RESEARCH AND RESEARCH TRAINING MANAGEMENT REPORT 2004

August 2005
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PART A

Executive Summary

1. During 2004, Victoria University has undertaken a major review of its Strategic Plan and will develop and implement a series of Functional Plans including a new Research and Research Training Functional Plan during 2005.

2. Key in the Research and Research Training Functional Plan will be a series of objectives and targets that will ensure our role as an engaged University in relation to the five target groups; students, staff, industry and the professions, community and Governments and the public.

3. The current Research and Research Training Management Report reports research and research training performance against the objectives of the previous Strategic Plan and the 2000 Research and Research Training Management Plan.

4. Included within this framework is reporting against the Areas of Research Strength identified within these frameworks and previous Research and Research Training Management Reports. With the Planning process outlined in 1 above, the University’s Areas of Research Strength will be reviewed in 2005 and reported against as appropriate.

5. The University has implemented a number of schemes to ensure that there is a significant quality and/or competitive component in the distribution of the research block grants from the Institutional Grants Scheme (IGS), Research Training Scheme (RTS) and Research Infrastructure Block Grant Scheme (RIBG).

6. The University’s research and research training activity has ranked it between 24th and 28th in the sector for the indicators of income, publications, Higher Degree by Research (HDR) student load and HDR completions and 2nd to 3rd among the New Generation Universities.

7. In 2004, approximately 84% of the University’s external research income was generated within its areas of research strength. Fifty-five percent of HDR student load and 60% of publications are similarly associated with these areas.

8. HDR students continue to report a very positive research experience with 81% of students reporting an overall positive research experience.
Research Block Funding

1. Use of Research Block Grants and Scholarships

1.1 Institutional Grants Scheme

1.1.1. The distribution of Institutional Grants Scheme (IGS) funds is determined by the Pro Vice-Chancellor (Industry, Research and Region), in consultation with University Research Committee (URC). The 2004, IGS was distributed approximately in the following proportions:

- Approx. 45% to Faculties and to specific research entities – University Research Centres and University Institutes (through their forerunner entities, namely Key Research Areas [KRAs]).

- Approx. 55% to support strategic initiatives, including support for the University’s membership of CRCs and other research entities, internal research grant schemes, primarily to encourage young researchers and to support development of collaborative research, research promotion and reward activities, research commercialisation (mainly provisional patents), infrastructure and other strategic initiatives.

1.1.2. Distribution of IGS funds to Faculties, Research Centres and Institutes is determined by formula, on the basis of their input into the generation of IGS income. University Research Centres and Institutes receive double weighting for this calculation for their staff or Research Associates to encourage the further integration of researchers into areas of research strength.

1.1.3. Faculties use these funds for a range of purposes, including support of individuals who generate the income, incentive schemes for publication and grant application and Faculty fellowships.

1.2. Research Training Scheme

1.2.1. Research Training Scheme (RTS) funds are distributed to Faculties and centrally in the ratio 63%: 37%. Central funds are used to support infrastructure needs of HDR students, including provision of library resources, provision of hard infrastructure facilities, salary support for the Office for Postgraduate Research (OPR).

1.2.2. RTS funds allocated to Faculties are used to support supervision costs and direct costs of the research project.

1.2.3. Within the distribution to Faculties, funds are allocated first to support ongoing RTS students, and the remainder allocated to the pool for new students, which is allocated according to the formula described in section 1.2.4.

1.2.4. Funds are distributed to faculties through a formula driven allocation, with 70% weighting given to their generation of RTS income to the University, and 30% in relation to performance, compared with the other faculties, for timely completion of candidature over the previous year. This formula has introduced a direct competitive quality component into the distribution, in addition to accounting for the relative size and absolute research training activity of each faculty.
1.3. Research Infrastructure Block Grant Scheme

1.3.1. Research Infrastructure Block Grant (RIBG) Scheme funds are allocated to support research activity only in areas of research strength through funding of University Research Centres and Key Research Areas (the forerunners of Institutes).

1.3.2. In 2004, the RIBG was allocated as indicated below

<table>
<thead>
<tr>
<th>UNIT or CENTRE</th>
<th>Allocation</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre for International Corporate Governance Research</td>
<td>$10,000</td>
<td>Research/professional assistance</td>
</tr>
<tr>
<td>Centre for Environmental Safety &amp; Risk Engineering</td>
<td>$100,000</td>
<td>Gas analyser and data logger and additional sensing equipment for fire research</td>
</tr>
<tr>
<td>Centre for Strategic Economic Studies</td>
<td>$67,000</td>
<td>Research information coordinator Purchase of economic and social databases</td>
</tr>
<tr>
<td>Centre for Hospitality and Tourism Research</td>
<td>$10,000</td>
<td>Research administration assistance</td>
</tr>
<tr>
<td>Centre for Rehabilitation, Exercise &amp; Sport Science</td>
<td>$78,000</td>
<td>Optotrack 3-D system for motion analysis</td>
</tr>
<tr>
<td>Centre for Telecommunications and Microelectronics</td>
<td>$48,750</td>
<td>Microwave anechoic chamber</td>
</tr>
<tr>
<td>Allocation to the University Library to address the needs of research staff and students in the University Research Centres</td>
<td>$53,342</td>
<td>Purchase of serials and monographs</td>
</tr>
<tr>
<td>A specific allocation to support the purchase of equipment for the Medical Biotechnology area of research strength was made as a strategic stimulus</td>
<td>$257,644</td>
<td>Purchase of equipment for the Medical Biotechnology area of research strength</td>
</tr>
</tbody>
</table>

2. Identification of the quality of research and research training reward through the allocation of research block grants

2.1. Institutional Grants Scheme

2.1.1. IGS funds that were distributed for support of internal research grants are awarded on the basis of open competition for ‘VU Discovery Grants’ and ‘VU Linkage Grants’. Criteria for funding of ‘VU Discovery Grants’ include track record of the Chief Investigator(s), the quality of the research project, and potential to generate full national competitive grant application(s). Applications in the University’s identified ‘areas of research strength’ may apply for a higher level of grant funding and Early Career Researchers are provided with additional grading to advantage their competitive ranking.

Criteria for ‘VU Linkage Grants’ also require matching funding from a third party. In addition, VU Linkage (Enterprise) grants allow individuals to apply for VU Linkage grants ‘out of cycle’ to support the establishment of pilot projects with new external partners, in preparation for development of full external grant applications.

2.2. Research Training Scheme

2.2.1. As noted above (see section 1.2.4) RTS support for new places is distributed on the basis of each Faculty’s performance in generating RTS income and in relation to their performance in achieving timely completions against all other faculties.
2.3. Research Infrastructure Block Grant Scheme

2.3.1. University Research Centres, Institutes/KRAs and the University Library are required to compete internally for these funds, through a formal process of application and review. Applications are assessed by an internal review panel against criteria that include:

- The use and outcome of previous RIBG funding,
- Level of support and its justification,
- The quality of the research programs to which the requested support would be directed,
- Relevance of the supported research program to the strategic directions of the University,
- Assessment of the Centre's/Institute’s ability to support development of internal and external (national and international) collaborative links, application of research results to the benefit of external stakeholders, including industry, the professions, community and/or region, and enhancement of the University's standing and research culture.

3. Plans to review internal allocation mechanism for research block funding

3.1. Research Support Fund

3.1.1. In 2004 it was announced that in 2005, a new scheme for distribution of part of the IGS is to be introduced. Namely, $400,000 of the University’s IGS pool is to be used to establish a ‘Research Support Fund’. Staff who are successful in generating research income or in producing DEST-recognised publications will receive an allocation from this Fund. The allocation is weighted for the generation of category 1 income, and for the impact factor of the publication source. Financial modelling demonstrates that individuals will receive between $500 and $18,000, for use within their research programs, including conference travel. Note that for administration purposes, any distribution of less than $500 to any individual will be amalgamated and provided to their School for research support. In the calculation of distribution to individuals through the Research Support Fund, additional weighting is to be given to staff who are formal Associates of Research Centres or Institutes (refer 4.2.6). In order to encourage staff to become associated with these entities, income is provided for Schools as well as the Centre/Institute and the individual. This allocation of IGS funds to the ‘Research Performance Fund’ will replace the previous distribution of IGS to Faculties.

3.1.2. In summary, distribution from the Research Support Fund is intended to encourage:

- Recognition and support for individuals who are actively generating research income and outputs,
- Critical mass of researchers into research teams in areas of research strength and/or strategic importance (through bonus weighting to Schools, Centres and the individuals for their staff who become Associates of Centres and Institutes),
- Increased quality of research (through bonus weighting for Category 1 income),
- Increased quality of research (through bonus weighting for impact of journal of publication).

3.2. Additional Higher Degree by Research Student places

3.2.1. It is proposed that up to 10 additional Higher Degree by Research (HDR) student places will be supported from the IGS pool to be distributed to Research Centres and Institutes on a competitive basis. Centres and Institutes are required to obtain an external partner to support stipends for these places.

3.2.2. These additional RTS places are intended to encourage:

- Increased critical mass around areas of research strength and/or strategic importance,
- Increased HDR load and consequently increased completions to generate additional IGS and RTS income.
3.3. **Review and identification of ‘areas of research strengths’**

3.3.1. As noted in detail in sections 5.1.5 and 5.1.6, as part of the development of the *University Strategic Plan* and its supporting *Research and Research Training Functional Plan* requires that the University reviews its designated areas of research strength. It is intended that this activity will be undertaken during 2005.

**Managing Research Performance**

4. **Research structures and resources, including infrastructure**

4.1. **Management Structure**

4.1.1. Victoria University manages and monitors its research and research training activities through a central *University Research Committee* and a central *Committee for Postgraduate Studies* (CPS). The University Research Committee and CPS are sub-committees of Academic Board. In addition, the University Research Committee provides advice to the Pro Vice-Chancellor (Industry, Research and Region), and hence to the Vice-Chancellor and President, on allocation of resources relating to research and research training. The four University Faculties each have their own equivalent Committees with representation on the two central committees.

4.1.2. The *Pro Vice-Chancellor (Industry, Research and Region)* is the University's Principal Officer responsible for research, research training and the exploitation of University IP. The *Office for Industry and Research* (OIR) and the *Office for Postgraduate Research* (OPR) provide primary operational support.

4.1.3. During 2004, University senior management responsibilities were reviewed and restructured. This restructure has resulted in the former Division of Research and Development becoming the Division of Industry, Research and Region (IRR), and the former Pro Vice-Chancellor (Research and Development) becoming the *Pro Vice-Chancellor (Industry, Research and Region)*. In addition to having responsibility for research, commercialisation and research training, the Division is charged with responsibility for the University’s increased focus on engagement with industry, the professions, government and community. Refer also to section 5.1 on Strategic Planning.

4.1.4. The *University Research Committee*, with assistance from the OIR, is responsible for development of policy drafts relating to research and research support, the implementation of research programs in the University’s Strategic Plan and for monitoring research outcomes. The University Research Committee, working in concert with the separate Faculty research committees, is responsible for setting the direction of research performance management through the development of KPIs and monitoring of research outcomes. The OIR provides support to researchers in accessing relevant funding sources, preparation of funding applications, promotion of research activity, development of industry partnerships and commercialisation of research.

4.1.5. The *CPS*, with assistance from the OPR, is responsible for drafting policies and providing administrative and organisational support for postgraduate research training. The OPR provides support to research students by administering candidature, progress reporting, thesis examination, scholarship funding and conducting training seminars and training programs for postgraduate students and staff (the latter in collaboration with OIR).

4.1.6. Additional *statutory committees* of the University are the Human Research Ethics Committee, the Animal Experimentation Ethics Committee and the Institutional Bio-safety Committee. These committees report to the University Research Committee.

4.1.7. A Research Advisory Committee comprising high profile, external members provides independent advice to the Vice-Chancellor and President, the University Research Committee and hence the Academic Board on research policy issues and the assessment of strategic research opportunities.

4.2. **University Research Centres**

4.2.1. The purpose of designated University Research Centres is to enhance Victoria University’s research culture and performance by focusing research effort and resources
into an identified key area of interest to the University and where that area generally involves one main discipline falling within one faculty. University Research Centres are expected to hold a position of at least national leadership in their field and achieve both research profile and recognition for the University.

4.2.2. The University Research Committee is also responsible for recommending the establishment of University Research Centres, for the monitoring of their performance and for recommendation of their closure or re-alignment. Each University Research Centre is required to have an Advisory Board of members external to the University to provide independent advice on policy and procedures.

4.2.3. With regard to the management of University Research Centres, it is recognised that the needs of University, society and stakeholders will change over time, as will the performance of a Research Centre. Reporting and reviewing mechanisms are in place to provide for the re-alignment or closure of University Research Centres and the establishment of new ones. University Research Centres are subject to annual reporting of performance against KPIs to the University Research Committee and to a formal review on a 3-year cycle. It is during such reviews that the need for continuation, re-alignment or closure is formally assessed and recommendations made.

4.2.4. Formal proposals for establishment of new University Research Centres may be made and considered by the University Research Committee following recommendation from the appropriate Faculty Research Committee. The proposal has to demonstrate that the new Centre will meet established expected minimum performance criteria. These criteria include research and total income, minimum levels of academic staffing and association, research students, publications, external recognition, expected impact of outcomes and profile for the University. The proposal is required also to detail a comprehensive strategic, operational and financial plans.

4.2.5. In 2004, the six University Research Centres were:
- Centre for Aging, Rehabilitation, Exercise and Sport (refer http://www.vu.edu.au/research/research_centres/centre_for_rehabilitation_exercise_and_sports_science_cress/)
- Centre for Environmental Safety & Risk Engineering (refer http://www.vu.edu.au/Faculties/Science_Engineering_and_Technology/index.asp)
- Centre for Hospitality and Tourism Research (refer http://www.business.vu.edu.au/chtr/)
- Centre for International Corporate Governance Research (refer http://www.businessandlaw.vu.edu.au/cicgr/)
- Centre for Telecommunications and Microelectronics (refer http://www.ctme.vu.edu.au/)
- Centre for Strategic Economic Studies (refer http://www.cfses.com/)

4.2.6 To encourage the development of a critical mass in researchers working in areas of research strength, staff employed through Faculties and Schools are encouraged to become Research Associates of University Research Centres or Institutes. This process requires the agreement of both Head of School and Centre/Institute Director. Associates receive a loading in calculation of the Research Performance Fund, as does the administering School and the Centre.

4.3. University Institutes

4.3.1. In 2004, the University established the new entity of the University Institute. The purpose of University Institutes is to aggregate, coordinate and focus diverse University skills and resources in a strategic area, and to develop and apply knowledge for the benefit of industry, government and community organisations. Each Institute has a focus relevant to the Western metropolitan region of Melbourne while having both national and international significance. Furthermore, University Institutes are expected to focus on cross-disciplinary and cross-sectoral activities in a thematic area. Accordingly, University Institutes will have the capability to offer ‘whole of business solutions’ for our external partners, based on an integrated approach to research, education, teaching and consultancy.
4.3.2. University Institutes are expected to:

- Build on existing University activities and develop synergistic relationships that will achieve significant added value and impact for the University. It is to be noted that without the formation of the University Institute, these added outputs would not normally be realized.
- Undertake activities in a key strategic area for the University, as well as have the potential to contribute significantly to the national economy or well being.
- Deliver significant profile and recognition for the University.
- Hold a position of leadership in its field, at least at the national level.
- Normally be an operating unit with the Director of the University Institute reporting to the Pro Vice-Chancellor (Industry, Research and Region).
- Normally comprise a cluster of cross-disciplinary and cross-sectoral activities around a major theme.
- Have a critical mass of staff and students.
- Be led by a Director who has a full-time commitment to the University Institute.
- Exhibit significant annual growth in performance and achieve a degree of self-support.

4.3.3. Four Institutes have been established. These are:

- Institute for Health and Diversity (refer http://research.vu.edu.au/ordsite/research/Information.ppt)
- Institute for Logistics and Supply Chain Management (refer http://ilscm.vu.edu.au/)  
- Institute for Sustainability and Innovation (http://research.vu.edu.au/ISI/)  

Directors have been or will be appointed to each Institute.

The two Key Research Areas (KRA), that focussed on cross-disciplinary, broadly-based research – the KRA for Social Diversity and Community Wellbeing and the KRA for Integrated Food Value Chain – were integrated respectively into the Institute for Community Engagement and Policy Alternatives and the Institute for Sustainability and Innovation.

4.4. Flagships

4.4.1. In 2004 the University established three Flagship areas – Logistics, Small Technologies and Sustainable Communities. Each designated University Research Centre and Institute is allocated to at least one flagship. Flagships are "virtual umbrella" representations that will enable the University to market and report our research concentrations more effectively. The University intends to provide funding support to the Flagships in 2005 to assist in the further development of research concentration.

5. Planning processes

5.1. Strategic Planning

5.1.1. During 2004, the University has participated in a major strategic planning exercise, resulting in the adoption of a new University Strategic Plan in August 2004. This Plan for the period 2004-2008 addresses University activity in relation to five strategic stakeholder groups – students, staff, industry and the professions, community and governments and public. Research and research training is embedded within each of these focal groups.

5.1.2. Six Functional Plans derive from the University Strategic Plan. Specifically;

- Research and Research Training Plan
- Learning and Teaching Support Plan
- Courses Plan
- External Engagement Plan
- Staff Plan
- Resources and Capital Plan

5.1.3. The Research and Research Training Functional Plan (RRTFP) was being developed through 2004 (and 2005) with a view to its authorisation by the Vice Chancellor during
It is planned to link the Research and Research Training Plan with the Resources and Capital Plan to provide the necessary funding so that the research objectives can be achieved.

5.1.4. All organisational units within the University will be required to prepare Operational Plans that incorporate the relevant sections of each of the six Functional Plans. Specifically, the Industry, Research and Region portfolio, and the two administrative Units, the OIR and the OPR will prepare Operational Plans during 2005 that are consistent with the Strategic and Functional Plans. OIR and OPR will provide advice and support to Faculties, Schools, Research Centres and Institutes, in their development of Plans relating to research and research training.

5.1.5. Both the Research and Research Training Functional Plan and the Resources and Capital Functional Plan that flow from the University Strategic Plan 2004-2008 (refer section 5.1.1 and 5.1.2) require that the University reviews its areas of research strength. The current six University Research Centres (refer section 4.2.5) and four University Institutes (refer section 4.3.3), which underpin the University’s areas of research strength (refer section 12.1), are considered too large to provide adequate research focus and concentration. Accordingly, the University will review its areas of research strength in 2005 with the intention of identifying a few priority areas of research strength for additional investment. This process will involve University-wide consultation, both on the new criteria for identification of specific areas, as well as the identification of the areas themselves. Criteria that will are under consideration include:

- Relevance and growth potential in the knowledge economy,
- Relevance to the western region of Melbourne,
- Competitive ‘space’ for Victoria University in the State and national research landscape,
- Existing capability or capacity to rapidly build capability,
- Access to existing or potential partners, collaborators and funding.

5.1.6. Once the criteria have been agreed, the University will then undertake a rigorous analysis of its research activities to redefine its priority areas for additional investment into research. It is expected that these areas will be defined by the end of 2005, and subsequent reporting will be made against them.

6. Resource allocation procedures additional to the allocation of block grants

6.1. Faculty Research Performance Fund

6.1.1. During 2004, a Faculty Research Performance Fund, support for which was derived from the University’s Central Operating Grant was established, for implementation in 2005. This Fund, which comprises 2.5% of the Operating Grant, will be distributed to Faculties by formula that is determined by their research and research training performance. In this context, 75% of the combined pool will be allocated on the basis of absolute performance and 25% on the basis of change in performance from the previous year. The key indicators for allocation of this pool will be those collected for DEST, namely external research income, research publications, HDR load and HDR completions, and incorporated into the consolidated research index (CRI, refer 8.1.1). This fund was implemented to provide a focus for faculties to increase their research and research training performance.

6.2. Major Equipment

6.2.1. Major items of equipment, additional to those supported under the RIBG distribution, are allocated by the Deputy Vice-Chancellor (Education Programs), through a process that requires Faculties to prioritise their equipment needs, and make formal application. These items often include equipment required for research.
6.3 Scholarships for Higher Degree by Research Students

6.3.1 The University allocates $850,000 p.a. from central funding into supporting scholarship stipends for HDR students. These scholarships, determined primarily on the basis of the academic quality of the student are allocated preferentially to support student projects in areas of research strength when students of equivalent standard are capable of receiving support. In allocating these scholarships, preference is given to those research students who have their projects aligned with the designated areas of research strength.

6.4 University Research Centres and Institutes

6.4.1 In 2004, University Research Centres were allocated $300,000 and University Institutes $500,000 to support the salaries of Directors (Faculties are required to provide 50% of the salary of Directors of Centres located within them), and some administrative support in the case of the later. In 2005, support for Institutes will increase to $800,000.

7. Performance monitoring arrangements

7.1.1 As described in sections 4.1, 7.1.4 and 8, Victoria University has a rigorous and wide-ranging system for performance monitoring, covering key research objectives and the performance of University, Faculties and URCs and Institutes. This information is reported annually in the University’s Research and Research Training Performance Report prepared by OIR and OPR.

7.1.2 The University Research Centres and Institutes are also required to provide Annual Reports, endorsed by their Advisory Committees, to the University Research Committee, detailing performance against KPIs and PI s.

7.1.3 The reporting of research performance is undertaken at the level of Faculty and University Research Centre or Institute. Reporting of research outcomes is not at the School level to ensure that focus is removed from those areas where it might lead to fragmentation of research effort, although procedures for reporting at School level of staffing issues such as ‘research active’, registration as supervisors and association with University Research Centres and Institutes have been developed.

7.1.4 In addition, and as part of monitoring the outcomes of the University Strategic Plan, there is a specific requirement to report annually to University Council, through its Strategy Committee, on two Key Performance Indicators (KPIs) for ‘Industry and the Professions’. One of these KPIs is directly related to research; namely the Consolidated Research Index (CRI) (refer sections 8.1.1 and 11.6). This KPI was developed specifically to provide a single index to describe both research and research training activity.

8. Benchmarking

8.1.1 As part of the Strategic Plan development, there was a requirement to develop a key performance indicator (KPI) for research and research training. Although the McKinnon Manual provides significant insight into the monitoring of research and research training, it provides no single indicator, as was required by the University Council for reporting these activities. A Consolidated Research Index (CRI) was developed on the basis of university research and research training performance, using data reported through the DEST HERD collection and data presented to Government for calculation of IGS and RTS. Full details of the calculation are available at http://research.vu.edu.au/URC/cri_background.pdf.

8.1.2 This index allows analysis of overall research and research training performance and comparison both internally, between VU entities – Faculties and University Research Centres and externally. Because the data is audited, it is used also to compare overall research and research training performance between universities.

8.1.3 The University’s performance in generating research income and producing research and research training outputs are reported to the University Research Committee and to the Vice-Chancellor’s Advisory Committee (Scholarship and Skills).
8.1.4 Victoria University is one of the ‘New Generation Universities’ (NGUs), and, as such, its activity in research and research training is compared to, and ranked against, those of the NGUs (refer section 11).

9. Incentives to reward and support research performance

9.1.1 The University rewards research performance of Faculties, units and individual staff and students through a number of schemes:

- Excellence in research by staff and postgraduate students is recognised by the University through the Vice-Chancellor’s Awards for Research Excellence. Each year one Medal and an award of $4500 to support the recipient’s research are awarded to a staff member, a research team, a research supervisor and to a research degree graduate. In addition up to 14 Citations for Excellence may be awarded, one for each Faculty for each of pre-eminent staff, research supervisor and research degree member, and two globally for research teams. The Vice-Chancellor’s Awards and Faculty citations are presented at a major public event.

- The rewarding of faculty performance through the allocation of IGS funds and RTS student places as described in sections 1.1.2 and 1.2.4, and that from the Faculty Research Performance Fund as described in section 6.1.

- As noted in section 3.1, the University will introduce a Research Support Fund to reward individual researchers who achieve major external research income through the allocation of additional internal research funding, or who achieve research output in the form of publications.

- Researchers who apply for national competitive grants (for example, through ARC or NHMRC) categorised as ‘near miss’ applications are awarded preferential funding through the Universities internal grants scheme. This enables those researchers to commence research or maintain industry partner interest in the project area of the application and thus develop an improved application for a future competitive round. In 2004, approx. $30,000 was disbursed for ‘near miss’ grants.

- Some faculties provide financial rewards to researchers for successful competitive grant applications and for DEST recognised publication performance.

10. Conflict of interest policies

10.1.1 The University’s Code of Conduct for Research requires researchers to make full disclosure of any conflict of interest. The Code provides examples of the type of conflicts that might occur. Researchers are required to comply with a direction given by the Pro Vice-Chancellor (Industry, Research and Region) with regard to the conflict. The Code also details a dispute resolution procedure.

10.1.2 Under the University Intellectual Property Policy staff members taking equity positions in start-ups or equivalent companies or who are to receive any income from consultancy will normally be required to sign a conflict of interest deed with the University. During 2004, the University was required to deal with a number of situations in which such potential conflict was identified and managed through the development of appropriate agreements.

11. Performance in achieving research and research training objectives

11.1 Reporting Base

11.1.1 The 2000 Research and Research Training Management Plan (RRTMP) included performance targets against performance indicators that included research income and, publication output. In relation to HDR students, the performance indicators were focussed more on timely completions and the quality of the postgraduate research experience.
Victoria University’s recent performance against key DEST performance indicators

<table>
<thead>
<tr>
<th>Year</th>
<th>Research Income $</th>
<th>Publications AWP</th>
<th>HDR load EFTSU</th>
<th>HDR Completions</th>
<th>CRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>7062605</td>
<td>522</td>
<td>381</td>
<td>69</td>
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<tr>
<td>2003</td>
<td>7308575</td>
<td>520</td>
<td>382</td>
<td>67</td>
<td>8.27</td>
</tr>
<tr>
<td>2002</td>
<td>5929380</td>
<td>474</td>
<td>409</td>
<td>69</td>
<td>7.72</td>
</tr>
</tbody>
</table>

11.2 Performance against Research and Research Training Objectives

11.2.1 In relation to research income, the University’s performance, after strong growth to 2001 has not shown further consistent growth, reaching a plateau at around $7,000,000. The 2000 RRTMP set an annual growth target against research income of 15%, which has not been achieved over each of the years. In response to the static level of income, the University has recently introduced a series of initiatives to stimulate the generation of research income. These initiatives include additional rewards for staff successful in generating research income, provision of additional expertise to support the development of grant proposals both at the Faculty level and centrally, appointment of Associate Deans with responsibility for development of research and research training. For the most recent year of full data (2003), Victoria University was ranked 3rd among the New Generation Universities (NGUs), and 28th in the sector for external research income.

The performance of the University’s four faculties has been varied over the 2002-2004 period – research income to the Faculty of Business and Law and the Faculty of Arts increasing some 66% and 71% respectively over this period, the Faculty of Human Development constant and the Faculty of Science Engineering and Technology declining some 33%; a large part of this being related to the decrease in income to the two Research Centres associated with the Faculty. Additional assessment is to be undertaken to determine the reasons for this decline.

11.2.2 For the year 2004, publication output increased by a small degree over 2003 (0.4%) and had risen to 0.93 AWP per academic staff member, and 1.75 AWP per publishing member of staff. This output exceeds the 2005 target of 0.75 AWP per academic staff member that was set in the 2000 RRTMP. In 2003 publication output was 1.3% of the sector, ranking Victoria University 3rd among the NGUs and 24th in the sector.

11.2.3 The University’s performance in HDR load remained steady for 2004 over 2003, reflecting the difficulty in growing HDR load within the context of the RTS funding system. Victoria University has maintained its 3rd ranked position for this indicator (in 2003) within the NGU’s and is ranked 28th for the sector. Similarly the University’s ranking for HDR completions for the year was respectively 3rd within the NGUs and 27th against the sector.

11.2.4 In 2004, the University further increased its rate of completion of HDR students. Of these, 81% completed within the accepted time. Victoria University was ranked 27th in the sector for completions and 3rd among the NGUs.

11.2.5 Using the Consolidated Research Index (CRI) Key Performance Indicator, Victoria University has maintained its level in 2004. This reflects the balance between the decline in research income and the increases in publications and HDR completions. Comparative figures are not available for 2004, but in 2003 Victoria University was ranked 2nd among the NGUs against this indicator and 27th in sector.

12. Performance in areas of research strength

12.1. Current Research Strengths

12.1.1 Victoria University has historically identified its areas of research strength on the basis of research income, critical mass of researchers and research outputs (particularly publications), as well as acknowledgement through the peer review process and/or the incorporation of the outcomes into international best practice, with the latter forming a significant part of the basis for claiming that specific research areas are ‘internationally competitive’. Areas of existing and emerging research strengths were identified for the
2001 Research and Research Training Management Report (RRTMR), according to the following specific criteria:

- External research income (minimum $400,000 per annum for areas of current research strength; minimum $200,000 per annum for areas of emerging strength).
- Publication output (minimum 10 DEST weighted points).
- Critical mass of researchers and research students (minimum of 5 EFT staff).
- Recognition of at least national standing.
- High impact of research outcomes.
- High value and prestige adding to the University profile.
- Alignment with a University Research Centre or Key Research Area (now Institute, refer section 4.3.3).

12.1.2 On the basis of these criteria, Victoria University identified the following areas of research strength. Of these, the University holds an internationally competitive position in the fields of:

- Strategic Economic Studies
- Environmental Safety and Fire Risk Engineering

Of the remaining areas of research strength, the University has national standing in the fields of:

- Rehabilitation, Exercise and Sport Science
- Telecommunications and Microelectronics

Additional research fields according to the criteria previously noted were identified as emerging areas of research strength. These are:

- Corporate Governance
- Hospitality and Tourism
- Medical Biotechnology
- Packaging, Transportation and Storage
- Social Diversity and Community Wellbeing
- Integrated Food Value Chain

Each of these areas is underpinned by either a University Research Centre (refer section 4.2) or a University Institute (refer section 4.3). However, research activity within the areas (and reporting against the areas) is not restricted to the activity of the related Centre or Institute.

12.2 Review of Research Strengths

12.2.1 As noted throughout this Report, during the 2003-4 period, the University has been undertaking a review of its Strategic Plan, including for research and research training as well as a major restructuring of senior portfolios. One of the outcomes is the intention to review the University’s areas of research strength and the areas into which it makes further investment. As a consequence of the timing associated with these activities, and also to allow the University to implement and establish the new Institute and Flagship structures, it has not been considered appropriate to report against areas of research strength other than those identified originally in 2001. Future reports will be against the newly identified areas (refer section 5.1.5 and 5.1.6).

12.3 Performance Against Areas of Research Strength

12.3.1 The research and research training activity and outcomes within the University’s areas of research strength (refer section 12.1) reflect in part the performance of University Research Centres and Institutes. These entities have been established as foci that will be attractive to external parties to support research activity. Also, the University Research Centres have been more effective in generating research income than in generating publications outputs. The data reported in Part B is based on the submissions received from individual researchers who advise their publication activity against the nominated research areas.

12.3.2 Specifically, University Research Centres and Institutes generated 75% of the University’s external research income, with an additional 9% being generated outside the Centres and Institutes, but still within the areas of research strength. Overall, 84% of the
University’s external research income in 2004 was generated in areas of research strength.

12.3.3 In contrast, both research publications and research student supervision was less concentrated into Research Centres and Institutes, and reflected by the lower proportion of activity reported within areas of research strength.

12.3.4 Nearly 55% of current HDR load is associated with areas of research strength. Some 90% of commencing RTS places are allocated to areas of research strength, through the priorities given to scholarship success.

12.3.5 Sixty percent of all publications are associated with the designated areas of research strength.

12.3.6 Since the initial determination of areas of research strength and emerging research strength in 2001, several significant changes have occurred to impact on their activity. Specifically, the former Centre for Packaging, Transportation and Storage was terminated through lack of competitive performance, resulting in the reduction of activity reported against this discipline area in Part B. As noted in section 4.3.3 and 4.4, logistics will become an area of strategic importance through the establishment of the Institute for Logistics and Supply Chain Management. The area of Telecommunications and Microelectronics has suffered significantly through the dramatic fall off in the IT industry, and hence availability of accessible research funding, and also the imminent closure of the Australian Telecommunications CRC. In contrast Hospitality and Tourism Research has received significant additional support through the renewal of the Sustainable Tourism CRC, and the University winning additional research income from this source.

12.3.7 As noted in section 4.4, the University established a Flagships program to support enhanced perception of our research effort. Although only introduced late in 2004, and not specifically collected against in the 2004 HERD Collection, approx. 15% of the University’s external research income in 2004 would have been associated with the Small Technologies flagship program, approx. 45% with the Sustainable Communities flagship, and approx. 2% with the Logistics flagship area. The former two reflect the University’s current research capacity, the latter a strategic decision that reflects the importance of the discipline for the region and the University’s intention to become more actively involved in providing research and intellectual capacity into the field of logistics and supply chain management. Further detail of specific activity within these areas is not available at the time of writing.

Research and Research Training Objectives

13. Research and Research Training Objectives

13.1.1 This section of the Report will focus on the new University Strategic Plan that was implemented in 2004 and the Functional Plans that will cascade from it.

13.1.2 Research and research training objectives cascade directly from the University Strategic Plan 2004 – 2008. The Strategic Plan provides the overall strategic objectives of the University which focus on five groups of stakeholders.

Students
To create a vibrant research culture to attract, inspire and support or HDR students who are engaged with issues relevant to our Region or international arenas and who deliver quality outcomes that have potential impact.

Staff
To engage our staff in a creative and rewarding research community for the benefit of the (students) and industries and communities that we serve and who deliver quality outcomes that will have impact.
Industry and the professions
Through strategic engagements, create new knowledge and applications that enhance the economic development of the western region of Melbourne and beyond.

Community
To embrace the dynamism and diversity of the University’s local communities in national and international research activities, and through strategic engagements, create new knowledge and applications that enhance the social development of the western region of Melbourne and beyond.

Governments and the public
To meet public accountabilities of the University through effective governance and quality management of research and research training

13.1.3 The University Research and Research Training Functional Plan will deal specifically with issues relating to HDR students and specifically with staff in relation to research and research training activity. Further it will provide focus for the University’s engagement with industry, the professions, community and Government, particularly in relation to the provision of research, commercialisation and consultancy activity.

13.1.4 Objectives in the draft Research and Research Training Functional Plan include the following (as noted elsewhere, these will be the subject of further development and consultation across the University):

- To develop and engage our research students in a robust and vibrant research culture where issues relevant to research in our Region and the broader international arenas are a focus
- Ensure HDR students develop outstanding capability as researchers and that the research undertaken is of high quality, with a significant impact for collaborators, partners and the scholarly and broader communities.
- Develop mechanisms to attract, recruit, retain and reward staff with a view to ensuring a dynamic and diverse staff profile that allows the University to continually expand its capacity and respond creatively in managing its future as a research and research training institution.
- Staff are provided with, and encouraged to participate in, professional and career development programs related to the acquisition and application of research skills, particularly in relation to their engagement with industry.
- Through strategic engagements, create new knowledge and applications that enhance the economic development of the western region of Melbourne and beyond.
- Establish mechanisms for delivering on the University’s commitment to community engagement and social responsibility that support staff and students involved in community partnerships.
- Identify and support ‘headline’ community engagement initiatives, which involve University and community partners, in addressing high-priority community issues.
- To meet public accountabilities of the University through effective governance and quality management of research and research training.

14. Generic attributes of higher degree research students

14.1.1 There are six Core Postgraduate Attributes that the University considers appropriate for students who have completed a higher degree by research and which are now incorporated into the Policy Framework of the University.

14.1.2 The core attributes have been developed in association with related academic capabilities, developmental opportunities, and mechanisms for assessing the attributes. These are presented in table form below: Although these related academic capabilities are presented in a relatively general form, there will be a range of qualities that will be specific to a particular discipline. The basic listing is seen as an aid to help supervisors
think about and interpret the core attribute in terms of their own intellectual domains, rather than being an absolute blueprint.

### Core Attribute 1. Ability for scholarly exploration and problem solving

<table>
<thead>
<tr>
<th>Core Attribute</th>
<th>Related Academic Capability</th>
<th>Developmental Opportunity</th>
<th>Appropriate Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability for scholarly exploration and problem solving</td>
<td>Capacity to establish research questions of significance to the discipline and/or community or profession. Ability to produce outcomes that contribute to an advancement of knowledge in the discipline and/or community and profession. In depth knowledge and theoretically based understanding of the discipline/s underpinning the research.</td>
<td>Quality supervision within a Faculty of the University. Formal graduate programs run through the OPR. Seminar programs and conferences conducted within the Faculty and/or community and profession. General engagement with other researchers and research students.</td>
<td>Successful examination of the thesis/exegesis by accredited examiners. Publication or exhibition of original work in a peer reviewed context. Presentation and acknowledgement of original work in a discipline and/or community or professional setting.</td>
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</tbody>
</table>

### Core Attribute 2. Facility with Information Literacy

<table>
<thead>
<tr>
<th>Core Attribute</th>
<th>Related Academic Capability</th>
<th>Developmental Opportunity</th>
<th>Appropriate Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to demonstrate facility with information literacy.</td>
<td>Ability to systematically search published literature, both scholarly, and professional and practical, related to a topic of research interest using appropriate search techniques.</td>
<td>Provision of seminars and training sessions through the University Library and through the relevant profession or field. Support from supervisors or Faculty staff with appropriate search mechanisms for the discipline.</td>
<td>Inclusion in the successfully examined thesis/exegesis of a comprehensive and professionally referenced Literature Review. The preparation of reviews of literature and practice, suitable for a particular community and profession.</td>
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</tbody>
</table>
### Core Attribute 3. Effective Communication

<table>
<thead>
<tr>
<th>Core Attribute</th>
<th>Related Academic Capability</th>
<th>Developmental Opportunity</th>
<th>Appropriate Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to effectively communicate research findings to a range of audiences.</td>
<td>Ability to present results</td>
<td>Support to participate in scholarly conferences as a participant.</td>
<td>Successful completion and presentation of Confirmation of Candidature.</td>
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<td></td>
<td>clearly and logically.</td>
<td>Encouragement to also present to professional and non-specialist audiences, which</td>
<td>Successful examination of the thesis/exegesis by accredited examiners.</td>
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<td></td>
<td>Ability to write at a</td>
<td>includes university and external seminars.</td>
<td>Publication or exhibition of original work in a peer reviewed context.</td>
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<td></td>
<td>standard acceptable for</td>
<td>Formal graduate programs run through the OPR.</td>
<td>The presentation of written articles, exhibitions or oral performances that communicate research findings to the broader community or profession.</td>
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<td></td>
<td>publication and in a way</td>
<td>Rigorous Confirmation of Candidature process.</td>
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<td></td>
<td>accessible to different</td>
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<td></td>
<td>audiences.</td>
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<td></td>
<td>Ability to articulate</td>
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<td>research outcomes</td>
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<td>simply in spoken as well</td>
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<td>as written form.</td>
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<td>Capacity to develop</td>
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<td></td>
<td>coherent, well structured</td>
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<td></td>
<td>and well presented</td>
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<td></td>
<td>arguments.</td>
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</table>

### Core Attribute 4. Intellectual Autonomy

<table>
<thead>
<tr>
<th>Core Attribute</th>
<th>Related Academic Capability</th>
<th>Developmental Opportunity</th>
<th>Appropriate Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to demonstrate intellectual autonomy.</td>
<td>Capacity to conceptualise</td>
<td>Quality supervision</td>
<td>Successful completion of Confirmation of Candidature.</td>
</tr>
<tr>
<td></td>
<td>a research question</td>
<td>within a Faculty of the</td>
<td>Successful examination of the thesis/exegesis by accredited examiners.</td>
</tr>
<tr>
<td></td>
<td>against the background of</td>
<td>University and engagement</td>
<td>Publication or exhibition of original work in a peer reviewed context.</td>
</tr>
<tr>
<td></td>
<td>a thorough knowledge of</td>
<td>with other researchers and</td>
<td>Presentation and acknowledgement of original work in a discipline and/or community or</td>
</tr>
<tr>
<td></td>
<td>the literature.</td>
<td>research students in their</td>
<td>professional setting.</td>
</tr>
<tr>
<td></td>
<td>The ability to articulate</td>
<td>work.</td>
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<td></td>
<td>researchable objectives</td>
<td>Formal graduate programs</td>
<td></td>
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<td></td>
<td>and to critically analyse</td>
<td>run through the OPR.</td>
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<td>data, understanding the</td>
<td>Rigorous Confirmation</td>
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<td></td>
<td>choice of appropriate</td>
<td>of Candidature process.</td>
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<td></td>
<td>theory and method.</td>
<td>Engagement with</td>
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<td></td>
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<td>professional research</td>
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<td></td>
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<td>activities and scholarly</td>
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<td></td>
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<td>seminars.</td>
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</tbody>
</table>
### Core Attribute 5. Intellectual and Ethical Judgement

| Ability to display intellectual and ethical judgement. | Appropriately and accurate acknowledgement of, and respect for, the work of others. Adherence to, and respect for, ethical approval processes. | Quality supervision that explores and emphasises the ethical dimensions of the work. Properly constituted ethics approval processes that make explicit the reasons behind the rules. Formal graduate programs run through the OPR. | Award of ethics approval by a properly constituted ethics approval panel. Awareness of ethical dimensions of the work and communication of these through scholarly and non-scholarly presentations of the work. Successful examination of the thesis/exegesis by accredited examiners. |

### Core Attribute 6. Professional Collaboration

<table>
<thead>
<tr>
<th>Core Attribute</th>
<th>Related Academic Capability</th>
<th>Developmental Opportunity</th>
<th>Appropriate Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to demonstrate professional collaboration.</td>
<td>Capacity to collaborate in the development of theory building or testing of the general development of new knowledge within a field, discipline and/or community and profession. The ability to understand the role of self and the relation of this to the role of others in a collaborative endeavour.</td>
<td>Quality supervision within a Faculty of the University and collaboration with supervisor and peers. Formal graduate programs run through the OPR. Engagement with professional research activities, scholarly seminars and community or professional projects and meetings.</td>
<td>Publication or exhibition of collaborative work in a peer reviewed context. The presentation with colleagues of written articles, exhibitions or oral performances that communicate research findings to the broader community or profession. Public acknowledgement of the relative work of self and others.</td>
</tr>
</tbody>
</table>

### 15. Emerging areas of need or opportunity in research and research training and measures that are being put in place to address them

15.1.1 The University is developing two new Engineering professional doctorates to address the expressed needs of our stakeholders who have requested a more practice based research degree in this professional area.

15.1.2 We have extended and improved our New Research in a New Era Training Program, which is designed to assist researchers, students and supervisors to develop the practical skills involved in undertaking a funded research project in the workplace. This has involved regular training sessions and a web-based program that can answer questions and support ongoing enquiries with regard to such issues as project management, intellectual property and commercialisation. Training modules are available at [http://research.vu.edu.au/nrne/Web/index.html](http://research.vu.edu.au/nrne/Web/index.html). In 2004 73 staff enrolled to attend the “New Research in a New Era” seminar program. Feedback surveys showed that 80% of attendees found the workshops met their expectations, were of very high quality and overall 80% rated them as very good to excellent. The program will be expanded both in content and number of series presented in 2005.

15.1.3 The University will appoint in 2005 an Associate Dean (Research and Research Training) in each Faculty to support the strategic directions of the University. Previously such an appointment had been made in a single Faculty only. These individuals will have
responsibility within faculties for overseeing Faculty performance both in research and with HDR students.

**Ensuring a Quality Research Training Experience**

16. **Quality Research Training Experience**

16.1.1 Beginning in 2004 the Office for Postgraduate Research has developed a structured approach to program delivery for postgraduate students and their supervisors in an attempt to both offer training and development and to develop a sense of community amongst research scholars in the University. As providers of support for postgraduate research, we are catering for four groups of academic personnel:

- **Beginning students**: Those students who have been enrolled for less than one year, not yet candidates for the postgraduate degree.
- **Experienced students**: Those students who have been enrolled for more than one year, and who have achieved, or are near to, candidate status.
- **Developing supervisors**: Those academic staff who wish to perform a supervision role, but are not yet on the register of supervisors and therefore cannot to act as a principal supervisor.
- **Experienced supervisors**: Those academic staff currently on the register of supervisors who are acting or have recently acted as principal supervisor.

A series of activities or experiences that are suitable for each of these separate groups has been devised, although they will also provide an overall context for the development of an interacting research culture in the postgraduate area. During 2004 there were nearly 200 workshops, seminars or events held, with around 1200 attendances. Through this we aim to promote dynamic research culture or ‘community of practice’, that has an internal logic, and can reproduce and develop itself without the need for continual external direction. Many of these events involve or are followed by social occasions.

16.1.2 Many of our research students win prizes and awards and in 2004 we are aware of 15 of our research students receiving recognition or award at conferences or through other presentations or publications.

16.1.3 Students continue to report a very positive research experience, through the annually delivered research student experience questionnaire, which mirrors the national exit survey, the PREQ. In 2004, 81% of students reported an overall positive research experience, compared to 72% in 2002.

17 **Strategies to enhance existing areas of research strength**

17.1.1 In 2004 over 90% of all commencing RTS places were awarded into one of the University's areas of research strength. In addition four areas of research strength provided places and stipends to support additional research students. Three areas of research strength have developed regular supervisor/research student seminars to enhance skills and knowledge both in the substantive knowledge areas and as researchers and research supervisors.

18. **Internal shifts in the allocation of research training places etc.**

18.1.1 With the procedures that have been put in place since 2002, approx. 55% of the University's HDR students are associated with the University's areas of research strength.
Collaboration and National Priorities

19. Significant contributions to research carried out under the National Research Priorities

19.1.1 A number of the University’s research programs both within and outside of its areas of research strength are of relevance to the National Research Priorities. Examples include projects within the areas of research strength of Environmental Safety and Risk Engineering (Safeguarding Australia), Exercise, Rehabilitation and Sport Science (Healthy Australia), Telecommunications and Microelectronics (Frontier Technologies) Strategic Economic Studies (Frontier Technologies). The University is of the view that its track record and strategic direction in making linkages with industry partners, and its strength in engaged research will allow it to further develop its contribution to the National Research Priorities.

20. Significant research collaborations during the past year

20.1.1 In 2004, $4.2m was received from industry and public sector partners, representing 60% of the University’s external research income. This proportion of research funding from industry and public sector partners is particularly high and reflects the University’s applied research focus and interaction with industry.

20.1.2 Major industry partners in 2004 were:

- OneSteel Manufacturing Pty Ltd,
- HAC Technologies,
- Satellite Telemetry,
- Merck Company Foundation,
- Medicines Australia,
- Pfizer Pty Ltd,
- Ericsson,
- Vital Health Sciences Pty Ltd,
- Toyota,
- AST Sports Science Pty Ltd (USA).

Major public sector partners were the Australian Building Codes Board, Rural Industries R&D Corporation, Tourism Victoria, Australian Electrical & Electronic Manufacturers Association, Victorian Department of Innovation, Industry and Regional Development, Victorian Department of Treasury and Finance, Victorian Department of Employment, Education and Training, VicHealth.

Intellectual Property, Commercialisation and Contractual Arrangements

21. Current intellectual property and commercialisation policies;

21.1.1 The University’s current Intellectual Property Policy was developed in broad consultation with University staff and committees and promulgated in September 2002. A copy of the Policy is available at http://wcf.vu.edu.au/LegalPolicy/PDF/POR040809000. Key features of the Policy include inter alia:

1.3 The University claims ownership of the intellectual property created by academic, TAFE teaching and general staff in the course of their employment with the University.
1.4 Consistent with claiming ownership of intellectual property, the University acknowledges the importance of actively managing its intellectual property portfolio.
1.8 This Policy aims to facilitate, where feasible, the commercialisation of intellectual property created by the University’s staff and students. Consistent with the other principles espoused in this Policy, the University recognises that the originators are entitled be considered in the distribution of the net financial returns from such commercialisation.
1.9 The University adheres to the principle that, where possible and relevant, originators should be consulted in relation to the commercialisation and use of intellectual property created by them.
1.12 The University does not automatically claim ownership of rights for intellectual property created by students in the course of their studies. However, it may assert an interest where there has been a significant contribution to the generation of that intellectual property such as through the use of the University's or another's intellectual property, access to its facilities, supervision by it and consideration of internal and/or external funding.

1.14 Victoria University recognises and will make reasonable effort to protect the moral rights of authors or other creators of copyright works.

1.21 Staff and students undertaking research at Victoria University are required to make full disclosure of any conflict of interest in research. As soon as is reasonably practicable this disclosure of a conflict of interest in research must be made in any proposal for commercialisation of intellectual property, and otherwise must be made to the Pro Vice-Chancellor (Research and Development), who will provide direction on the management and resolution of any such conflict of interest relating to research and its commercialisation.

21.1.2 The Intellectual Property Officer (IPO), the University Principal Officer responsible for research and development, is presently the Pro Vice-Chancellor (Industry, Research and Region) or his/her nominee. The IPO, with advice from the University legal group, the Director of OIR and other appropriate persons, and in consultation with the creator, is responsible for decision making with respect to protection, registration or other necessary steps in protection of intellectual property.

22. Changes to University intellectual property and commercialisation policies

22.1.1 There have been no significant changes to the University’s IP policy since the previous RRTMR.

22.1.2 There have, however, been a number of important changes made to other University policies and procedures to respond to recent legal judgements. For example, offers of employment now carry specific statements in relation to the ownership of any patents that are forthcoming from any staff member’s research activity. This change to offers of employment and employment contracts is required because of the ruling that even where staff are employed to undertake research, they are not necessarily employed to produce outputs such as patents.

“It is a condition of this appointment with Victoria University that you acknowledge that it undertakes activities that are commercially orientated and involve access to information that is confidential containing valuable trade secrets of Victoria University. You are required to comply with the University’s Intellectual Property Policy as varied from time to time. You may neither disclose nor use information of Victoria University except in the course of your engagement with Victoria University, or with the prior written permission of Victoria University. For the removal of doubt (if any), you shall divest to Victoria University every right to a patent, copyright, design registration, trade mark registration, electronic design, computer interface or any other intellectual property which in any way is related to:

(a) research undertaken at Victoria University;

(b) tools, techniques and other matters relating to how Victoria University performs its tasks;

or

(c) any other information to which access is obtained from or through Victoria University.

Intellectual property generated during the course of your engagement with the University will be governed by the University Policy on Intellectual Property, which is incorporated into the terms and conditions of your engagement. A copy of the Policy may be viewed at http://research.vu.edu.au/ordsite/consult0.php, or can be made available on request. In addition, during your engagement with the University, you may gain access to information that is confidential to the University. This information may only be used during the course of your engagement or with the prior written approval of the University.

It shall be a term and condition of this agreement that you must at all times use your best endeavours to assist Victoria University in creating a climate which is inducive to research, invention and innovation including, without limitation, conducting any activities of your own that may result in the creation of intellectual property.”
23. **New developments in incentives offered to staff to encourage research commercialisation**

23.1.1 The employment of a Technology Commercialisation Manager in 2003/4 has provided additional resources to staff to support the assessment of commercialisation opportunities for University research.

23.1.2 The University also encourages staff to participate in the exploitation of their knowledge through direct consultancy. The OIR in 2003, after broad consultation with stakeholders, developed a new policy on consulting activities based on full cost recovery with the individual consultant sharing in any profit generation ([http://wcf.vu.edu.au/LegalPolicy/PDF/POR041104000.PDF](http://wcf.vu.edu.au/LegalPolicy/PDF/POR041104000.PDF)).

23.1.3 During 2004, the OIR received 7 disclosures of research with commercial potential. Of these four went on to submission of provisional patents and one to full patent.

24. **New developments in collaboration with other HEPs to share commercialisation expertise and facilities**

24.1.1 During 2004, the University participated in a number of network opportunities to develop and extend its commercialisation expertise and facilities. In collaboration with Swinburne University of Technology, RMIT University, University of Ballarat, Latrobe University and Deakin University, Victoria University established the Knowledge Technology Network and applied to the Victorian State Government VicStart Program for financial support to underwrite the Network. The aim of this Network was ‘…to significantly increase the number and quality of technology based opportunities flowing from University based research in Victoria. The project will use a network-based approach to identify and develop early stage research/ideas/concepts into investible propositions and transfer these into appropriate innovation diffusion and commercialisation mechanisms.

The network of Universities will use technology transfer expertise embedded within each University together with common processes and interfaces to enable more efficient use of resources and more effective access to industry, researchers, commercial developers and investors. The shared expertise across a range of commercial and technical experience will improve the ability to access high value intellectual property. A supporting educational program will increase the ability of researchers to link with the innovation process. The network will also act identify appropriate collaborators for industry problems based on potential cross-functional and cross-University teams.

The focus of the group will be:
- Identifying and capturing high potential knowledge assets within, and across each University
- Establishing robust and efficient knowledge management practices
- Providing efficient pathways to commercial outcomes
- Targeting the deployment of new technology in established businesses
- Access to regionally based intellectual property

The proposal substantially addresses the priority area of Technology Transfer within early stage University research and development.’

24.1.2 Although unsuccessful, negotiations are still in progress to develop the Network with some support from the Victorian State Government. Separately the Network, made a submission for CASR funding.

24.1.3 In collaboration with a number of other Victorian universities, hospitals and Medical Research Institutes, the University was a participant in the proposal to establish the Commercialisation Management Consortium for the implementation of common Technology Transfer Management software systems specifically designed to assist in technology commercialisation from publicly funded research institutions. Again, application for funding support was made unsuccessfully through the VicStart Program.

24.1.4 The University maintains interaction with the Research and Commercialisation Offices of other institutions to discuss and learn from their commercialisation processes. Staff within the OIR regularly attend information sessions at other institutions in Victoria, including the Melbourne Research Commercialisation Professionals group, the BioMelbourne Network and the Australasian Research Management Society (ARMS). The Office also regularly reviews the Internet sites of other universities as a source of information for commercialisation ideas. The University has participated in the Association of
Commonwealth Universities (ACU) Benchmarking study and is a member of both Association of University Technology Managers (AUTM) and Knowledge Commercialisation Australia (KCA).

25. **Commercialisation policy**

25.1.1 In 2004, the University developed a new suite of standard agreements to further streamline licensing, consultancy and contract research and development arrangements, by standardising the approach to the extent possible. It is further anticipated that during 2005 the OIR intranet website will include additional support for staff and students in support of commercialisation activities (refer http://research.vu.edu.au/nrne/Web/page3.html), although it continues to be University direction that all commercialisation of research will continue to be directed and managed through the Office for Industry and Research.

26. **Future arrangements for commercialisation of research and management of intellectual property**

26.1.1 Consistent with University policy, the Intellectual Property Policy is due to be reviewed during 2005.

27 **Consistency with the National Principles of Intellectual Property Management for Publicly Funded Research**

27.1.1 The current Victoria University Intellectual Property Policy, promulgated in September 2002 is consistent with the National Principles of Intellectual Property Management for Publicly Funded Research. The National Principles and the NHMRC Interim Guidelines for Intellectual Property Management for Health and Medical Research were major influences in the development of the current University policy.
## PART B

### TABLE 1: Higher degree research (HDR) students in 2004

<table>
<thead>
<tr>
<th>All HDR students (EFTSU)</th>
<th>HDR students commencing in 2004 (EFTSU)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All research</strong></td>
<td></td>
</tr>
<tr>
<td><em>by research cluster</em></td>
<td></td>
</tr>
<tr>
<td>Science &amp; technology</td>
<td>93.25</td>
</tr>
<tr>
<td>Health &amp; medical research</td>
<td>38.75</td>
</tr>
<tr>
<td>Arts, humanities &amp; social sciences</td>
<td>249</td>
</tr>
<tr>
<td><strong>Total - All research</strong></td>
<td>381</td>
</tr>
<tr>
<td><strong>Areas of Research Strength</strong></td>
<td></td>
</tr>
<tr>
<td>Environmental Safety &amp; Risk Engineering</td>
<td>4.25</td>
</tr>
<tr>
<td>Telecommunications &amp; Microelectronics</td>
<td>15</td>
</tr>
<tr>
<td>Food Value Chain</td>
<td>11.25</td>
</tr>
<tr>
<td>Packaging, Transportation and Storage</td>
<td>9.5</td>
</tr>
<tr>
<td>Rehabilitation, Exercise &amp; Sports Science</td>
<td>33</td>
</tr>
<tr>
<td>Medical Biotechnology</td>
<td>3.5</td>
</tr>
<tr>
<td>Strategic Economic Studies</td>
<td>16.75</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>23</td>
</tr>
<tr>
<td>Corporate Governance</td>
<td>16</td>
</tr>
<tr>
<td>Social Diversity</td>
<td>71.5</td>
</tr>
<tr>
<td><strong>Total - Areas of research strength</strong></td>
<td>203.75</td>
</tr>
</tbody>
</table>

### NOTES ON DATA PROVIDED IN TABLE 1

Areas of Research Strength are those reported initially in the 2001 Research and Research Training Management Report (refer Part A section 12.1.2).

Students have been allocated to areas of research strength based on self-reporting through their annual report process. This will result in under-estimation of commencing students associated with areas of research strength.
### TABLE 2: Research income in 2004

<table>
<thead>
<tr>
<th>Category 1 ($'000)</th>
<th>Category 2 ($'000)</th>
<th>Category 3 ($'000)</th>
<th>Category 4 2001-2002 ($'000)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All research</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>by research cluster</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science &amp; technology</td>
<td>1823.9</td>
<td>272.04</td>
<td>709.02</td>
</tr>
<tr>
<td>Health &amp; medical research</td>
<td>159.39</td>
<td>186.3</td>
<td>93.08</td>
</tr>
<tr>
<td>Arts, humanities &amp; social sciences</td>
<td>862.076</td>
<td>819.26</td>
<td>1208.15</td>
</tr>
<tr>
<td><strong>Total - All research</strong></td>
<td>2845.366</td>
<td>1277.6</td>
<td>2010.25</td>
</tr>
<tr>
<td><strong>Areas of Research Strength</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Safety &amp; Risk Engineering</td>
<td>11.94</td>
<td>161.55</td>
<td>323.99</td>
</tr>
<tr>
<td>Telecommunications &amp; Microelectronics</td>
<td>95</td>
<td>19.14</td>
<td>322.23</td>
</tr>
<tr>
<td>Food Value Chain</td>
<td>145.74</td>
<td>19.85</td>
<td>93.89</td>
</tr>
<tr>
<td>Packaging, Transportation and Storage</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation, Exercise &amp; Sports Science</td>
<td>126.8</td>
<td>141.83</td>
<td>84.08</td>
</tr>
<tr>
<td>Medical Biotechnology</td>
<td>1250.93</td>
<td>46.01</td>
<td></td>
</tr>
<tr>
<td>Strategic Economic Studies</td>
<td>163.84</td>
<td>103.89</td>
<td>864.832</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>36.2</td>
<td>43.66</td>
<td>36.13</td>
</tr>
<tr>
<td>Corporate Governance</td>
<td>196.39</td>
<td>122.75</td>
<td></td>
</tr>
<tr>
<td>Social Diversity</td>
<td>305.12</td>
<td>368.41</td>
<td>225.62</td>
</tr>
<tr>
<td><strong>Total - Areas of research strength</strong></td>
<td>2331.96</td>
<td>1007.95</td>
<td>1647.682</td>
</tr>
</tbody>
</table>

**NOTES ON DATA PROVIDED IN TABLE 2**

Areas of Research Strength are those reported initially in the 2001 Research and Research Training Management Report (refer Part A section 12.1.2).
### TABLE 3: Research active staff in 2004

<table>
<thead>
<tr>
<th></th>
<th>Number of staff</th>
<th>Number of staff who generated research income</th>
<th>Number of staff who generated publications</th>
<th>Number of staff eligible to supervise HDR students</th>
<th>Number of staff who supervised HDR students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All research - by research cluster</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science &amp; technology</td>
<td>102</td>
<td>24</td>
<td>55</td>
<td>102</td>
<td>54</td>
</tr>
<tr>
<td>Health &amp; medical research</td>
<td>65</td>
<td>20</td>
<td>41</td>
<td>49</td>
<td>23</td>
</tr>
<tr>
<td>Arts, humanities &amp; social sciences</td>
<td>255</td>
<td>56</td>
<td>161</td>
<td>203</td>
<td>116</td>
</tr>
<tr>
<td><strong>Total - All research</strong></td>
<td>422</td>
<td>100</td>
<td>257</td>
<td>354</td>
<td>193</td>
</tr>
</tbody>
</table>

### Areas of Research Strength

<table>
<thead>
<tr>
<th>Areas of Research Strength</th>
<th>Number of staff</th>
<th>Number of staff who generated research income</th>
<th>Number of staff who generated publications</th>
<th>Number of staff eligible to supervise HDR students</th>
<th>Number of staff who supervised HDR students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Safety &amp; Risk Engineering</td>
<td>15</td>
<td>6</td>
<td>10</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Telecommunications &amp; Microelectronics</td>
<td>23</td>
<td>3</td>
<td>10</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Food Value Chain</td>
<td>19</td>
<td>8</td>
<td>12</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td>Packaging, Transportation and Storage</td>
<td>16</td>
<td>0</td>
<td>6</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Rehabilitation, Exercise &amp; Sports Science</td>
<td>48</td>
<td>17</td>
<td>30</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>Medical Biotechnology</td>
<td>12</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Strategic Economic Studies</td>
<td>40</td>
<td>10</td>
<td>17</td>
<td>30</td>
<td>9</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>41</td>
<td>4</td>
<td>30</td>
<td>28</td>
<td>10</td>
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<tr>
<td>Corporate Governance</td>
<td>49</td>
<td>5</td>
<td>32</td>
<td>31</td>
<td>15</td>
</tr>
<tr>
<td>Social Diversity</td>
<td>126</td>
<td>28</td>
<td>34</td>
<td>64</td>
<td>56</td>
</tr>
<tr>
<td><strong>Total - Areas of research strength</strong></td>
<td>389</td>
<td>87</td>
<td>188</td>
<td>245</td>
<td>140</td>
</tr>
</tbody>
</table>

### NOTES ON DATA PROVIDED IN TABLE 3

Areas of Research Strength are those reported initially in the 2001 Research and Research Training Management Report (refer Part A section 12.1.2).

Total number of staff defined to be research active is the number of academic staff who have generated research income and/or published and/or supervised (including co-supervision) HDR students and/or were enrolled in a research degree.

Allocation of staff eligible to supervise to areas of research strength has been done using registration of staff as Associates of the research centres and institutes which form the core of each area of strength.

Allocation of staff actually supervising in each area of strength has been done using the association of the supervised student with an area of research strength.
### TABLE 4: Qualifications and activity of staff who supervised HDR students in 2004

<table>
<thead>
<tr>
<th>All research – by research cluster</th>
<th>Number of supervisors holding a higher degree qualification</th>
<th>Number of supervisors who undertook formal supervisor training in 2004</th>
<th>Number of staff who have supervised at least one HDR student to completion in 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science and technology</td>
<td>54</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>Health &amp; medical research</td>
<td>23</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Arts, humanities &amp; social sciences</td>
<td>116</td>
<td>27</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total - All research</strong></td>
<td><strong>193</strong></td>
<td><strong>40</strong></td>
<td><strong>58</strong></td>
</tr>
<tr>
<td><strong>Areas of research strength</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Safety &amp; Risk Engineering</td>
<td>5</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Telecommunications &amp; Microelectronics</td>
<td>13</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Food Value Chain</td>
<td>7</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Packaging, Transportation and Storage</td>
<td>7</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rehabilitation, Exercise &amp; Sports Science</td>
<td>14</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Medical Biotechnology</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Strategic Economic Studies</td>
<td>9</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>10</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Corporate Governance</td>
<td>15</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Social Diversity</td>
<td>56</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total – Areas of research strength</strong></td>
<td><strong>140</strong></td>
<td><strong>30</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>

**NOTES ON DATA PROVIDED IN TABLE 4**

Areas of Research Strength are those reported initially in the 2001 Research and Research Training Management Report (refer Part A section 12.1.2).