EDITORIAL

In 1998 the Business/Higher Education Round Table (B-HERT) initiated a series of Awards to reinforce the importance of business/university partnerships in innovation, R&D and teaching.

Each year the B-HERT Awards are presented at a black tie dinner. The Awards are for Outstanding Achievement in Collaborative R&D and Education and Training. These are a prestigious series of annual awards which recognise outstanding achievement in collaboration between business and higher education. In addition there is an Award for the Best Entrepreneurial Educator of the Year and an Award for Outstanding Philanthropic Support of Higher Education. The Awards are sponsored by university and business members of B-HERT.

Applications are called for the Awards and they are assessed by a panel of independent judges against a number of criteria.

The two principal criteria for judging collaborations as worthy of an award are whether they are highly innovative and are based on the foundation of a strong relationship between partners.

1. Innovation – (a) Has the project or program produced new concepts, products or services as a result of the collaboration? (b) How innovative (i.e., novel and useful) is the concept or idea, design, delivery or content? (c) What new challenges have been met or barriers surmounted?

2. Strength of Relationship – (a) What is the extent of the responsibilities and involvement of the partners? (b) How has this grown over the life of the project or program? (c) How do the partners collaborate in regard to people, facilities, access to information, technology transfer, etc? (d) Are there obstacles and barriers the partners have had to overcome to make the collaboration work? (e) Have there been other productive relationships that have developed as a result of the project or program?

In addition the Judging Panel looks for and takes into account evidence pertaining to the following criteria:

3. Outreach Inclusion – Has the project or program attracted new participants since its inception? Has it become a model for other projects or programs?

4. Wider outcomes achieved – These may be economic, financial, social, educational, environmental, or community benefits. Examples might include growth in exports, creation of new jobs, reduction of disadvantage, and so on.

5. Cultural Impact – What impact has the project or program had on the cultures of the participating organisations? What changes have there been in attitudes, behaviour or values of the participants?

Separate criteria apply for the other Awards.

Presenters have included the Hon Jeff Kennett, Premier of Victoria (1998), Senator the Hon Nick
Minchin, Federal Minister for Industry, Science and Resources (1999), the Hon Peter Costello, Federal Treasurer (2000), Mr Charles Allen AO, former Chairman of CSIRO and Chairman of the National Australia Bank (2001), the Hon Dr Brendan Nelson (Minister for Education, Science and Training (2002), Mr Grahame Cook, Deputy Secretary, Dept of Education, Science and Training (who stood in at the last moment for the Hon Peter McGauran - 2003), the Hon Peter McGauran, Minister for Citizenship and Multicultural Affairs (2004), the Hon Dr Brendan Nelson (2005), the Hon Julie Bishop, Minister for Education, Science and Training (2006), and last year because of the difficult timing of the dinner (21 November 2007 - during the Federal election campaign), Lisa Paul, Secretary, Department of Education, Science, and Training, very kindly stepped into the breach. (You can read Lisa’s after dinner address later in this NEWS).

As it was the 10th anniversary of the Awards we thought it would be of some value if we found out how Award projects had fared in the years since they won an Award. I wrote to all Award winners and asked them for a brief update of progress to date.

In this NEWS you can read some of those responses. The overwhelming outcome has been one of success in the on-going development of the projects and the achievement of positive outcomes.

1999 - RESEARCH & DEVELOPMENT

Winner: Agricultural Machinery Research & Design Centre, University of South Australia Horwood Bagshaw

Title: Design and Evaluation of Tillage and Seeding Equipment

Over the past 7 years the Agricultural Machinery Research and Design Centre’s mechanical engineering research and development expertise has continued to be used to develop new products for agricultural machinery manufacturer Horwood Bagshaw at Mannum, South Australia.

This project continues to be led by Assoc Prof John Fielke and has involved work experience students from France for 20 week periods and final year Mechanical Engineering student final year projects. The work has developed further models in their product range of:

- quad wheeled airseeders with capacities of up to 21,000 litres
- airseeders which have the capacity to dispense liquid fertilisers as well as granular seed and fertiliser
- a new range of Precision Seeding System (PSS) Scaribars for better placement of seed and fertiliser in the soil.
- a new range of floating hitch Scaribars which has improved ground following ability

The work has also led to the revision of componentry for improved performance, ease of manufacturing and assembly. The designs have been licensed for manufacture in Europe by the Norwegian company Kverneland which is currently setting up a manufacturing facility in Germany and Russia to manufacture the Horwood Bagshaw range of tillage and seeding equipment for use in Eastern Europe.

The relationship between Horwood Bagshaw and the University of South Australia continues.

1999 - EDUCATION & TRAINING

Winner: Institute of Transport Studies, The University of Sydney

Title: A Quality Partnership in Training, Education and Research

The Award was for collaboration between the NSW Bus and Coach Industry (through its association) and ITLS at Sydney in the development and provision of an innovative industry based training program for operators who have to have a designated manager to be eligible for accreditation to operator bus and coach services in NSW. Over the last 10 years we have built up the program under an ongoing quality partnership and have in 2007 converted the program to an online accreditation element to satisfy minimum standards complemented by a face to face program of professional development. Full details including a short video clip are given at http://www.itls.usyd.edu.au/busandcoach.asp

NSW Bus and Coach Accreditation - Course structure

This course covers the requirements under the Passenger Transport Act 1990 (The Act) which
require operators of bus and coach services to be accredited by the Director General, NSW Ministry of Transport (The Ministry). This online accreditation program is compulsory for all new entrants to the bus and coach industry.

The modules of the course provide the basis of what is required under The Act. Case studies are provided which provide a step by step approach to a company seeking accreditation.

The purpose of this course is to develop and test your understanding of how to:

- successfully apply for accreditation under Regular Passenger, Long Distance, Tourist and charter services together with 4-wheel-drive tourist vehicles;
- meet the accreditation requirements including record keeping and internal auditing; and
- gain further approval at the end of three years.

The essential standards/requirements to become accredited as a bus operator in NSW include:

- good repute;
- fit and proper;
- competent to carry on a bus service;
- financially viable of carrying on a bus service; and
- access to parking and maintenance facilities.

If an operator operates a public passenger bus service without the appropriate accreditation a maximum fine of $110,000 maybe imposed. This course meets the educational requirements of the Ministry for owning and operating a bus or coach operation in NSW (including charter, tour and off-road services).

2000 - EDUCATION & TRAINING

**Winner:** RMIT Textiles, RMIT University Jockey Australia (a division of Pacific Dunlop)

**Title:** Young Essentials Project 2000 Pacific

Brands and RMIT University commenced collaboration through its Jockey Australia business in 1999. The collaborative relationship grew from the need to build a greater link between the industry and education. Up until this point a students learning experience was predominantly tutorial and the connection with industry was ad hoc and not fully integrated.

The result from this relationship was the creation of the Young Essentials Project, where students were organised into “virtual companies” and partnered with a retailer and a company from the industry. The students were required to develop a product concept and brief that incorporated market research and sales and marketing strategies. Pacific Brands partnered with the students all the way and mentored them through to completion where the students presented their recommendations to industry.

Pacific Brands nurtured the Young Essentials Project for six years and was a BHERT recipient in 2000. In 2005 the program expanded into the broader industry. Companies that have since participated in the project include Sportsgirl, Ripcurl, Calibre and Country Road.

Today Pacific Brands are represented on the Universities Industry Advisory Committee which ensures that the learning outcomes are consistent with industry requirements.

Pacific Brands has also established a formal relationship with RMIT School of Fashion and Textiles which is aimed at providing the transfer of industry knowledge to students and academic staff as well as the employment of graduates upon completion of their studies.

From an RMIT University perspective the Young Essentials Project has provided a strong platform for staff and students to actively engage with industry, ensuring that our curriculum and staff are abreast of current industrial trends and that our graduates are appropriately skilled and ready for employment.

2000 – RESEARCH & DEVELOPMENT

**Winner:** Australian National University Volvo

**Title:** Vision-Based Human-Machine Interaction

Based on the technology developed by the Australian National University and funded by Volvo, a spin-off company called Seeing Machines www.seeingmachines.com was founded in July 2000. The company is now listed on the London Stock Exchange and employs over 30 people.

A suite of products have been developed around its core technology. Namely

- faceLAB for human factors gaze tracking and analysis. This product has sold in excess of $10M in export sales since May 2001.
- faceAPI an API package that allows developers to build vision based tracking based applications. The product has been licensed to
3rd party developers for security, entertainment and sport applications. Negotiations are underway with major computer vendors for use in desktop applications.

- **DSS** - Driver State sensing for automotive applications that require monitoring driver fatigue, alertness and inattention. This technology is now ready for serial production in motor vehicles. Negotiations are underway with a major Tier 1 automotive supplier and an OEM car manufacturer for a automotive product. Demonstrator versions of the product have been sold world-wide and the technology is undergoing extensive trials with end-users.

- **Truefield** - the world’s first non-contact objective device to help doctors diagnose glaucoma and a range of other eye diseases. The product is now undergoing the final stages of development for serial production.

The company has won numerous awards - these include
- 2001 US R&D 100 award
- 2002 Secrets of IT Innovation Award
- 2002 Eureka Prize
- 2003 iAward for Innovation
- 2004 Australian Export Award
- 2005 Clunies-Ross Award
- 2006 iAward for R&D and Best Australian Business
- 2007 Secrets of ICT Innovation Award

The company is well-placed to continue as a world-leader in computer vision technologies and to develop into a major high-technology Australian company.

### 2001 – EDUCATION & TRAINING

**Winner:** Monash University Greenspeed Nylex Rotomould

**Title:** The Multi-Disciplinary Industrial Project

The Monash Multi-Disciplinary Industry Project continues to bring undergraduates from Industrial Engineering, Marketing and Accounting together in teams to work on briefs for client companies. Companies are provided with a free feasibility study documented in a comprehensive report and presented to management at the projects’ conclusion. The projects motivate the students to high levels of performance due to the chance to work in realistic teams on real projects for real companies. Most client companies are small or medium sized, allowing students to interact with senior management who can make decisions on taking up the recommendations and in some instances, offer employment to some students upon graduation.

Monash MDIP won the B-HERT Award for Outstanding Achievement in Collaboration in Education and Training in 2001 in conjunction with two of the client companies: Nylex Rotomould, plastics manufacturers and Greenspeed, makers of recumbent cycles. Monash has run subsequent projects with both companies although when the major contact at Nylex, national sales manager Ian Walton moved to Linpac in 2003, it has been Linpac with whom closer contact has been maintained.

In 2006 as part of the Monash Innovation Festival, an exhibition and seminar was staged at Monash in conjunction with Linpac, Greenspeed, Elfin and Access Dinghies which resulted in enquiries from a number of companies and projects in 2006 with Geofabrics and Corex.

In 2005, a number of IEEM students who had achieved an exceptionally high performance in their 2004 projects were invited to make presentations at an international conference ICAMES in Istanbul, Turkey. The multidisciplinary nature of the project appealed to the audience from 20 universities from 17 different countries.

In 2005, the founding facilitator from the Accounting and Finance department, Brian Clarke, completed his PhD entitled “An Innovative Approach To Accounting Education: The Case Of The Inter-Disciplinary Industrial Project” based on research on the MDIP. He found that more than half the engineering graduates were working in teams with marketers or accountants. Similarly, the business students were also frequently involved in multidisciplinary teams. He also found that the MDIP prepared graduates effectively with key attributes required in their workplaces such as leadership, communication, business awareness and personal and interpersonal skills.

Since 2001, a member of the business development group at the City of Kingston, a local council where many client companies are based, has presented certificates to the team which made the best final presentation. The Cities of Kingston and Glen Eira have been most supportive in publicizing the projects through publications and a presentation at a business dinner at the Glen Eira Town Hall. As a result of their support, Monash has developed a positive relationship with CETEC (Consulting Enterprises in Technology) who have provided excellent contacts for 2007 projects, two of which are currently running.
Some of the more unusual projects in recent years have included:

- Identifying new markets and packaging plant location for almond grower, Select Harvest.
- Sound Wall development for alongside freeways for Linpac.
- Development of new packaging for Toyota suppliers for Aspect Packaging.
- Design of cabin environment for the MS8 sports car for Elfin.
- Design of dinghies for the disabled for Access Dinghies.
- Development of franchised gymnasias for Workout Workshop.

Winner: The University of Newcastle
Royal Institute for Deaf and Blind Children

Title: Renwick College: Professional Training and Research in the Education of Children with Sensory Disabilities

In 2001, the aim of the program was to provide access to the highest quality initial and continuing professional training in the education of children with hearing or vision impairment; and to underpin undertakings with a program of applied research and resource development in this small but important field. Those aims remain in place and the collaboration continues to deliver very high quality outcomes against them.

Changes and achievements since the award:

In 2006 Renwick College was renamed as The Renwick Centre (for Research and Professional Education). At that time, the Centre was given an expanded brief by the Executive and Board of the Royal Institute for Deaf and Blind Children to extend both its reach and influence nationally and internationally. Indeed, the Centre is set to expand further over the next three years.

At the time of receiving the B-HERT award in 2001, this cooperative venture between the University of Newcastle and RIDBC had provided 105 graduates of course-work and research higher degree programs in Special Education for children with hearing or vision impairment (having commenced operations in 1994). Those graduates were predominantly from within New South Wales but included some students from interstate and overseas (including Botswana, Canada, New Zealand, and Hong Kong). In 2001, the Centre was just commencing an arrangement with the New Zealand Government’s Specialist Education Services to provide post-graduate training for teachers of the deaf.

Since 2001, the total number of graduates of Renwick Centre (University of Newcastle) postgraduate programs has risen to 332. Notably, the alumni of the program now include teachers and associated professionals from eight countries including China, Taiwan, Vietnam, and Korea. Formal agreements for training of professional staff have been made between the Centre and two Australian state government departments of education (South Australia and Tasmania) and more than 20 students from New Zealand have completed studies at the Centre under the agreement that was being developed in 2001.

In 2005, the Centre (University) commenced offering the first postgraduate program in the field of Auditory-Verbal Therapy in any University (internationally). Recently the Centre entered into an arrangement with a centre in Beijing, China, to provide a pilot teacher education program for teachers working with children who have received cochlear implants. This work is being supported by the Cochlear Foundation. It is hoped that this will lead to collaboration between the Renwick Centre/University of Newcastle and a local University in China to develop an analogue of the Renwick postgraduate program for teachers of the deaf in a Chinese University.

A significant achievement since 2001 has been the shift toward the provision of off-campus and online delivery of coursework through the Renwick Centre. Currently almost two thirds of the postgraduate student cohort is studying in this mode—allowing more students from across the country to participate in programs of the Centre.

In regard to research training, since 2001, the Centre has seen the successful completion of doctoral studies by five students. This process has been a critical component in the reversal of the trend of diminishing provision of research training in this field which the Renwick Centre was originally intended to alleviate.

Without question this collaboration between the University of Newcastle and RIDBC has seen the continuing development of research and professional training in this small but highly specialised field and has created a centre with an international reputation and influence.
2001 – RESEARCH & DEVELOPMENT

Winner: Hawker de Havilland Pty Ltd
RMIT University Hxcel Composites
CRC for Advanced Composite Structures

Title: Competitive Composite Technologies for Aerospace Structures

Commencing in 1999, the Composite Defect Modelling Project (CDMP) developed a suite of “next generation” design tools for composite aircraft structures in collaboration between the Composites CRC, RMIT University and Airbus. These tools give Airbus the capability to improve safety, cost and weight by more accurately accounting for the special characteristics of composite materials in design and during the full life cycle of aircraft. The project has now moved beyond some of the initial aims to contribute to the development of a “virtual testing laboratory”, in which expensive and time consuming physical testing is being replaced by verified and validated analysis methods. Adoption of this philosophy will lead to dramatic reductions in design and certification time and cost, establishing a commercial advantage for Airbus, with the savings ultimately passed on to airlines and their customers.

Numerous direct and indirect benefits have stemmed from this collaborative research project. The profile and reputation of the Composites CRC and its participant organisations, in particular RMIT University, continue to strengthen offering enhanced opportunities for research collaboration in Europe. The Composites CRC is currently involved in contract R&D activities with Airbus in France, Germany, Spain and the United Kingdom. It has also entered into an agreement with the German Aerospace Center (DLR) to cooperate on research activities in the field of composite structures. The Composites CRC continues to strengthen its involvement in the large European Union Framework Research Programme. It is currently participating in four projects – COMOMAT, TATEM, SMIST and MOJO – and is an applicant on a further two proposed projects. There are also emerging opportunities to transfer the types of technologies developed under the CDMP to other industries in which the uptake of composite materials is rapidly increasing. The CDMP team members have also personally benefited from their involvement in the project, developing leading edge experience and expertise in modelling the effects of defects and damage in composite structures. Three members of the team are now Composites CRC employees where they continue to contribute to the CDMP related activities, while another three work for Airbus, either as staff or contractors – a great example of international cooperation with significant benefits for Australia. Others are employed in the local industry where the unique skills gained during the project can be utilised.

Under the continued support of Airbus, further development of analytical tools has continued over the past two years. The focus of recent developments has been in the area of impact damage prediction in composite laminates, particularly of structures that have undergone repair. This exciting collaboration will continue into the foreseeable future.

2003 – EDUCATION & TRAINING

Winner: The University of Sydney Compuware Asia-Pacific

Title: Attracting and Retaining Top Students in Information Technology

The initial BHERT Award recognised the important collaboration between the School of Information Technology at the University of Sydney and Compuware. The overall goals of the collaboration were to tackle the serious challenges for Information Technology in Australia because of the failure to attract a broad cross section of the most able high school leavers, and this is especially the case for women. Since the time of the award, in 2003, there has been an international decline in enrolments in Information Technology and a drop in the proportion of women. So, internationally, the problems we were tackling has been exacerbated.

Our collaboration had three main initiatives: an intensive summer school for high school students, a new degree programme and the WebWorkForce Science Lectureships programme.

All aspects of the collaboration between Compuware and the University have provided ongoing benefits.

Undoubtedly, the most outstanding on-going benefit has been in the intensive summer school for high school students. This has gone from strength to strength. At the time of the award, it was limited to NSW. It is now national and called NCSS National Computer Science School - http://www.ncss.edu.au/ and it has broadened its funding base considerably. Under the talented leadership of James Curran, Tara Murphy and Michael Cahill, it has also been expanded to include a series of teachers’ professional development workshops on programming, helping to address the dearth of teachers with programming expertise.
Another recent extension of the programme is the NCSS Challenge, an introduction to programming delivered nationally as a web-based programming competition for students in all years of high school. This year, it has grown to several hundred participants across Australia. It is important for Australia to be able to attract top students to IT so that we can nurture the growth of this important sector of Australian industry. The NCSS provides national benefits by broadening access to an exciting and inspiring programme for senior high school students. On the basis of their experiences in the summer school, several students have decided to include IT in their university studies. We continue to find that NCSS students delight in the opportunities that this programme provides for them to learn and to see IT in a new light. It is particularly valued for providing a chance to learn with like-minded individuals: this is particularly so for students from rural and remote schools and some of the girls. Summer schools participants has also taken leadership and mentoring roles, now providing much of the staffing for the programmes.

Winner: Dept of Education, Science and Training Business Council of Australia
Australian Vice-Chancellors Committee
Graduate Careers Council of Australia
Australian Association and Graduate Employers
National Association of Graduate Careers Advisory Services

Title: Higher Education Workplace Skills Olympiad (HEWSO)

HEWSO began in 2000, and was so named to capture the competitive spirit exemplified by the Sydney Olympic Games. An initiative of the National Association of Graduate Careers Advisory Services (NAGCAS), it gained initial support from the Australian Vice-Chancellors Committee (AVCC) the Department of Education Science and Training (DEST), the then Graduate Careers Council of Australia (GCCA), and the Australian Association of Graduate Employers (AAGE). Support came soon after from the Business Council of Australia (BCA). Funding from DEST through competitive schemes was crucial in the development of HEWSO.

All of these organisations were represented on an Advisory Committee, chaired by Martin Smith, of the University of Wollongong, who had been the proponent of the idea within NAGCAS. From the beginning, HEWSO provided a clear example of what is now generally termed Work Integrated Learning (WIL). The emphasis on the enhancement of generic skills through carrying out a real-world project for government, corporate and community organisations received positive feedback from all stakeholders. Recognition in the form of the BHERT Award exemplified the value of the HEWSO program to the sector.

HEWSO ran successfully for 5 years, engaging 23 universities and 54 host organisations during that time. Organisations included national and multi-national corporations, major professional firms, smaller businesses, federal, state and local government departments and agencies, and community organisations. They contributed financially to the program, and committed the time of staff to the interaction with student teams. In return, they benefited from the work which students did - the quality of this work received universal praise from the host organisations, many of whom provided such accolades as “as good as we get from professional consultants”, and “we will be implementing some of the recommendations immediately”.

On the student side, feedback over the period was equally enthusiastic, with some students reporting this as the most enjoyable experience of their student days. In 2004, a complementary program was introduced during the Spring break, particularly aimed at engaging regional universities, many of whose students were not available for the Summer (February) program. This received equal praise from both students and hosts, and did result in more universities being able to participate.

The competitive nature of HEWSO resulted in keenly contested national finals, with judging panels from the supporting organisations listed above, and national winners reflecting the coverage HEWSO gained: RMIT, Griffith, ANU, Swinburne, Sydney and UNSW.

The most important achievements of HEWSO were:

• its successful demonstration of a new model linked to Work Integrated Learning;
• its raising of the awareness of generic skills and of the importance of the whole student experience in career development learning and employability; and
• the opportunity it provided for students from a wide range of disciplines to work together in teams and to identify their own skills and the complementary skills of others.

These themes have now moved to a more central place in thinking about higher education in Australia, with the growth of all forms of Work Integrated Learning, the integration of career development into curricula, and the development of e-portfolios and other reflective mechanisms.
By 2006, it was felt that HEWSO had established its contribution to this groundswell, and that future initiatives would be taking place within universities. There are now programs within universities on the HEWSO model, such as Univariate Illawarra at the University of Wollongong, and UTS Working Solutions, while there are also curriculum units on the same pattern – providing teams of students to work on real business issues within organisations.

In the last 18 months, there have been numerous calls to reactivate the HEWSO concept from stakeholders within higher education and the corporate sector. For this to occur, secure funding needs to be identified by the NAGCAS Management Committee.

2004 – EDUCATION & TRAINING

Winner: School of Agricultural Science, University of Tasmania
Tasmanian Alkaloids Pty Ltd
Botanical Resources Australia
Australian Hop Marketers
Simplot Australia Pty Ltd
Serve AG Pty Ltd
Impact Fertilisers Pty Ltd
Essential Oils of Tasmania Pty Ltd
State Dept of Primary Industries, Water & Environment

Title: Science Lectureship Initiative: Partnerships in Tasmanian Primary Industry Science Education (HEIP)

Dr David Russell and staff from the School of Agricultural Science of the University of Tasmania developed a structured, experiential program designed to attract students into science studies at university. This program, dubbed the Russell Model, developed collaborative relationships between schools, local industries and the University. From 2000-2003, the School of Agricultural Science, with the support of the Australian Department of Education, Science and Training (DEST), implemented the Russell Model in Year 11/12 colleges throughout Tasmania.

In 2004, the Russell Model was awarded the Australian Government’s AusIndustry Business / Higher Education Round Table Award for Outstanding Achievement in Collaboration in Research and Development Education and Training.

During 2004-2006, the School of Agricultural Science expanded implementation of the Model through partnership with the University of Western Australia, with funding of $450,000 from the Grains Research and Development Corporation. This funding has been extended into the second phase for 2006-2009.

The Riverland Horticulture Council and Flinders University in South Australia, with funding assistance from Horticulture Australia Ltd and DEST, adopted the Russell Model for 2005-2008, with implantation by the School of Agricultural Science.

In 2004, the Department of Transport and Regional Services (DOTARS) funded a three-year project under its Sustainable Regions Program. This included extending the Russell Model concept to Years 7-10 students, into the formative years of student science understanding. Supported by DEST (ASISTM), during 2006-2007 this program has been extended to 25 schools in WA, SA, Victoria and Tasmania, linking universities, Year 5 – 10 students/teachers and local industries.

In 2005, the Australian Government, through the Hon Dr Brendan Nelson, former Minister for Education, commissioned the School of Agricultural Science to do a scoping study on a possible national Primary Industry Centre for Science Education (PICSE). PICSE would assist in rolling out the Russell Model across Australia by building strong partnerships between universities, their feeder schools and local industries, while using a consistent national template to support and guide universities and their partners.

PICSE would initially focus on encouraging students to study tertiary science as a pathway into science-based agricultural industries, with a view to expanding more broadly across other industries and subject areas, depending on industry need and the proven success of the Model.

The Scoping Study was completed in 2006 and was presented to the current Minister for Education, the Hon Julie Bishop, and provided to DEST. This sets out a broad case for establishment of PICSE, with proposed funding and support to be provided over a five-year period by governments, universities, industry representative bodies, industries and schools.

During 2007, DEST contracted the School of Agricultural Science to develop a Business Case for PICSE as well as to support an interim phase to continue delivery of the Model through the University of Tasmania, University of Western Australia and Flinders University, and to expand delivery of the Model through the Universities of New England, Southern Queensland and the Sunshine Coast.
This Russell Model has been delivered as various projects funded from a range of government funding programs and by industry investors. Between 2000 and 2009, DEST and DOTARS contributed approx $2 million to the program, supported by an investment from Universities and industry of $3 million.

### 2005 – RESEARCH & DEVELOPMENT

**Winner:** University of Newcastle

**Title:** Particle Size and Density Separations using the Reflux Classifier

The Reflux Classifier, which is designed to separate particles according to their size and density, consists of a fluidised bed, with a set of parallel inclined plates incorporated above. The fluidising fluid, typically water, passes through a perforated plate at the base of the vessel and then combines with the feed slurry. Faster settling particles segregate and report towards the base of the vessel, while the remaining particles enter the inclined channels. Of the particles that enter the inclined channels, the faster settling particles deposit onto the inclined surfaces and slide back into the fluidised zone, while the slower settling particles tend to pass through to the overflow. A density probe within the fluidised bed is used to measure the accumulation of faster settling particles, which in turn provides a signal to a controller for opening and closing a discharge valve. Thus, the entering feed is separated into an underflow stream of faster settling particles and an overflow stream of slower settling particles.

Fluidised bed separators have been used extensively in the past to separate particles on the basis of size and density. The Reflux Classifier, however, utilises a set of parallel inclined plates in order to achieve a significant hydraulic advantage by effectively increasing the sedimentation area of the vessel. The principle described is generally attributed to Boycott (Nature, 1920). Full international patents have since been awarded for this invention. Experimental results indicate the Reflux Classifier can operate at a solids feed rate, per unit of vessel area, that is 3 to 4 times higher than for a conventional fluidised bed, and still generate a sharp separation. The full-scale Reflux Classifier is 1.8m x 1.9m in cross-section and about 3.5 m high, and has a rating of 120 tonne of solids per hours, depending on the specific application.

Research and development work has continued since 2005, leading to a more complete understanding of the technology and hence an improved basis for targeting the design to specific applications. Australian Research Council grants supporting Discovery Projects and Linkage grants have continued, together with significant funding from the coal industry. The Reflux Classifier is a platform technology with a broad range of potential end users, covering all areas of coal and mineral processing and other industries. Investigations into other applications are current such as “Drying of Milk Powder” and “Dry Processing of Coal” with two new PhD students commencing this year in these areas. Two other PhD students who conducted work on the Reflux Classifier have completed their studies since 2006.

Prior to the B-HERT Award in 2005 there had been one commercial sale of the Reflux Classifier, which was to the plant that hosted the original study. In this case the older technology was displaced by the Reflux Classifier, and in fact removed from the plant. Five other full-scale devices had also been exported to China by 2005.

Since the B-HERT Award in 2005 there have been nine additional full-scale (RC1800) and two smaller (RC600) Reflux Classifiers exported overseas by Ludowici. These sales have led to significant exposure of the technology beyond Australia and into the markets of South Africa, China, United States, and more recently New Zealand. Decisions on other installations of full-scale Reflux Classifiers are pending. There has been considerable interest in the technology with numerous requests from the major mining companies for laboratory and larger scale trial work.

The work has since been recognised via the Rio Tinto Award in 2006 to Professor Galvin for Outstanding Achievements in Applied Chemical Engineering, and in 2007 with the Premier of Queensland Smart Award to Ludowici MPE in the Large Manufacturing and Mining category, for the Reflux Classifier.

### 2005 – RESEARCH & DEVELOPMENT OR EDUCATION & TRAINING WITH A REGIONAL FOCUS

**Winner:** La Trobe University, Bendigo OlivOz

**Title:** Aggregated Olive Processing and Research Cluster

In March 2005 a Memorandum of Understanding was signed between La Trobe University, Alfa Laval and Ovalzo Ltd, a group of 160 olive growers in Central Victoria. The intent of this agreement was
that La Trobe University would undertake research that would directly benefit Olivoz Ltd. La Trobe would have access to the olive processing machine provided by Alfa Laval to conduct the research. Olivoz Ltd would enter into an agreement with Alfa Laval to lease the machine for a period of three years, and that payment of this lease would be used to undertake the research as identified by all the parties. At the conclusion of the three years Olivoz would purchase the machine at a reduced cost. This cost would be reflected in the amount of research and development monies provided to La Trobe University. It was also anticipated that this funding would be used to leverage other funding to increase the value of the research being sought.

A steering committee was established to oversee the research projects and to administer the monies received from Olivoz. This committee was chaired by the PVC at the Bendigo Campus with representatives from La Trobe, Alfa Laval and Olivoz.

During the negotiations and identification of projects a number of issues arose. The major issue was that the machine was delayed in transit and was not installed in time for the first picking season and therefore was not able to be used by Olivoz. This then resulted in research not being able to be initiated as there was a need to have the oil being processed in order to conduct the research. This resulted in a 12 month lapse in commencement of projects associated with the machine. The directors from Olivoz then entered into direct negotiation with Alfa Laval to purchase the machine outright prior to the conclusion of the agreement.

In order to assist Olivoz to meet its commitments, La Trobe University agreed to this process and for the outstanding amount for research to be paid by Olivoz direct to La Trobe. During this time a project was developed with academic staff to undertake an assessment of the differences in virgin olive oil derived from pitted and unpitted olives grown in central Victoria. It was at this time that Olivoz Ltd approached La Trobe and advised that they were unable to meet their commitment as they were experiencing financial problems with the company and that the Board of Directors were considering their options, including a total dismantling of the company. La Trobe had not received any research monies from Olivoz at this time and were not able to undertake any projects because of this lack of funding.

Although this project has not proceeded as was conceptualised, there has been a large learning curve in understanding by - business of the time factor in developing a research project – and on the flip side there is also a lack of awareness of time constraints experienced by industry where research is lagging behind industry need. Bringing together industry and academia in this instance has provided a deeper understanding of how each industry operates and the risks associated with not articulating timelines and needs of each area.

It has been unfortunate the circumstances outside the control of the University have prevented this program from reaching its potential. However, there have been many benefits of the partnership, including links with the olive industry both at a national and international level. In 2006, La Trobe was invited to represent the industry at an international symposium in Umbria, Italy and also to discuss possible international relationships. There is now a group formed to look at assisting small business enterprises to badge their oil under an Internationally recognised brand which would allow them to compete in the global market place. There is still a connection with the local industry and it is hoped that this will result in future research projects to assist the industry.

### 2006 – RESEARCH & DEVELOPMENT

**Winner:** Brisbane Airport Corporation

**Title:** Brisbane Airport Corporation/Queensland University of Technology Collaborative Partnership

The research Partnership between Brisbane Airport Corporation (BAC) and Queensland University of Technology (QUT) has made significant strides since gaining national recognition in receiving the award for Outstanding Achievement in Collaboration in Research & Development in 2006. A selected list of notable achievements include:

- A **$1.5M research program** jointly funded the Australian Research Council and industry. The research program will investigate the four major issues of economic development, land use planning, infrastructure and governance at the interface between modern airports and major population centres. In addition to BAC and QUT, the program is bringing together eleven other industry partners from local, state and Commonwealth Government and the private sector and four other national and international universities. Consequently, this partnership has provided a strong platform for developing collaborations with a range of organisations locally and internationally.

- The creation of a **Professorial Chair in Airport Innovation** funded by BAC to further enhance the level of liaison between its staff and QUT academics and to maintain the momentum and
stature of the strong relationship between the two organisations.

- **Working with BAC staff on a range of sustainability initiatives** such as the development of a 'Framework for Sustainability for Brisbane Airport Corporation' and water and energy conservation measures. For example, BAC has reduced its current potable water consumption by over 40% from its 2004/05 figure and is implementing major initiatives such as rainwater harvesting and wastewater recycling.

- The Partnership provided the platform for the establishment of the **Australian Research Centre for Aerospace Automation** at the Brisbane Airport, thus acting as a catalyst for other QUT driven research initiatives. The establishment of this collaborative venture between QUT and CSIRO was facilitated by BAC. The research Centre received an initial establishment grant $3.6M from the Queensland State Government and a subsequent grant $2M. Additionally, it has also attracted $1.2M in research funding as a partner of Boeing’s “Smart Skies” research project.

- The true measure of the strength of the Partnership and its achievements can be gauged from the fact that since 2002, a total of 29 research projects have evolved with a total value of $2.7M and of which $1.8M was leveraged from other sources. This has strengthened the long-term viability of the Partnership.

The major initiatives currently being fostered by Partnership include:

- The development of a **multimillion $ research program** in aviation security and passenger facilitation which will bring together a range of public and private sector organisations in Australia including a number of airports across the country and international universities.

- The **commercialisation of the Intellectual Property** created through the Partnership. It has been recognised that the Intellectual Property originating from the various research projects undertaken is unique and can make a significant contribution to the aviation sector in general.

**Winner:**

Edith Cowan University  
WA Police Service  
China National Computer Software & Technology Service Corporation (PR of China)  
Northeast Normal University (PR of China)

**Title:**  
Optical and Photonic Techniques for the Positive Identification of Forensic Ballistics Specimens

The forensic ballistics identification project continues to progress along several paths since the B-HERT Award in 2006. The intention of the project was to advance the technologies for the identification of forensic ballistics specimens through optical and photometric techniques. This intention was to be fulfilled in collaboration with the Ballistics Branch, Forensic Division of the Western Australian Police Service and with China National Computer Software & Technology Service Corporation in China. Both organisations have contributed to the success of this project through financial, technical or skilled based support. We are most grateful to these organisations for their continued involvement and support in the project, which the potential to aid the fight against crime in national and international contexts.

Progress in the project can be considered in the following forms:

1. Planning meeting with Superintendent Hadyn Green, Head of the Forensic Division of the Western Australian Police Service. Future forensic ballistics specimens preparation was determined for the next phase of the project.

2. A visiting research fellow from China, Dr Wang, has joined the team and his research efforts in image processing have significantly improved the quality of ballistics images.

3. Three Dimensional Profile Measurements of Forensic Ballistics Specimens Surfaces. Professor Smith has conducted surface profilometry measurements of unique identifying markings on forensic ballistics specimens at Nottingham Trent University, UK with considerable success. The application of this technique is new for forensic ballistics identification, and it seems to have potential for future ID process. The digitisation of the image of the firing pin mark has been presented in 3-D profile. The surface profile can be compared for ID.

4. The Development of a National Online Firearm Identification Database. Associate Professor Dongguang Li is establishing an online database for national distribution of images of specimens. The developed of a Personal Computer (PC) based prototype software application for a national distributed system through the internet is progressing with considerable potential for national and international crime fighting capacity.
2006 – BEST COLLABORATION WITH A REGIONAL FOCUS

Winner: Flinders University
Riverland Regional Health Service
Riverland Medical Group
Lake Bonney Private Medical Clinic
Waikerie Medical Centre
Loxton Medical Clinic

Title: Riverland Parallel Rural Community Curriculum

In 2006 Flinders University Parallel Rural Community Curriculum was awarded the Business Higher Education Round Table award in the category Best Collaboration with a Regional Focus – Research & Development or Education & Training. The PRCC is the flagship program of the Flinders University Rural Clinical School and the program’s success has enabled further achievements to be gained within the program and the broader Clinical School since the BHERT award in November 2006. These achievements include:

- **New PRCC site.**
  Through collaborations with the private medical practices of the Barossa valley a fourth Parallel Rural Community Curriculum site has been established in South Australia. This additional site enables further 8-10 students to undertake their entire 3rd year of medical education in rural general practice. This latest collaboration brings the total number of medical student places in private rural general practice places to approximately 40 per year.

- **New Education facilities**
  Costing almost $2 million a new joint education and administrative facility on the grounds of Mount Gambier Hospital was officially opened by the Minister for Health in June 2007. This facility is the result of the collaborative efforts between the Greater Green Triangle University Department of Rural Health and the Flinders University Rural Clinical School. This new facility has modern teaching and clinical training rooms, a study centre and IT room as well as upgraded IT & T resources for staff.

- **New Dean, Flinders University School of Medicine**
  The architect of the PRCC program, Professor Paul Worley, inaugural Director of the Flinders University Rural Clinical School became the new Dean of Flinders University School of Medicine in June 2007.

- **New Rural Academic Teaching positions.**
  The expansion of the PRCC program has enabled the development of new academic teaching positions to be developed. Senior academic staff are now employed in each of the 4 rural teaching nodes of the PRCC program.

- **New Clinical Simulation Centre**
  The Riverland Clinical Simulation Centre was officially opened in January 2007. This high-fidelity clinical simulation facility has been established in the redundant acute section of the Renmark Paringa District Hospital. Thousands of dollars have been saved by working with Renmark Paringa District Hospital to bring this redundant section of the hospital back to life. Since the completion of the facility in late 2006 over 1000 undergraduate medical students, undergraduate nurses, postgraduate nurses, allied health professionals and community members have benefited from training sessions at the centre.

- **New Work in Progress**
  Negotiations with the regions health services are currently underway to develop a new e-facility at Victor Harbor. This development will house the main teaching and administrative base of the Hills Mallee Fleurieu PRCC. As a result, PRCC students and staff, other medical, nursing and allied health students at university level as well as TAFE and high school VET students undertaking training or vocational placements at the hospital will benefit from improved access to IT & T resources at the hospital.

As a result of the new internship program in Mount Gambier & Districts Health four interns have begun their full year of training. This is a first for South Australia and enables the Mt Gambier program to become a model for the State. Negotiations are currently underway to enable this model to be replicated in the Riverland region of South Australia.
Applications were sought earlier this year and were judged by an experienced panel of judges comprising:

- Professor Leon Mann, Director, Centre for R&D Leadership, The University of Melbourne (Chairman)
- Dr Peter Binks, CEO Nanotechnology Victoria Ltd
- Ms Sharon Coates, CEO, Innovation Business Skills Australia
- Dr Annabelle Duncan, Deputy Director and Chief Operating Officer, Bio21 Institute
- Mr Peter Laver AM, Vice-President, Australian Academy of Technological Sciences and Engineering
- Dr Peter Scaife, The University of Newcastle

THE CRITERIA FOR EVALUATION INCLUDED:

1. Innovativeness
2. Strength of the relationship between collaborating partners
3. Outreach inclusion (e.g. overseas - to other groups, companies)
4. Wider outcomes achieved
5. Cultural impact on the partner/organisation

Ms Lisa Paul, Secretary, Dept of Education, Science and Training, presented the Awards at a gala dinner at the Sheraton on the Park, in Sydney on Wednesday, 21 November 2007.

B-HERT wishes to acknowledge the generous support of the following organisations:
Winning entries were:

**Best Research & Development Collaboration**

All winners are pictured with Lisa Paul, Secretary, Dept of Education, Science and Training and David Hind, President, B-HERT.

Winner: The University of Sydney and Peregrine Semiconductor Australia Pty Ltd

Title: Surface Integrity Characterization of Sapphire Wafers for Wireless and Fibre Optic Semiconductor Industry

The silicon-on-sapphire technology uses a thin layer of silicon on sapphire substrate to replace a silicon wafer to produce integrated circuits (IC) of much enhanced performance. Because of the special properties of monocrystalline sapphire wafers, uncertain wafer cracking during IC processing has hindered the quality and rate of mass production. This collaborative research has established an innovative anisotropic theory and has delivered a world-leading predictive model to the industry partner, Peregrine Semiconductor Australia Pty Ltd (PSA), to guide their product development on sapphire substrate. The application has made a significant impact, leading to an annual turnover of $15 million for PSA in the short term and creating the basis for 200mm sapphire substrate development which will carry the technology forward into deep sub-micron regime in the long term.

**Best Education & Training Collaboration**

Winner: Monash University (Faculty of Medicine, Nursing & Health Sciences, Community Partnerships Program), Wesley Mission Melbourne, Eastern Access Community Health, City of Casey, Glen Waverley Secondary College, Anglicare, Ashburton Support Services, Best Chance, Billings LIFE, Brotherhood of St Laurence, First Step Program, Health Works, Jewish Care, Living Room Primary Health Care, Knox Community Volunteers, Melbourne Citymission, Monash Volunteer Resource Centre, Salvation Army, Access Care Southern, Caulfield Community Health Service, Inner South Community Health, Knox Community Health Service, Southern Health, Whitehorse Community Health Service, Berengarra School, Dandenong High School, Karingal Park Secondary College, Mt Eliza Secondary College, Wellington Secondary College, City of Casey, City of Monash, City of Port Phillip

Title: Community Partnerships Program

The program is part of the Monash University Bachelor of Medicine/Bachelor of Surgery degree course. It requires students to take part in a placement with a community based organisation for twelve placement days across a semester. The placements are with program partners, which include welfare agencies, local government, schools and community health centres. The placements are not clinical placements but focus in the students gaining experience working with partners’ clients, typically form backgrounds and contexts that make them in some way marginalised, including clients who are disabled, homeless, from low socio-economic background etc. Evaluations demonstrate a great deal of learning on the part of the students about social justice, communication and personal understanding. The contributory goals have included some very impressive projects, such as the setting up of a food cooperative for refugees in a high rise housing commission block.
Honourable Mention

University of South Australia (School of Communication), World Police & Fire Games 2007, TAFESA, Channel 31 (Adelaide) and Podmo Podcasting Service

Title: World Police & Fire Games: Games TV

Games TV set out to be a collaborative effort between the School of Communication and the organisers of the 2007 World Police and Fare Games (WPFG). The very minimum, the aim to produce a daily TV news bulletin, utilising journalism students and film & video students, and the resources of the School of Communication and TAFESA, was achieved. But the project included many innovations:

- it narrowcast the bulletin to a wide screen in the athlete’s village
- broadcast a TV service to Channel 31; and
- podcast a separate version to mobile phones via Bluetooth hotspots around the city.

It was also about convergence and collaboration between industry and students, and between two groups of media workers who, in industry, work under separate awards: journalists and camera crew.

and

Monash University, Amcor, Australian Paper, Carter Holt Harvey, Kimberly-Clark Australia, Norske-Skog Australasia, SCA Hygiene Australasia and Visy Pulp & Paper Pty Ltd

Title: Advanced Training for the Pulp and Paper Industry

This program is the most significant partnership between a manufacturing industry and a tertiary institute in Australia for the delivery of Education. The APPI Training Program provides the qualified manpower required by the Pulp and Paper industry to remain competitive by improving productivity, reducing costs and developing new products. APPI’s training program has three aspects. The first is a modular Masters in Engineering Science in Pulp and Paper Technology for Engineers/Scientists already in industry. The second is a comprehensive series of short courses, part of a continuous education program, for technologists, sales & marketing and new comers to the industry. The last is an undergraduate course to attract chemical engineers to the Pulp and Paper Industry. Over 210 engineers from industry have passed through the APPI M. Eng; and nearly 90% of them remain active in the pulp and paper industry, in Australasia. 600 staff have participated in the short courses (100 in 2006). Nearly 50% of the Monash 4th year Chemical Engineering students are training in Pulp and Paper Technology (CHE4142).

Professor Gil Garnier, Director, Australian Pulp and Paper Institute, Monash University

Patrizia Furlan, School of Communications, University of South Australia
Modern farming systems have reduced soil erosion and increased crop yield, but are threatened by changes to weed management brought about by weeds that have developed resistance to one of the more commonly used herbicides.

Based on a new technical manual developed by the Weeds CRC, this program trains farm advisers to assist growers to better manage weeds, in an environment where weeds are becoming more difficult to manage due to increasing levels of resistance to commonly used herbicides.

Since 2005 some 350 farm advisers have been trained in integrated weed management (IWM) tactics.

As observed in one testimonial, the 'IWM program has arrived just in time'. Many farmers were facing a bleak choice between using increasingly ineffective herbicides, or abandoning conservation farming with the risk of returning to old unsustainable techniques that damage the soil. Now with the IWM manual as guide, they are assembling a mix of weed control practices tailor-made for their properties that will also conserve their soil and nutrients.

Winner: International Centre of Excellence in Water Resources Management (ICEWaRM), SA Water Centre for Water Science and Systems (University of South Australia), Yellow River Conservancy Commission, Centre for English Language (University of South Australia), The University of Adelaide, Flinders University, Central Queensland University and Deakin University

Title: Yellow River Conservancy Commission (China) - Professional Development Programme

The YRCC Professional Development Programme is an innovative 47-week course which trains the YRCC’s outstanding professionals to become leaders in sustainable water resources management. It has been developed by ICE WaRM in collaboration with the YRCC, the participating universities and other stakeholders. It includes English Language and cultural awareness training; postgraduate studies leading to a Graduate Diploma in Water Resources Management, an industry placement and a technical study tour. The programme is funded by the YRCC and supported by the Australian Federal Government and the Australian Leadership Awards. It is significantly increasing the YRCC’s sustainable water resources management skills, has helped Australia earn recognition as a world leader in the field, has boosted exports and has further cemented the increasing economic and political links between Australia and China.
**Best Collaboration with a Regional Focus – Research & Development or Education & Training**

Winner: Cotton Catchment Communities CRC, Australian Cotton Growers Research Association, Cotton Australia, Cotton Research & Development Corporation, The University of Sydney, The University of New England, The University of Queensland (Gatton), CSIRO (Plant Industries, Entomology Narrabri and Textiles Geelong), NSW DPI and Qld DPI&F

Title: Summer Scholarships - Providing Opportunities for Undergraduate Students

The aim of the Cotton CRC Summer Scholarship program is to provide an opportunity for undergraduate students studying agriculture or related sciences at University to undertake an eight week research project in collaboration with a “real” researcher and cotton businesses during the university summer vacation in regional Australia. The scholarship provides eight weeks of salary stipend for the student (currently $500/week) and small operating budget for project consumables (about $1000). The scholarship program encourages students to consider a research career when they leave university and also aims to attract students to undertake a PhD. It also provides career opportunities and changes attitudes to cotton businesses and rural Australia by demonstrating country life in a small town with internationally know scientists.

**Best Community Engagement Collaboration**

Winner: Victoria University, Horn of Africa Community Network Inc., Centacare Catholic Family Services, Western English Language School, The Western Bulldogs, Victorian Multicultural Commission and the Sunshine Magistrates Court.

Title: Victoria University Engagement with Newly Arrived Refugee Communities from the Horn of Africa

Victoria University brings together community and government partners to support the growing numbers of newly arrived refugees from the Horn of Africa to the West of Melbourne. This program has brought together communities who are traditional enemies. Starting in 2000 with the delivery of four community driven, educational support programs to young refugees and their parents delivered by Higher Education students (pre-service teachers). Weekly programs for the Eritrean, Ethiopian, Sudanese and Somali community groups ran for two years. The program continues today for all Horn of African communities and there have been extensive ‘spin-off’ programs that have been developed and implemented in partnership with a range of community, philanthropic and government organisations. These programs include customised educational bridging programs, a youth centre, scholarship programs and culturally appropriate dispute resolution processes.
2007 Award for

The Best

Entrepreneurial Educator of the Year

PURPOSE
To recognise the importance of education in the process of developing and nurturing entrepreneurs; and to showcase best practice in entrepreneurial education.

Winner
Professor Archie Johnston
Dean, Faculty of Engineering,
University of Technology,
Sydney

Professor Johnston commenced at UTS in 1999 as Dean of Engineering and his entrepreneurial approach has been applied in a range of areas including, teaching and learning, research and development, fundraising as well as industry engagement and global collaborations, and through these activities UTS:Engineering has thus become one of the most progressive and innovative in the world.

UTS:Engineering has developed many areas of innovative activity. At a strategic level the Faculty is sustained by its Industry Advisory Network – a group of leading Industry CEOs who strengthen its industry engagement. An example of their unique industry involvement is the multi-dimensional Partnership with Alcatel (Australia) that was launched in 2000 and provided critical postgraduate educational programs, corporate sponsorships, scholarships and internships, staff exchanges and workplace R&D. They were then invited by Alcatel (France) to enter their Global Research Partnership that currently involves nine leading Universities in the world. In another example, the Roads and Traffic Authority (RTA) supports 40 Rural Scholarships each valued at $54,000 and this $2.2m investment in UTS:Engineering is one of the largest made to undergraduate education in Australia.

Its award winning Bachelor of Engineering, Diploma in Engineering Practice program has students undertaking two six-month fully paid internships in industry. To supplement and enhance their learning the Faculty has established groundbreaking Remotely Accessible Laboratories that deliver web based real-time interactive laboratory experiences.

In Research and Development a stimulating environment has been established to deliver the successful commercialisation of Sensor Network, Timber Bridge Testing, and, Location of Mobile Phone technologies. The heart pump, VentrAssistTM, won the Engineers Australia Award for Excellence in Engineering Design. The device has now been successfully placed in 125 patients. Other UTS:Engineering research was spun out to AiMedics and it received a $2.7 million Government grant to develop HypoMon – a unique non-invasive hypoglycaemia monitor.

Their Global enterprises required entrepreneurial thinking to establish and successfully deliver transnational education in English (8 years) and Chinese (4 years) with the Hong Kong Management Association. These programs are delivered in Hong Kong and China and highlight the value of Australian innovative and entrepreneurial approaches to technical and management matters.

This year Professor Johnston was appointed to Chair the Board of the Centre for Leadership and Management (CELM). CELM was formed by Engineers Australia in 2002 as a strategic response to the complex and changing business environment in which engineers work.

Attracting women into Engineering is a major challenge for Universities. UTS:Engineering has made a major contribution in this area where their Women in Engineering Program is the longest running initiative of its kind in Australia. The program celebrated 25 years of existence in 2006.
2007 Award for
Outstanding Philanthropic Support of Higher Education

PURPOSE
To recognise support for higher education; and to draw attention to the extent of this support, the key role it plays in enabling important and innovative programs, and in leveraging further support.

SPONSORED BY

Winner
Sir William Tyree OBE
Sir William Tyree Laboratory in Power Engineering, The University of Sydney

Following a $1m commitment in 2007 by Sir William Tyree OBE, the Sir William Tyree Laboratory in Power Engineering will open in 2008.

In 1982, Sir William and the AW Tyree Foundation funded the Tyree Chair of Otolaryngology, held by Professor William Gibson. Professor Gibson went on to establish the RPAH Adult Cochlear Implant Program in 1984 and the Children’s Cochlear Implant Centre in 1986. Sir William’s gift towards this area, then, has had an enormous impact on research and practice in the area of hearing impairment.

Also during the 1980s, Sir William and the AW Tyree Foundation were generous supporters of the Sir William Tyree Chair at the Sydney Conservatorium of Music.

Between 1996 and 1999, Sir William and the AW Tyree Foundation funded four Sir William Tyree Scholarships in Computer Science to encourage excellence in the field of computer science.

Sir William and the AW Tyree Foundation have also been donors to the University's Optical Fibre Technology Centre, the Warren Centre's Sustainable Transport in Sustainable Cities forum, and the University's Melanoma Foundation.

Further to this, Sir William and the AW Tyree Foundation have supported higher education elsewhere: Sir William is also a supporter of the University of New South Wales. He has supported the Australian Industry InnovationXchange Network, now IXC Australia.

Sir William is explicit in identifying his commitment to education as an investment in Australia’s future, saying ‘I want to try and improve the education of people coming on to replace us old blokes in Australia, because unless something is put back into education, Australia will not grow.’ His commitment to investment in education, then, is based on a strong commitment to invest in the future, and an awareness that philanthropic investment in education is an essential investment that results in broader benefits to Australian society.

Sir William’s philanthropy in the area of engineering is in part underpinned by his own success in the engineering industry. Sir William founded Tyree Industries (subsequently sold to Westinghouse), and the Tyree Group of Companies, still run by the Tyree family, is one of Australia’s 100 largest private companies. Sir William has received many national and international honours for his contributions to the engineering industry, including an OBE (1971), a knighthood (1975), an Honorary Fellowship from the University of Sydney (1985). He has also received many awards and honours from his peers in the engineering industry, including the James N Kirby Gold Medal from the Institute of Production Engineers, Australia (1980), the Centennial Medal of the Institute of Electrical and Electronic Engineers, USA (1984), and the Peter Nicol Russell Memorial Medal (1985).
HIGH COMMENDATION: Mr Ron Diamond, Central Queensland University

Mr R F (Ron) Diamond has demonstrated long term and visionary philanthropic commitment to higher education. His contributions span institutions and disciplines and are monetary as well intellectual. His support has come willingly and without solicitation and has held firm despite administrative and organisational problems. In addition to Mr Diamond’s financial contributions and advocacy, he has influenced Central Queensland University’s leadership in their decision to establish a CQU Office of Development. He was an active member of the University’s Foundation. In 2000 Mr Diamond, established a trust in honour of his late brother, Dr R J (Jim) Diamond who distinguished himself in the fields of physics and mathematics. Mr Diamond donated $50 000, on behalf of himself and his wife, Helen, and actively sought Government funding to complement his contribution. He was successful at securing a further $10,000 from the Queensland Government in recognition of the achievements of Dr Diamond who, in 1933, was the first State ward to win a scholarship to the University of Queensland.

The non-profit Science Centre was a hands-on learning facility. The Robert James Diamond Science Scholarships were established in Mr Diamond’s own words in a letter to the Vice-Chancellor, “to contribute something to stimulate interest, scholarship and achievement among young people in the area”.

To date, five $1000 (plus CPI) scholarships have been awarded to support disadvantaged students in their first year of studying science at Central Queensland University.

In 2006, Mr Diamond augmented his commitment to higher education by donating $50 000, again on behalf of himself and his wife, to the University of Queensland to establish the Cecilie Sloane Postgraduate Creative Writing Research Scholarship. The late Cecilie Sloane was his sister-in-law and had been a highly regarded tutor and lecturer at UQ.

As an encouragement to others on modest incomes to contribute to universities, in 2000, he proposed to the Federal Treasurer that deductions for lump sum donations to approved philanthropic causes, be spread over five income years. That proposal is now law.

Mr Diamond is an octogenarian and has ensured his commitment will continue by establishing endowment funds with the interest to be used for annual awards.

Finally, his agreement to be nominated for this award is testament to his willingness to support higher education and inspire others to do the same. When asked if he would consider the nomination he agreed to do so “If it would help the University.”

Note your diary – applications for this year’s Awards for Outstanding Achievement in Collaboration in Research & Development and Education & Training, Best Entrepreneurial Educator of the Year and Outstanding Philanthropic Support of Higher Education will be called in May 2008.

Winners of the 2008 B-HERT Awards will be announced by the Hon Julia Gillard MP, Deputy Prime Minister and Minister for Education, Employment and Workplace Relations on Friday, 21 November 2008, at a gala dinner in Melbourne.
The following are extracts from the address by Ms. Lisa Paul, Secretary, Dept of Education, Science and Training, given on the occasion of the 10th Anniversary of the B-HERT Awards to announce the winners of the 2007 B-HERT Awards for Outstanding Achievement in Collaboration in Research & Development and Education & Training on Wednesday, 21 November 2007 at the Sheraton on the Park, in Sydney.

‘Who would have thought, when I first attended kindy on Thursday Island in the Torres Strait, babbling away in the local language, that I might in my 21st year be given the opportunity to be an intern for an African–American Democrat representative in the US Congress, I acknowledge traditional custodians of the land on which we are meeting this evening, the Eora people, and pay my respects to their elders, past and present.

Mr David Hind, Professor Ashley Goldsworthy, Mr Rob Stewart, Professor Leon Mann, award nominees, distinguished guests, ladies and gentlemen.

Thank you all for your kind invitation to join you tonight for this important event: the 2007 Business - Higher Education Round Table Awards Dinner. Well! I’m excited! I’ve had a sneak preview of the award winners, and they are great!

As these awards have done every year since 1998, they showcase community involvement, international involvement, philanthropic involvement and more!

They prove yet again that the best results cannot be achieved by any one person or organisation. The best results require collaboration.

The winners of the 2007 B-HERT Awards exemplify great partnerships between members of the research, business and the not for profit sectors that are making real impacts. They demonstrate the economic and social value of collaboration, such as developing potential markets, fostering learning opportunities for students, providing research opportunities and fostering community harmony.

Each of these collaborations is tackling some of Australia’s big issues. This work is vital for Australia’s future.

There is no doubt that the work featured at these Awards, is vital for Australia’s future economic prosperity.

Successes, such as we acknowledge here tonight, are possible because of dedicated and passionate individuals and teams. They are role models we can all appreciate and learn from. I found it humbling to read about their work. So, let’s turn to the big picture.

The OECD reports that the long-run effect on economic output of one additional year of education generally lies between 3 and 6%. The OECD also reports that people with higher education attainment have higher participation in work, are in the workforce for longer, and have better health.

Australia’s future economic growth and prosperity will be determined by our ability as a nation to keep pace with technological development around the world and to keep innovating.

Advances in technology require a more skilled workforce, including the need to build upon existing skills and knowledge.

The workforce participation of healthy adult males of prime age is already high (over 90%). So strategies to increase adult workforce participation should consider under represented groups, including older workers (particularly women), people with disabilities and low participation groups such as Indigenous, those on welfare and those in general from low socio-economic status groups. There are broader social benefits also from increasing workforce participation.

In addition, it is critical to maximise the quality of graduates that enter business and industry. Skilled university graduates are a primary form of knowledge transfer from universities into the business sector. It is through education and practical experience in the workplace that individuals acquire the skills they need to do their jobs and to contribute productively to the economy.

The Australian education system can do much to give individuals the skills they need to succeed in a rapidly changing world.

For example, the recently published Graduate Employability Skills report prepared for the Business, Industry and Higher Education Collaboration Council identified work placements as beneficial to students and their eventual employers. The report also noted that university staff are interested in finding better and more
efficient ways to obtain placements for students, and that a limiting factor to expanding the number of such placements was the number of businesses and professional bodies willing to work with universities to place students in their organisations.

I would be interested in any views B-HERT might have over time about how we can maximise graduates’ productivity by being as work-ready as possible. Similarly, we could do more to maximise the productivity of our international students who stay on.

I know that B-HERT recognises the significance of higher education as an export earner. Education is now Australia’s fourth largest export, behind coal, tourism, and iron ore, providing more than $10 billion to our economy each year.

I thought you might be interested to know that we recently released results from a survey of 7000 international higher education students in 2006. The survey confirmed that Australia’s education system remains a major draw-card for international students.

Factors that attract students to Australia include safety and security as well as the fact that we are an English-speaking country.

The survey showed that a high number of students are satisfied with their education experience in Australia.

They prove yet again that the best results cannot be achieved by any one person or organisation. The best results require collaboration.

However, the survey also indicated areas where the experience of international students could be improved, particularly relating to employment opportunities and interaction with Australian students and the broader community.

In this area, I see a role for both universities and business in helping to create work experience opportunities for international students.

To move to your work programme. It is opportunities, such as this B-HERT Awards Dinner that help me meet people passionate about education.

I know that members of B-HERT are keen to influence public opinion and government policy.

Last year B-HERT examined the matter of philanthropy, which you see as an essential ingredient in the long-term development of Australia’s universities.

B-HERT, in conjunction with Campus Review, engaged the sector by hosting a summit on the theme ‘Funding Tomorrow’s Universities – Philanthropy, a Critical Source of Income’. There is no doubt that the summit stimulated thinking in university, business and government circles, and I believe it is making a difference.

I have seen that B-HERT has for many years contributed to a range of policy debates through your seminars, events, reports, position papers, and other publications, and of course through the individual efforts of members.

Over the years B-HERT has provided views on a range of topical issues including, “lifelong learning”, skills, and an examination of the triple bottom line.

And in regard to skills, I notice that you are planning a symposium on “Building Tommorrow’s Engineers”, for February. I am really delighted to see this, and I would encourage you in your work to address what I see as a serious threat to Australia’s future prosperity; and this is the growing skills shortages in science, maths, technology and engineering.

I consider that we should take what I call a ‘life cycle’ approach to this issue. By this I mean that we need to encourage kids in schools to take these subjects. We should encourage teachers to be confident to teach them. We need to model, from industry and research, the range of wonderful careers, some extremely well remunerated, which school leavers just don’t know exist.

Potentially collaboration between business and higher education in this area could be rewarding in helping Australia not fall short.

Finally, on your work through B-HERT, I would like to pay tribute to all the work you do through B-HERT to forge better links between business and higher education.

As for DEST, we are, of course, passionate about education and collaboration too.

I guess the two programmes which epitomise this are the National Collaborative Research Infrastructure Strategy, and the Cooperative Research Centre programme.

I think NCRIS represents the first time consensus has been reached across all sectors and across the
whole of Australia, on priorities for investment in major pieces of infrastructure for research.

NCRIS has brought together researchers from universities, publicly funded research agencies and industry, as well as federal, state and territory governments to agree on important research priorities for the 21st Century.

As I’m sure most of you know, the Strategy covers a range of priority research areas including biotechnology, geoscience, marine science and nanotechnology, and also for the ICT networks and systems that support e-research. These are ground breaking areas for collaboration and they are all essential to help ensure Australia’s future economic prosperity.

I am aware that B-HERT has favourable views about the CRC Programme which supports collaborative research partnerships between universities, government research organisations, other research providers and industry to maximise the benefits of Australia’s scientific innovations.

And CRCs have proven their value. For every $1 invested, CRCs are delivering a $2.16 return. Business involvement has gone up by 30% in recent years, including an impressive 60% greater involvement by Small and Medium Enterprises.

But back to B-HERT

In conclusion, B-HERT has stated that Australian business can reap large benefits from better access to the skills and knowledge of our higher education institutions. Also, that business leaders have a lot to offer in promoting the quality, vitality and global competitiveness of our higher education system.

The Department of Education, Science and Training values the relationships it has with both the higher education and business sectors – our success as a department is often dependent upon the valuable insights you offer to the policy development and implementation processes.

I want to congratulate B-HERT on these Awards, and the range of activities you conduct every year that brings leaders of business and higher education together to share views and foster cooperation.

I would like to wish Professor Goldsworthy well as he retires from the position of Executive Director of B-HERT, after more than 17 years of service to the organisation and its objectives.

Now sit back, relax, and enjoy the Awards!

Thank you.
The purpose of the Business/Higher Education Round Table (B-HERT) is to pursue initiatives that will advance the goals and improve the performance of both business and higher education for the benefit of Australian society.

B-HERT is the only body where leaders of Australia’s business, research, professional and academic communities come together to address important issues of common concern, to improve the interaction between Australian business and higher education institutions, and to help guide the future directions of higher education.

In pursuing this mission BHERT aims to influence public opinion and government policy on selected issues of importance.

Mission Statement

B-HERT believes that a prerequisite for a more prosperous and equitable society in Australia is a more highly-educated community. In material terms it fosters economic growth and improved living standards - through improved productivity and competitiveness with other countries. In terms of equity, individual Australians should have the opportunity to realise their full social, cultural, political and economic potential.

Membership of B-HERT comprises Australian universities, corporations, professional associations, the major public research organisations (Commonwealth Scientific and Industrial Research Organisation and Australian Nuclear Science and Technology Organisation).

B-HERT pursues a number of activities through its Working Groups and active alliances with relevant organisations both domestically and internationally. It publishes a regular newsletter (B-HERT NEWS), reporting on its activities and current issues of concern relevant to its Mission.