emerging sciences and their underpinning disciplines determine our capacity to develop and implement new technologies. Australia has a strong base of expertise, skills and technological capacities in the fundamental sciences and key technologies.

Our strengths are in a wide range of areas such as biotechnology, material sciences, information and communications technology (ICT), photonics, nanotechnology and sensor technology.

ICT is currently the critical enabling technology and is a major contributor to national productivity and growth.

But breakthrough science underpins technological advancements in many areas and Australia needs to foster an environment that stimulates creativity and innovation.

Applications for frontier technologies are potentially very large. Australia has the capacity to exploit niche markets for new products and services.

Australia also has an enviable track record as an innovator and developer of advanced materials and must grasp the opportunity to stay ahead.

Smart information use involving improved data management, intelligent transport systems and digital media to develop creative applications for digital technologies provides huge opportunities to improve the performance of key Australian industries.

Australia needs to invest in this research area as it is fundamental to our future competitiveness and well being.

This priority will help to strengthen the capacity of Australian researchers to participate in new areas of research, enhance Australia's international scientific reputation, stimulate local expertise, and help create vibrant new industries.

A better understanding of the conditions that are conducive to innovation will ensure that Australia's investment in research will maximise the benefits for Australia.

Enhanced research effort will also be achieved through initiatives that develop a critical mass of researchers in key areas.

Priority goals for research fall in the five areas of breakthrough science, frontier technologies, advanced materials, smart information use, and promoting an innovation culture and economy.

Priority Goals

- **Breakthrough science**

Better understanding of the fundamental processes that will advance knowledge and facilitate the development of technological innovations.

Breakthrough science underpins technological innovation across a range of industries critical to maintaining Australia's position as a developed country. Some examples include bio-, cultural- and geo-informatics, nano-assembly and quantum computing. Technological advances are often unexpected and a strong foundation in mathematics and the fundamental sciences will provide an environment that fosters creativity and innovation. Early participation in leading edge areas of research will enable Australian researchers to benefit more fully from international developments.

- **Frontier technologies**

Enhanced capacity in frontier technologies to power world-class industries of the future and build on Australia's strengths in research and innovation (examples include nanotechnology, biotechnology, ICT, photonics, genomics/phenomics, and complex systems).

The potential applications of frontier technologies across a range of industries in Australia are vast. Australia has significant capacity to exploit niche markets for new products and services emerging from frontier technologies. Australia has world-class research expertise in many such areas. Some examples include nanotechnology, biotechnology, ICT, photonics, genomics and phenomics. Also important are advanced frameworks such as complex systems in which these technologies are applied. Future directions in this priority area need to target the cutting-edge science critical for each emerging technology.

- Advanced materials**
Advanced materials for applications in construction, communications, transport, agriculture and medicine (examples include ceramics, organics, biomaterials, smart material and fabrics, composites, polymers and light metals).
 The development of advanced materials will underpin growth in many areas of industrial and economic activity in Australia. Australia has substantial infrastructure in this area and an enviable track record as an innovator and developer of advanced materials. The era of advanced materials is just beginning, in spite of the tremendous progress in recent years. Substantial scientific and technological challenges remain ahead, including the development of more sophisticated and specialised materials. Some examples include ceramics, organics, biomaterials, smart materials and fabrics, composites, polymers, and light metals.
- Smart information use**
Improved data management for existing and new business applications and creative applications for digital technologies (examples include e-finance, interactive systems, multi-platform media, creative industries, digital media creative design, content generation and imaging).
 ICT applications are providing huge opportunities to deliver new systems, products, business solutions, and to make more efficient use of infrastructure. Examples include e-finance, multi-media, content generation and imaging. Improved data management is central to the future competitiveness of key industries such as agriculture, biotechnology, finance, banking, education, transport, government, and health and ‘info-tainment’. The ability of organisations to operate virtually and collaborate across huge distances in Australia and internationally hinges on our capabilities in this area. The media and creative industries are among the fastest growing sectors of the new economy. Research is needed to exploit the huge potential in the digital media industry.
- Promoting an innovation culture and economy**
Maximising Australia’s creative and technological capability by understanding the factors conducive to innovation and its acceptance.
 Understanding the factors that lead to highly creative and innovative ideas and concepts, and the conditions that lead to their introduction, transfer and uptake is critical for any nation that aspires to lead the world in breakthrough science, frontier technologies, and in other forms of innovation. Promoting an innovation culture and economy requires research with a focus on developing and fostering human talent, societal and cultural values favourable to creativity and innovation, and structures and processes for encouraging and managing innovation.

Research Priority 4: Safeguarding Australia

Safeguarding Australia from terrorism, crime, invasive diseases and pests, strengthening our understanding of Australia’s place in the region and the world, and securing our infrastructure, particularly with respect to our digital systems.

The importance of security and safety to Australia has been underscored by recent events.

Australia has to be capable of anticipating and tackling critical threats to society, strategic areas of the national economy and the environment.

The threats can potentially come from within and outside Australia.

The world is now characterised by the widespread and rapid movements of people, digitally coded data, goods and services, and exotic biological agents.

Critical infrastructure in Australia is increasingly dependent on digital technology for its management and integration.

Information protection and the integrity of security systems are now more important than ever before.

It is also necessary to protect the status of Australia as a nation free of many of the diseases affecting primary production around the world.

Terrorism has emerged as a very real global threat and crime is taking a significant toll on Australian society and economy.

Maintaining the operational advantage of Australia's defence forces through superior capabilities is also fundamental to our national security.

Enhancing our nation's understanding of social, political and cultural issues will help Australia to engage with our neighbours and the wider global community and to respond to emerging issues.

Leading edge research in Australia is already yielding high dividends and as a national research priority will improve the effectiveness of that contribution.

Stronger research capabilities will ensure that solutions are tailored to Australia's unique circumstances, reflecting its geographic features and small population.

Greater collaboration within the research community and with other stakeholders will allow us to better understand and manage potential threats to Australia.

Harnessing the knowledge and capabilities across Australia offers us the best chance of developing innovative and rapid solutions to serious threats.

Australia's international relations and its regional influence will be strengthened through new collaborative approaches and new science and technologies that enhance security and safety.

The heightened interest in personal and electronic security across the world also provides opportunities for Australian solutions.

Priority goals for research fall in the five areas of critical infrastructure, understanding our region and the world, protecting Australia from invasive diseases and pests, protecting Australia from terrorism and crime, and transformational defence technologies.

Priority goals

- **Critical infrastructure**
Protecting Australia's critical infrastructure including our financial, energy, communications, and transport systems.
Protecting our critical infrastructure is important to national security and to the social and economic well being of Australia. An important aspect of this priority goal is e-security which is an enabler of e-commerce. Maintaining a critical mass of research in e-security will be essential in providing Australia with the tools to protect our way of life.
- **Understanding our region and the world**
Enhancing Australia's capacity to interpret and engage with its regional and global environment through a greater understanding of languages, societies, politics and cultures.

Social, cultural and religious issues are of growing significance due to the insecurities of globalisation and the increasing role of non-state players in the security environment. Australia's capacity to interpret and engage with its regional and global environment will be substantially improved by enhancing its research base in apposite languages, societies and cultures. An approach that enhances Australia's capacity to interpret itself to the rest of the world is also needed.

- **Protecting Australia from invasive diseases and pests**

Counteract the impact of invasive species through the application of new technologies and by integrating approaches across agencies and jurisdictions.

Australia is free of many of the pests and diseases affecting primary production around the world. This status needs to be protected as the introduction of exotic species has the potential to adversely affect our exports and the environment. Australia already has strong skills and expertise in this area of research and further work will offer immediate benefits to the community. A greater level of coordination of our research effort will mean that Australia can more effectively develop innovative and rapid solutions to serious threats.

- **Protecting Australia from terrorism and crime**

By promoting a healthy and diverse research and development system that anticipates threats and supports core competencies in modern and rapid identification techniques.

Protecting Australia from terrorism is now more important than ever before in light of recent events and our involvement in the 'war on terror'. The new threat requires a more sophisticated response which should harness Australia's research capabilities, and which will focus on all phases of counter-terrorism; prevention, preparedness, detection, response and recovery. Crime takes a significant toll on Australian society and economy. The June 2000 report from the Prime Minister's Science, Engineering and Innovation Council estimated that crime costs Australia at least \$18 billion per annum. Personal identification, information protection and the integrity of security systems are fundamental towards ensuring the national security of Australia. An effective solution will include building on Australia's existing strengths in rapid detection using new analytical technologies and managing significant data collections.

- **Transformational defence technologies**

Transform military operations for the defence of Australia by providing superior technologies, better information and improved ways of operation.

Australia has a small defence force to protect a large continent and a substantial maritime region of responsibility. Its operational advantage has been maintained through a superior capability which is dependent on leveraging innovative technologies. Although some benefits can be gained from overseas research, Australia has to conduct its own research to address uniquely Australian demands. A systems approach which harnesses the research capabilities of all stakeholders is essential to the successful development and introduction of innovative technologies.

Appendix 2: Eligible Organisations

New South Wales

Charles Sturt University
Macquarie University
Southern Cross University
The University of New England
The University of New South Wales
The University of Newcastle
The University of Sydney
University of Technology, Sydney
University of Western Sydney
University of Wollongong

Victoria

Deakin University
La Trobe University
Melbourne College of Divinity
Monash University
RMIT University
Swinburne University of Technology
The University of Melbourne
University of Ballarat
Victoria University of Technology

Queensland

Bond University
Central Queensland University
Griffith University
James Cook University
Queensland University of Technology
The University of Queensland
The University of the Sunshine Coast
University of Southern Queensland

Western Australia

Curtin University of Technology
Edith Cowan University
Murdoch University
The University of Notre Dame Australia
The University of Western Australia

South Australia

The Flinders University of South Australia
The University of Adelaide
University of South Australia

Tasmania

Australian Maritime College
University of Tasmania

Northern Territory

Charles Darwin University

Batchelor Institute of Indigenous Tertiary Education
Australian Capital Territory
The Australian National University
University of Canberra
Multi-State
Australian Catholic University

In the case of international subscriptions or other payments in respect of international facilities, peak bodies or similar groupings representing the higher education community may act as catalysts in developing cooperative arrangements. In such cases and only with the prior approval of the ARC, the peak body or similar grouping may apply on behalf of, and with the full written agreement of, the eligible organisations involved. Such applications must identify the mechanism for accountability and distribution of the funding between the eligible organisations involved.

Appendix 3: Library and information infrastructure

Applications for library and information infrastructure must address the matters raised here in addition to the requirements specified in the body of these Funding Rules.

Linkage Infrastructure Equipment and Facilities may fund the development of library and information infrastructure that enhances high-quality research projects. Applications in this category must demonstrate that they will enhance specific high-quality research projects, and that they will benefit researchers and scholars nationally. Such applications must be collaborative in nature.

All applications for library and information infrastructure should demonstrate:

- a. how the infrastructure enhances/will enhance the ability of Australian researchers to access or use information resources effectively and efficiently;
- b. that the project will not duplicate existing library and information infrastructure, but will link to existing infrastructure in Australia and overseas;
- c. that the project has the capacity for future development and enhancements;
- d. that the outcomes are sustainable; and
- e. that current developments in the information sciences, including international standards and protocols, systems and software to further library and information network inter-operability, are understood and applied.

All applications for library and information infrastructure should address one or more of the following elements of the national library and information infrastructure:

- a. the development of improvements in access to information resources that can be made available nationally. This may include:
 - i. developing services that provide access to integrated print and electronic information resources, and/or
 - ii. improving the level and quality of access through developing significant new directory, cataloguing or indexing services;
- b. the testing, development and implementation of innovative and sustainable models that will lead to improved access to distributed information and research library resources; and
- c. the purchase or development of information resources of national significance, whether in electronic form or otherwise, that can be made available nationally. This will include:
 - i. the development of information resources to meet Australian research priorities, and/or
 - ii. proposals that will fill significant gaps in the research resources available to the nation.

Applications for library and information infrastructure must outline:

- a. how access to the resources will be managed (e.g. through subscription to a data service); and
- b. how the resource will be sustained following the period of *Linkage Infrastructure Equipment and Facilities* funding. When addressing this point, applicants should note that in general it is desirable that publicly funded databases should be made available to members of the public, unless there are specific reasons for this not to be the case (e.g. copyright, privacy). Where the possibility of inaccessibility of the whole or part of the proposed research infrastructure is likely to arise, the application must justify why Commonwealth money should be spent on such a facility or infrastructure.