In recent years we have seen the staggering growth of knowledge-based businesses and at the same time the all-pervasive intrusion of high technology, particularly information technology and telecommunications, into traditional industry.

There would not be a business today that in some way is not dependent upon or affected by IT.

This means that the skills and capacities of our workforce become more important than ever. Maintaining and enhancing these skills has become not only one of the most vital tasks of management but also one of its greatest challenges.

Adequate and effective education and training, especially at the tertiary level, is an essential part of maintaining and enhancing skills. The information and knowledge necessary to meet today’s job requirements can be obtained in a number of ways.

Traditionally universities and technical colleges have been the main providers of tertiary education and training. We have experienced an enormous growth in university enrolments but this has been only one facet of a veritable revolution in the provision of post-secondary education and training.

Business is now adopting a much more eclectic approach in seeking the education and training it sees as necessary for its employees. Private providers have become much more prevalent and increasingly organisations themselves are providing the education and training for their employees.

In this volume of BHERT NEWS we have some of the leading organisations outlining their response to this critical challenge.
It is trite but true to say that the industries of tomorrow are knowledge industries. Similarly, no one would deny that innovation is a major driving force of developed economies, and innovation is underpinned by knowledge.

As firms face increasing global competition, their intellectual assets, in other words their people, their skills, and their knowledge are going to become even more critical to success.

Business therefore faces increasing pressure to maintain the currency and adequacy of the knowledge base of their workforce.

In response to this demand, business is broadening and diversifying its approach to updating the knowledge and skills of its employees.

A century ago the most valuable US corporation was US Steel whose primary assets were smokestack factories. Today’s most valuable corporation is Microsoft, whose most valuable assets go home every night.

Many businesses are today paying much more attention to human resource development than perhaps they might have in years gone by.

This is by way of greater use of external resources, such as universities, TAFE, and private providers, but also, in increasing numbers, developing in-house programs, courses, and structures that address the problem. Motorola University is a well-known example of this sort of initiative, as are Disney, Sun Microsystems, McDonalds et al.

There are now over 1500 such institutions in the United States.

Business is also insisting on a closer relationship between the two, oftentimes seeking accreditation by external bodies for in-house programs.

The emergence of information technology is also having a major impact not only on delivery mechanisms, but also on content and skill development.

The rate of change imposes yet another imperative on the solution.

All of this provides an exciting scenario for business in developing their people.

British Telecom announced in January last year its Learning Centre will offer not only vocational training but also degrees. There will be several thousand students each year through the centre.

What are we likely to see in the future? What developments are on the horizon? What changes are we likely to see not only in delivery but in content? What role will business play in all this?

In this issue several of Australia’s (and the world’s) leading businesses explore these developments and outline what they are doing to meet these challenges.
MUCH has been written, lately about the concept of the ‘Corporate University’. What has come into vogue is the idea of partnering with external providers – often tertiary educational institutions – to offer employees a formally recognised and accredited qualification with a specific organisational orientation and branding.

The idea of company-oriented management training by a third party provider is not new. ‘Corporate University’ may be the latest terminology, and recognised certification with articulation to undergraduate and postgraduate awards may be recent. But using academic staff and other external providers for ‘in-house’ training has been with us for a long time.

Let me outline some of the initiatives P&O Australia has taken in this regard. P&O Australia’s first real move toward establishing an on-going relationship with an external provider for Senior Management Training was in mid 1993. During some initial exploratory talks with Macquarie Graduate School of Management (MGSM) on the ‘how and what, where and when’ of developing our Senior Managers we found an organisation which listened to what we said rather than offering a standard range of training products.

Both P&O and MGSM learnt what was needed, what each had to offer, how we were both going to achieve the desired outcomes. We exchanged a lot of good ideas, found solutions and developed some very good Management Programs.

The ‘tailor-made’ residentials’, that we designed were for us, the most extensive Management Development Programs at that time. We ran two programs, each program comprising a Module of 5 days, followed by a 3 month back-at-work project, a final Module of 5 days completed the program.

In all over 50 General Managers attended these Programs during 1994. The Projects covered real life issues of P&O businesses, identified and sponsored by the Management of the business. The Managers, in small project teams, had to arrive at solutions to these ‘real-life’ issues of P&O Business Operations. Needless to say not all solutions resulted in a success, but those that did were adopted by the P&O Executive and implemented.

This was certainly a fine start to forming a close relationship with a Training Provider that resulted in adding value to our business. Our relationship with MGSM continued into 1996 with further tailor made courses and a similar course formulae being applied to middle managers and a ‘potential managers’ group.

Our next Training Project was to take a long overdue review of ‘training needs’ in the area of basic skills. These are the ‘hardy annuals’ of training; effective people skills, time management, communications etc. In a brief search of the market for ‘who’s doing it’ and who was ‘doing it right’, we talked with and listened to Boral Training. Boral, equally a good listener, found we had solutions they could use. So we joined with Boral Training, the result being the Boral/P&O Australia Professional Development Centre. In a nutshell, this is Training administered by and courses run through a Private Provider.

Boral and P&O Australia determine the courses, which are then run to a course schedule at the main centres throughout Australia. The Trainers and Courses all conform to the accreditation requirements of the Australian National Training Authority (ANTA), the Provider being a Registered Training Organisation. The Provider, AIM Queensland, administers the call centre for bookings, develops and provides the training and records and reports on the quality, quantity of the training. Again a number of benefits have been gained by all parties, especially, of course, employees from both Boral and P&O who mix, share experiences and gain insight into each other’s businesses. Course revenue is increased, whilst costs are minimised through volume. All courses lead to a credential, through the Frontline Manager Initiative or Deakin Australia.

Further opportunities developed through Deakin Australia. With P&O Australia’s world-wide geographic spread of businesses, we have an important need to meet training requirements in remote localities.

Deakin’s responsiveness and understanding of our needs has developed into a mutual respect for each others expertise. Through our partnership with Deakin we have been able to offer a very wide range of Modules and Units that lead to a Certificate, Diploma and to a Degree. We are midway through our third year with Deakin and those employees who commenced in early 1997 are now starting to gain their first qualification.

A very heartening positive for both Deakin and P&O is when one recent recipient exclaimed at the awards ceremony ‘never in my wildest dreams did I ever think I would achieve this!’

Monash/Mt Eliza’s Development Department offered to bring tangible benefits to P&O’s businesses. During training discussions, Mt Eliza claimed that they could customise executive programs to fit P&O’s business needs.

Since that day a number of years ago Mt Eliza has customised a number of Senior Manager Programs to meet P&O’s needs. Mt Eliza’s reputation for its Leadership Program’s is second to none. Using a number of 360° instruments, our request required Mt Eliza to include a further dimension, the ‘customer’, as well as feedback from peers, colleagues and management. Mt Eliza provides a further extension for developing our Senior Managers into Post Graduate qualifications through a very flexible delivery of courses by single day release in Sydney and Melbourne.

THE LEARNING JOURNEY: CORPORATE TRAINING TODAY

“A PRIME REQUISITE OF ALL OUR TRAINING IS FOR IT TO BE DELIVERED AT THE RIGHT PLACE, AT THE RIGHT TIME IN A WAY THAT MEETS BUSINESS NEEDS.”
In December 1998 Deakin Australia’s CEO Kevin Fuller met with Coles’ Managing Director Alan Williams and the then General Manager Human Resources and Store Operations Linda Heron to present them with a proposal for the establishment and operation of the Coles Institute.

In the area of PC Software Training we have formed a close customer relationship with Pollak Partners. P&O Australia like many other companies had, for several years, relied on the public PC Software Courses of various Training Organisations. Pollak Partners through listening to the customer, has tailored a course to meet P&O's need for customised document template training. This has bought training simplicity to what many regard as an ever accelerating trend of updates, add-ons, new versions etc. Further, our training is also delivered on-site, some is one to one and we make use of Pollak’s roving trainers.

A prime requisite of all our Training is for it to be delivered at the right place, at the right time in a way that meets business needs. National Recognition of courses is of a growing importance, thereby ensuring there is the opportunity for the individual to gain a qualification.

For the future we will continue further down the path of ensuring that training adds value to the business by enhancing talent throughout the organisation. We will be looking to tie training ever more closely to functional and business requirements, ensuring that training needs are identified through the Company’s Performance Management and Succession Management processes. We will be identifying “levels of competence” and the ‘mandatory’ and ‘optional’ training and development programs appropriate to ensure employees have the requisite skills not only to properly perform their current roles but to develop skills necessary for future personal organisational effectiveness.

Training delivery will continue to be weighted toward external providers. We see an increasing trend at management level, to partner with tertiary institutions which will provide course graduates with a recognised qualification from a program skewed towards P&O's specific needs.

In this way, without necessarily favouring the formal creation of the “P&O Australia University”, our professional and managerial employees will, nevertheless, increasingly undertake programs with external providers which provide a formal, nationally accepted certification with P&O badging and oriented towards the specific needs of our Company. At P&O we have been avid watchers of the Corporate University, be it the Coles Model, the Honda Business Institute or Mac. University. Whatever terminology is given to it, or training model that is implemented, Company training and development decisions must today be oriented to continuous learning. And along this continuous journey, the business of learning is evolving into the learning business.
In the beginning

The proposal had been prepared in consultation with Coles Supermarkets and internally championed by Linda Heron.

The proposal included a mission statement for the Institute: To provide a seamless, integrated training and education system, which contributes to the achievement of Coles Supermarkets’ current and future business objectives and enhances the link between staff, management and customers.

The proposal recommended that the Coles Institute be established to provide Coles Supermarkets with integrated, flexible education and training programs with delivery commissioned through a variety of providers. The Institute would be managed and operated by Deakin Australia under the direction of the Coles Institute Steering Committee and Management Team. The proposal was accepted and it was decided the Coles Institute would be launched.

Launch

The Minister for Education, Training and Youth Affairs, Dr David Kemp launched the Coles Institute in April 1999 as a first for Australia. The launch received significant media coverage:

“The Federal Government yesterday hailed a partnership between Coles Supermarkets and Deakin University as an Australian first in education and training initiatives.” AAP 15/4/99

“The Coles Institute represents the sort of progressive initiative that recognises the increasingly important links between industry and our universities,’ he (Kemp) said.” AAP 15/4/99

“This Institute embodies everything that we have been striving for in education and training reform, co-operation and partnerships, responsiveness and flexibility, life-long learning and education pathways, and innovative use of technology,” Dr Kemp said at the launch.” The Australian Financial Review 15/4/99

The Coles Institute differs from the American ‘corporate university’ in that the provider and joint-manager of the venture is a traditional university. In addition, Deakin Australia’s management and administrative structures are existing so there are virtually no set up costs for this ‘virtual’ institute – as opposed to the bricks and mortar establishments in the United States.

Alan Williams said the partnership with Deakin, through the Coles Institute, enables Coles to leverage the knowledge, experience and resources of both Deakin Australia and Deakin University.

“Coles is able to provide need-meeting education and training to its employees at all levels of the organisation, in a strategic, integrated way,” he said.

“Coles employees have a framework for life-long learning to improve skills, knowledge, motivation and morale, while bringing additional efficiencies to the business and improving our competitive edge and return on investment.”

How the Coles Institute is managed

The Coles Institute Management Team – comprised of employees from Coles Supermarkets and Deakin, representing each state and a cross-section of functions – is responsible for the implementation of the Steering Committee requirements through the Coles Institute

In summary the objectives include:

- establishing programs and processes to meet critical training needs within the business;
- developing integrated seamless programs and pathways through the audit of existing programs;
- to develop infrastructure and processes to support education and training through:
  - Student record keeping;
  - Coles Institute badging;
  - Delivery methods.
- to develop a comprehensive communication strategy;
- continuity of evaluation and provide feedback to ensure the ongoing business planning process.

For each of the business objectives, scoping teams have been formed to take a realistic look at the objectives and make recommendations for their implementation to the management team and steering committee.

The objectives are being reviewed extensively with store, state office and national office employees to ensure their relevance and application throughout the business.

Coles believes it is the people of the business who give it the competitive advantage required for future success.

The Coles Institute therefore focuses on the people of Coles Supermarkets – their training, their development and their future.
The full impact of the information revolution is just starting to be felt in the Australian business environment. But Australia’s companies are already adapting and innovating to take advantage of the massive opportunities that IT offers. It is in this context of dramatic change that the question of education in Australian national and business life should be addressed.

Excellence in the education system very much matters to business. This does not mean whether this year’s crop of MBA graduates is better or worse than last year’s crop.

It does mean how effective the whole system is in turning out a competent, effective workforce within a well-rounded, creative and confident civil society. The Henry Ford model of isolated individuals perfecting discrete, repetitive tasks is over. In a changing, technology-driven world, workers need to be active, creative and capable of continuous adaptation if they are to contribute fully. Successful companies treat all their workers, no matter what level, as knowledge workers.

The Australian workforce needs to be in life-long learning mode. A solid education base is essential to this, and Australian business must play its role in driving and supporting the life-long learning model.

Though I certainly do not claim to be an expert in the area of public education, my views reflect 38 years of experience and involvement in this area, and a particular interest in human performance improvement in a business setting.

Australia has an opportunity to be a world centre of excellence in education at all levels. Although it has not reached this level yet, Australia is positively positioned. To achieve this potential, three things need to happen:

- The primary and secondary education system must be defended against the trends which dramatically downgraded the quality of America’s primary and secondary systems. If Australia can protect and develop the strengths of its early schooling system, it would create a clear comparative advantage over the US.
- Much more attention should be given to supporting excellence in the Australian tertiary system. This can be achieved through greater funding for centres of specialist excellence, scholarships for the best students and a commitment to the appropriate rewards – and performance measures – for teaching staff in universities.
- Business must resist the temptation to treat corporate education and training as an optional add-on, rather than an essential investment in success. Close involvement in and commitment to managerial and leadership training is a primary responsibility of organisational leaders.

Based on my experience and observations over the past seven years, Australia is doing well in terms of its education system. But Australians should not relax. Their primary and secondary system is showing some of the early signs which were evident in the US before its system went into a nosedive.

On the tertiary front, Australia can and should commit to doing significantly better, particularly in terms of fostering elite institutions which truly lift the top ranks of Australian students and academics to global eminence. And in business education, there is no reason why Australia should not be mirroring the best of American trends. It takes commitment and belief in the process, guided by a clear understanding of the positive outcomes which can be generated.

If Australia embraces the information revolution, focuses on outputs and structures institutions for excellence, its education system can become a benchmark for all developed countries. Australia will be the better for it and businesses will be more globally competitive. Individuals are more likely to reach their full potential, which is one of the keys to life-long happiness.
ALWAYS LEARNING

Of necessity, ‘always learning’ has become the catch phrase of most organisations and employees in commerce and industry. The impacts of globalisation, information technology and increasing personal accountability for long-term employment security have converged to create a new challenge for employees at all levels.

Keeping up with continuous and rapid change in the world of work is not only a requirement for successful performance in a job, but it is also an imperative for career advancement. The theme of lifelong learning underpins any strategy aimed at building employee and organisational capability.

The Road Ahead

Our organisation has a clear vision of what it wants to be. This requires leaders who can deliver the triple bottom line of financial returns, responsible corporate citizenship and positive environmental performance. We must take the best people we can find and then invest in a cost-effective manner in their continued development over both the short and longer term. Consequently, the organisation continually reviews both the content and process of people development in an effort to find innovative solutions to the challenges of adult education and training.

Opportunities for meeting these challenges exist in three key areas:
- optimising skills to extract value from technology
- closer alignment between business and tertiary and other in-service education and training providers
- recognition of the increasingly transparent business environment.

The implications for providers of education and training products in this field include:
- more supplier/client relationships based on partnering, including in-sourcing
- a growing need for players and products which reflect the ‘look and feel’ of the business world, including greater responsiveness to changing customer needs
- increasing demand for learning products and processes which enable individuals to handle the larger and more complex amounts of data made possible by IT applications
- emerging opportunities to share both the risks and the rewards of development initiatives based on their measurable contribution to business goals.

The implications for those embarking on a career in commerce and industry include:
- taking personal accountability for one’s career
- developing softer skills such as communication, teamwork and influencing ability is as important as developing the more concrete, traditional job skills
- understanding that a tertiary qualification is but one crucial step on a very long ladder of learning
- accepting that development opportunities (and not only internal career prospects) are what distinguishes the employers of choice.

The Emerging Context of Education and Training

The provision of education and training within the business enterprise operates in a context of:
- accountability for engaging in learning shifting from employer to employee
- an increasing obligation on the employer to provide opportunities and support for learning
- greater transparency in the assessment of competence, the potential of the employee to develop, as well as the learning options available to the employee.

An employer of choice not only recognises this shift as a key strategic imperative, but is also able to balance it with the performance imperatives that drive short and long-term business goals.

Essential Elements of the Education & Training System

The in-service development of professional employees (defined as those normally expected to possess a tertiary qualification) can be distilled into three strands:
1. Job related knowledge and skills.
2. Values and behaviours which reflect the ethos of the organisation (leadership).

Each strand poses a separate challenge to the provision of effective and efficient development processes within the company. Additionally, many employees require development in two or more of these strands, with high demand for development at both the commencement of the working career and again at various points in mid-career. The employer of choice provides a range of learning opportunities and events that cater to these three strands.

Education & Training Infrastructure in BOC Gases

Whilst all three strands are formally addressed within BOC Gases, the development of requisite knowledge, skills and behaviours is the accountability of the Education and Training function in collaboration with line managers and employees. Given the context described above, an education and training architecture has been established to build capability in a manner which facilitates rapid change in focus and content to meet the continually shifting requirements of the market. It is also designed to enable over 2000 employees and managers at over 100 sites across Australia to manage their own development.

The architecture consists of eight components:
1. Articulation of expectations
   - job knowledge and skills required to meet performance objectives
   - behaviours to reflect the company’s way of doing business (relatively stable, and codified in a set of behavioural competency profiles).

An individual development planning discussion is held with every employee as part of an integrated performance management process. The outcome is a documented set of development requirements aligned with the current strategic direction of the business.
2. A curriculum of training events to develop the required capabilities
   - focused on training activities which build the articulated competencies
   - available electronically for ease of access and to enable additions/deletions to meet changing requirements
The curriculum is accessible to all employees and managers, structured for ease of use, and clearly indicates the relationship of the individual programmes to particular competencies.

3. Partners/providers to deliver the learning events
   - management of the curriculum
   - administration of training
A strategic alliance has been established with a specialist training management provider to source, administer and record all training. The partner manages all other suppliers, including tertiary education institutions, according to agreed criteria.

4. Formal evaluation of learning
   - assessment by the trainer of knowledge or skills actually learned (Kirkpatrick’s Level 2) as a minimum
   - assessment by the line manager of transfer of learning to the job (Level 3) is part of the training design where possible
   - assessment of the impact of the learning on performance (Level 4) is recommended as part of the regular performance appraisal
Interestingly, formal evaluation of learning has proven the most difficult component of the infrastructure to institutionalise. Whilst performance measurement is increasingly commonplace, evaluation of learning appears to be a more emotive issue. The implications of formal assessment outcomes for personal job and employment security in a competitive world probably fuel the resistance to this element.

5. IT infrastructure to communicate, source training, educate
   - company intranet accessible to all managers and most employees
   - HR site provides all processes, guidelines, documents and forms required to identify and access training solutions
At this stage no courses are offered on-line, although the technology is in place or available to support this option, should the need grow.

6. Mentors for senior and high potential employees
   - external mentors used at executive level
   - internal mentors trained to provide support for high potential junior and middle managers
Mentors provide guidance on a range of issues, including career coaching, behaviours required for success, the handling of corporate politics, and act as a sounding board.

7. Management Development Programme
   - experiential programme aimed at building accountability and a personal vision of leadership
   - obligatory for all line managers
   - directors are personally involved
The programme provides an opportunity for executive leaders to interact with managers in a less formal environment and to share their experience of overcoming the challenges of leadership. It is also the primary means of providing directional data regarding the company’s leadership expectations.

8. Graduate Development Programme
   - structured annual intake and 2-3 year development programme
   - intellectual potential (IQ) and behavioural competence (EQ) are equally valued in both the recruitment and the development processes
   - preference given to graduates with real understanding of the world of work (commercial awareness, customer focus, and an appreciation of the drivers of corporate success)
   - the development programme provides exposure to all business functions through a series of performance managed projects
The programme is aimed at providing longer-term succession for senior managers. It therefore identifies and develops talent. It also bridges the world of academia and ‘job experience’ and the world of corporate reality. By implication, this programme acknowledges the societal imperative faced by the company to build competent leaders who will be successful in the global business environment.

Global Implications
Australia has edged up the global competitiveness rankings to 12th position in 1999. Significant improvement in the longer term requires a concerted effort from tertiary education and training providers, business, and the Australian workforce. The extent to which providers and business align the efforts will either liberate or constrain the potential that exists within the working population.

References

Mr DAVID HIND
Managing Director,
BOC Gases
South Pacific

Mr KEVIN HARTUNG
Manager Organisation Development
Asia Pacific,
BOC Gases
A BUSINESS PERSPECTIVE ON HIGHER EDUCATION AND TRAINING

We depend on our institutions of Higher Education and Training to build the intellectual capital necessary for Australia to secure and maintain a competitive position in the increasingly global market place. But investing in Higher Education is about more than economic welfare. It is also about helping to nurture a creative, dynamic and cohesive society.

The OECD’s 1997 Review of Tertiary Education in Australia advocated building on a strong discipline foundation, with curriculum enhancements designed to produce “Graduates who can think for themselves, communicate, empathise and work with others, invent solutions, and create new possibilities.” This advocacy captures very well the characteristics required to harness, supplement, and make best use of the knowledge available to us as a society.

A successful knowledge economy will depend both on the establishment of a rich knowledge base and on the skills and attitudes necessary to convert such potential into tradeable goods and services. Education and learning has to be matched with innovation and creativity to create the wealth that our society will depend on to sustain the quality of life that Australians currently enjoy. This challenge is most likely to be met through an insistent process of interchage between Higher Education and the corporate sector, through student placements, sponsored research programmes, and persistent networking between industry representatives and both faculty and students, in pursuit of complementary ideas and innovative applications.

Diversity of thought, promoted through Higher Education, and embraced with enthusiasm by recent generations of graduates, permits greater connectedness to the breadth of opinion and concern in the community at large. By identifying key issues, acknowledging derivative dilemmas, and engaging in a dialogue with stakeholders, business is able to reconcile the pursuit of commercial profit with adherence to principles that all stakeholders can support, and which translate to a licence to do business.

Shell welcomes the opportunity to engage more fully in seminars and lecture hall discussions around a number of the key issues that face our society; sustainable development, globalisation, climate change, and community responsibility. Increasingly society will require major corporates to earn community trust, rather than assume a mandate to operate. We stand to learn much about the context within which we operate through an active engagement in debate with all stakeholders, which can help us to deal more effectively with the dilemmas that we face as a major player in the international energy business.

The pace of change within organisations, with consequent need for staff to obtain different skill sets and to adapt to new competitive landscapes, has led some organisations to invest in their own institutions of learning delivery. Shell’s preference in Australia is to partner with a learning organisation which draws on a University affiliation but has a commercial orientation, realising the benefits of experience obtained in programme design and delivery for other organisations, as well as assuring the diversity of thought that we value as a good in its own right. Our relationship with Deakin University as a provider of Learning expertise and services has served us well in each respect. We also see value in conducting staff development programmes in conjunction with other organisations, thereby ensuring a healthy challenge to respective views on the most effective way to transact business today.

A strong corporate culture needs regular exposure to fresh perspectives if the organisation is to remain responsive and agile, ready to adapt to altered conditions and willing to learn from alternative views. Shell places great value on multilateral engagement with institutions of Higher Education all over the world, as prime sources of challenging ideas and scientific advances – our preference is to continue to deepen and broaden these relationships rather than embrace the concept of a corporate University, which would carry the inherent risk of reinforcing a uniform corporate culture rather than realising the benefits of diversity of thought.

We anticipate that employer sponsored training and development is likely to represent a declining proportion of the overall demand for Higher Education and training in the economy, as individuals take greater responsibility for developing and updating their own skill sets, in the face of accelerating change. This represents a burgeoning market for institutions of Higher Education, with further scope for substantial export growth, providing access to potential revenue streams that can reduce dependence on Government funding and help meet the IT costs being incurred to ensure ready access to world standard sources of knowledge.

Mr DAVID BROWN
Regional Manager,
Shell People Services, Melbourne
In December 1999, I was honored to be invited to participate in a national conference on recruitment held in Manly, Australia. The conference’s theme was “Graduates for a New Millennium.”

Professor Ashley Goldsworthy, Executive Director of BHERT, was chairman of the keynote panel on which I served. The opportunity to meet with Professor Goldsworthy and learn about the goals of your organization was most interesting.

It also offered me the chance to share information about the World Association for Cooperative Education, and the strong support we receive with the ever-growing Australian contingency.

I was intrigued to learn that BHERT’s purpose is to “pursue jointly initiatives that will advance the goals and improve the performance of both business and higher education for the benefit of Australian society.” This objective describes the essence of the mission of WACE and our supporting educational institutions and corporate partners around the globe that work to foster work-integrated learning systems, and develop new models and programs of cooperative education.

WACE, a multi-national alliance, encompasses over 900 business executives, educators, and government officials in 39 countries. All are dedicated to advancing the concept of work-related, cooperative (“co-op”), sandwich, or practice-oriented education. Regardless of the name, these programs always involve students who alternate their classroom study with periods of related work in business and industry. Significantly, after receiving their diplomas, many of these students go on to join their co-op companies as full-time, experienced employees. From the corporate perspective, these employers have had the opportunity to see their young workers develop while on the job and assess their performance within the established workplace environment. By hiring experienced co-ops after graduation, businesses acquire highly skilled professionals at considerably less cost than through conventional recruiting methods. In effect, they have “grown” and mentored their own professional staff.

For almost a century, work-related education has been practiced around the world. In 1903, the earliest documented work/study program began at Sunderland Technical College in Northern England. The first program in the United States was developed in Ohio at the University of Cincinnati in 1906. Northeastern University in Boston, Massachusetts became the second U.S. institution with co-op in 1909. Then came The Netherlands in 1950, Canada in 1956; and Australia in 1962. Beginning in the 1960’s work-integrated learning programs proliferated in several developed countries. More recently, work-integrated learning has spread to over thirty nations including many developing nations.

As the new millennium begins, we predict the further rapid development of programs globally as the value of this education continues to be rejuvenated as a tremendous education model for both developed and developing areas.

Work-related education has re-invented itself. In our global economy, it offers enormous opportunities for collaboration between multiple nations. International students enrolled at U.S. colleges are returning to their home countries for job placements at multinational companies. Indonesia is a fine example of this, where several hundred co-op students have received their government’s support to complete work-related university programs in Indonesia and overseas. Swedish, German and American co-op students at Saab Automobile and General Motors Corporation cross international borders for work and study terms. These are just a few examples of many such programs globally.

Areas of significant work-integrated education growth in recent years include China, Sweden, South Africa, Indonesia, and Japan. The Japanese government, most significantly, has been experimenting with short-term, on-the-job student internships over the past several years. In his keynote address at our 11th World Conference in Washington, DC last summer, Mr. Nobuo Tateisi, Chairman and Representative Director of OMRON Corporation, prophesized that cooperative education will become widely known and practiced in Japan within the next five years.

WACE owes its Australian members a special vote of thanks. They have been a powerful force in the World Association for Cooperative Education since its inception. In 1978 Australian representatives took part in our first gathering at Brunel University, England. Seven years later, Australia hosted our landmark 3rd World Conference in Melbourne, where our official organization was born. Among our early Australian organizers were the late Robert Davie and Morris Watson, as well as Past President Dr. W. Roy Longworth. Professor L. Murray Gillin, who served with great distinction as WACE President from 1996-98,
continues to bring his energy and inspiration to our gatherings since his retirement from Swinburne University of Technology.

Our World Council governing board is now headed by President Joe Rowley, Chairman and Director of AGB Scientific Limited, Ireland. Professor Anthony Blake, Vice Chancellor of the University of Technology, Sydney, is our Executive Vice President. Professor Blake will assume the WACE presidency in August, 2000 when the World Council meets in Nagoya, Japan. WACE’s other four Vice Presidents represent businesses and educational institutions in China, Sweden and the United States.

Among the 40 World Council members at large are several from Australia. In addition to Professor Blake, they include Professor Ian C. Goulter, Divisional Deputy Vice Chancellor and Higher Education Deputy Vice Chancellor, Swinburne University of Technology; Alan Priestley, General Manager, Human Resources, Royal & Sun Alliance Insurance; and Ann Whyte, Director Learning, Morgan & Banks Limited.

Originally, the vast majority of WACE members represented the higher education community. That situation has shifted, particularly since the mid-to-late 1990s, when we began an ongoing campaign to attract more corporate members by offering them value-added programs and services. We have just announced three dynamic new programs targeted to this executive audience, particularly those in the human resource sector:

1. Staffing.org (http://www.staffing.org)
   A first of its kind, this interactive website will link users to specific information about staffing metrics. It will allow subscribers to download software that measures the performance of their recruitment activities. Staffing.org will have its Australian regional launch later this year.

2. Co-op Multi-national Labor Study
   This offers an analysis of connections between the external labor market and the internal human resource system at several multi-national corporations. Special focus will be on the entry-level college labor pool and work-related education as an alternative hiring source. A longitudinal research project will begin later this year after the pilot phase is completed.

3. An Employer’s Guide to Cooperative Education
   This reference guide that will highlight various models of work-integrated education around the world. It will summarize their respective advantages, disadvantages, and implementation methods from an employer’s point of view.

Needless to say, it takes great time, effort, and patience to set up successful work-related education programs and to reap the economic benefits from them. Not all companies will have the size or flexibility to enter into such arrangements. But for those who do, the long-term human resource advantages are indisputable. Representing WACE and its Board, I look forward to working with the Business/Higher Education Round Table in future ventures, and hope you will utilize the resources of WACE as you continue your noteworthy mission.

World Association for Cooperative Education, Inc.
International Secretariat
360 Huntington Avenue, Suite 384 Columbus Place
Boston, MA 02115-5096 USA
Telephone: 617-373-8885
Fax: 617-373-3463
http://www.waceinc.org
Chief Executive Officer
Peter J. Franks
E-mail: pfranks@lynx.neu.edu

PETER J FRANKS
Chief Executive Officer
World Association for Co-operative Education, Inc. (WACE) Boston, Massachusetts USA
McDonald’s, Our Commitment to People Development...

McDonald’s Australia Limited has been operating in Australia since 1972. There are close to 700 restaurants operating in communities across Australia. Approximately 30 per cent are company owned and about 70 per cent are owned and operated by local businessman and women as McDonald’s franchisees. Each restaurant employs around 70 “crew”, and has an average management team of 6-8, most of whom are recruited, trained and developed from crew ranks.

In total the System employs in excess of 55,000 people.

The success of McDonald’s rests upon some fundamental principles that originate from the first McDonald’s take-away hamburger outlet. Restaurants strive to deliver these fundamental principles of Quality, Service, Cleanliness and Value (QSC&V) to every customer on every visit. In franchising a McDonald’s restaurant, licenses are only ever granted to individuals willing to be hands-on operators in their restaurants, committed to using these principles and to participating fully in all aspects of the McDonald’s System.

McDonald’s is the market leader in its field and is a remarkably successful business. Both inside and outside the business, that success is said to be attributable to the people. McDonald’s believe that the training and development of people, together with sound people practices are of fundamental importance to the successful running of the business.

McDonald’s Australia is often recognised for its commitment to people development and the highest QSC standards compared to McDonald’s operations in over 100 countries around the world. Many benchmarking teams from overseas have visited Australian McDonald’s restaurants with a view to replicating the standards, employee retention and training culture.

Furthermore, McDonald’s Australia was recognised at an international convention in 1998, for its commitment to people and training and having the highest QSC standards in McDonald’s on an international basis. McDonald’s is also regarded as the ‘Centre of Excellence’ for the people area and in 1995 won the ‘McDonald’s Global Human Resources Award for Excellence’. This prestigious award recognised McDonald’s Australia as having world best practice human resource strategies, goals and results within the corporation.

At this year’s Australian Human Resources Institute Awards, McDonald’s was one of two organisations that were “Highly Commended” for Excellence in People Management and again at the 1999 Australian Training Awards for the third year the recipient for the Industry category award for the Wholesale, Retail and Personal Services.

The management of Human Resources at McDonald’s Australia is based upon a strategic partnership between the Employee Relations and Operations Departments. It is the company’s view that the responsibility for people must rest with line management (Operations). By having this strategy, line management are accountable for the recruitment, development and retention as well as the day to day management, motivation and recognition of their employees. McDonald’s also recognises the need for a specialist human resources team to show leadership in these areas and to influence and evaluate the way in which the People side of the business is managed. The Employee Relations team undertakes this role and, in addition, trains and coaches line management in their responsibilities.

People Management Knowledge

McDonald’s advances knowledge in people management matters through extensive training and development programs for all those with responsibilities for others within the organisation. From McDonald’s franchisees, to junior crew who assist in the orientation and training of new people, thorough skills training is provided to ensure they are well equipped to carry out their People responsibilities.

The pinnacle of McDonald’s training system is our status as a Registered Training Organisation (RTO) and the range of accredited training programs that McDonald’s offer in all states across Australia.

McDonald’s is currently the only national retailer that offers qualifications under the Australian Qualifications Framework (AQF) from Certificate I through to the Advanced Diploma of Management.

Strategy Development and Organisational Support

McDonald’s Australia has in place a strategic planning process that provides the framework within which all business strategies, including human resource management strategies, are developed, executed and measured.

The corporate strategic plan details the Mission Statement and the Key Strategic Areas, which represent the key areas McDonald’s focuses attention on to achieve the mission. (Figure 1)

It is important to note that the first key strategic area is People, and the Critical Success Factor (or objective) in this area, is to “Be the best employer and trainer in Australia”. It is also noteworthy that this key strategic area is represented as being equally important as all other key strategic areas, including managing costs and growing sales. This highlights McDonald’s commitment...
McDonald's endeavours to promote the training and development (and therefore, employability) of all employees and this is highlighted by the enormous contribution and commitment that is placed on training throughout the entire organisation. McDonald's spends approximately $20 million annually (6+% of payroll) on training and development.

➤ Vocational Education and Training (VET) in Victoria and Western Australia

In 1998 a pilot program was launched in VIC which enabled Year 11 and 12 students to gain credit towards their Higher School Certificate for the skills learnt at McDonald's, while they worked casually in the restaurants.

Successful candidates were presented with the nationally recognised Certificate II in Food Retail – (McDonald's) and were eligible to gain three credit units towards their VCE and receive a 10% increment on their Tertiary Entrance Rank (TER). In 1999 a similar initiative was launched in Western Australia giving students the opportunity to complete the Certificate II whilst completing Year 12.

Building Organisational Capability

McDonald's commitment and dedication to training is aimed at developing the skills and competencies of individuals, in addition to building the capability of the entire organisation. Figure 2 illustrates the training system and shows linkages to development needs at each level of the organisation. All courses are fully integrated internally and many are also externally accredited and recognised, providing on-going training opportunities and career paths for all participants.

A further enhancement to our training and development programs is the establishment of a specialised Bachelor’s degree in Business and Retail Management (BBusRetMgt).

This development is taking place in response to requests from McDonald’s and a number of employers and employer groups in the retail industry. The program has been designed in consultation with the NSW Retail Industry University Working Group which Frank McManus, National Staff Development Manager of McDonald’s chairs.

The BBusRetMgt will be offered as a two-year part-time program through the Macquarie Institute of Business and Finance (an institute of Macquarie Graduate School of Management Pty Ltd), from the first semester in 2000.

The BBusRetMgt complements and builds on McDonald’s Diploma of Management and the Advanced Diploma of Management. McDonald’s Managers who have been issued with the Diploma or Advanced Diploma of Management will be given credit towards the BBusRetMgt of 24 (35%) or 30 (44%) credit points respectively. They will then complete a program of study comprising either 44 (Diploma graduates) or 38 credit points (Advanced Diploma graduates) for the award of the BBusRetMgt (Total 68 points). Refer figure 2 overleaf.

The McDonald's career track can be outlined as follows:

- **Crew**

  Crew (both full-time and part-time) have the opportunity to extend their skills by participating in the Advanced Crew Course (ACC), which leads to portable skills and qualifications throughout the enterprise, in the hospitality and retail industries and beyond.

  The Certificate III in Retail Operations is also available which is a stepping stone into a trainee management position.

- **Trainee Manager**

  Completion of Management Development Program (MDP Vol 1) and the Basic Operations Course develops operational expertise and shift running skills by heightening awareness of McDonald’s Quality, Service and Cleanliness standards. This will take approximately 7-14 weeks to complete.

- **Second Assistant Manager**

  Shift planning and rostering, employee training and
counselling, product inventory and ordering are learned during Management Development Program (MDP Vol II), the Basic Management Course and the Intermediate Operations Course. Successful completion to this level can see managers gain the Certificate IV in Management - McDonald’s.

**First Assistant Manager**

Completion of MDP Vol III and the Advanced Operations Course will equip managers with broad skills in all areas of the operation including employee recruiting and planning, analysis of statistical business data and equipment management. Demonstrating successful completion enables managers to gain the qualification of Diploma of Management - McDonald’s.

**Restaurant Manager**

As a qualified Restaurant Manager, successful use of MDP Vol IV will give managers the skills to take charge of a multi-million dollar business. Responsibilities include training and developing assistant managers, short and long term sales strategies, and profit and loss projections. Performing this function can lead to the qualification of Advanced Diploma of Management - McDonald’s.

**Corporate Staff Development**

As mentioned in section 7.0 of this application, the Advanced Management Development Program (AMDP) consists of both in-house training programs and programs delivered by the Australian Institute of Management (AIM). This level was introduced to bridge the gap between restaurant management training and executive development. AMDP is broken into four categories: Management Leadership, Communication Skills, Individual Effectiveness and Planning and Organising with a cross range of programs being offered throughout the year in various regional training centres.

**Executive Development**

The final stage in the training and development flowchart is known as the Executive Development Program and was designed for middle and senior management. This program focuses on strategic management and leadership and can contribute to 1 unit of a 3 unit Postgraduate Certificate in Management provided that participants complete the additional assessment component that is necessary in order to accredit the course.

At this level managers also attend off-the-job training courses conducted by McDonald’s in the USA (together with McDonald’s employees from around the world) and regional international training courses, such as the Asia-Pacific region.

**Enhancing Today’s Business Performance**

McDonald’s is committed to being a ‘learning organisation’. It constantly looks for ways to improve the operations and management of the McDonald’s system. Employees are recognised and rewarded for doing things that enhance the company’s goals of delivering exceptional customer experience. This is done from the crew level of the organisation to senior management.

As previously mentioned, approximately 70% of head office employees have originated from the restaurants. This strategy aims to not only retain employees, but motivate them to want to grow within the organisation thus encouraging all employees to ‘learn’ and continue ‘learning’.

The organisation encourages continuous learning through not only in-house training but through the support of external studies. This external study is conducted in institutions such as TAFE, Universities and Graduate Schools of Management. Many of these courses are directed towards people management and strategic planning. Participated in these types of programs allow individuals to continuously learn and flow that learning on into McDonald’s in their daily job.

This paper is intended to outline the importance of human resources within McDonalds and demonstrate McDonald’s dedication to the training and development, both in operations and ‘people management’ issues. All of which are in an endeavour to deliver an exceptional customer experience.

---

**Mr FRANK McMANUS**

National Staff Development Manager, McDonald’s Australia Limited
TRENDS IN TRAINING FOR THE PROFESSIONAL FIRM...

“The job of a leader is to access the genius of other people.”

It is glaringly obvious that the business world is in the grip of rapid change. The trend towards company globalisation and the technological explosion have meant that organisations need to give top priority to harnessing the skills of their staff, and providing opportunities for their personal and professional development. Increasingly, partnerships between Universities, TAFEs, independent consultants and in-house Human Resources and Training departments are being fostered to cater for these needs.

Organisational change is constant, and the role Human Resources and Training Departments (HR) must now play is integral in managing the change. HR can no longer be seen as a department operating in isolation, it must form a partnership with the firm to bring about desired goals. In short, HR must understand how a business makes its dollars in order to apply relevant and forward looking solutions.

There is increasing pressure on HR to demonstrate a return on investment – just as is expected of any other department within a firm. Training needs to be congruent with the culture of the business and must be able to demonstrate measured outcomes.

In the professional firm, it is imperative that the potential of staff is identified and maximised as early as possible. Firms which can train their staff efficiently and effectively not only enjoy a competitive advantage, but become employers of choice for both new graduates and experienced practitioners. Staff who are well trained and confident in their abilities are motivated to produce their best.

HR needs to understand the changing business environment and to work hard at predicting the changes ahead. For legal firms, this has translated into keeping abreast of new technology, and thinking laterally about its use. The advent of on-line research facilities has meant that lawyers are able to access information through the Internet, and to improve significantly their ability to respond quickly and efficiently to the needs of clients. Equally, extensive training in using the new technology is needed if true benefits are to be gained. It is one thing to use the Internet to complete tasks more quickly, and quite another to complete them better.

Currently, many professional firms offer financial assistance and study leave to staff undertaking undergraduate and post-graduate studies which are relevant to their position or the firm. While participation in such courses can be valuable, they are time-consuming and can be expensive. Busy professionals may struggle to absent themselves from offices at set times, or to attend intensive courses over a period of days. Firms are therefore becoming more selective about the use of these courses, and looking for ways in which the knowledge gained by individuals can be made available to broader groups of staff. For example, a lawyer attending an intensive course may be asked to brief groups of colleagues in the material on his or her return.

Advances in technology, such as the wide accessibility of the Internet, have provided an avenue for the independent learner to develop their knowledge without obligation to their employer. These learners are highly motivated and want to be responsible for their own learning. They understand that learning is a life-long process, and that they are likely to be competing globally, rather than locally, for the best career opportunities. Independent learners are innovative, intelligent, and vitally interested in their own professional development.

Online learning through the Internet is a rapidly expanding market. The first fully accredited cyberspace university – Jones International University at www.jonesinternational.edu has 600 adult student enrolments paying $4000 for the privilege of studying online. Online attendance at UCLA is 95% compared with 80% on campus. The Distance Learning Channel at www.ed-x.com provides news and information on distance learning at 1500 universities and other learning institutions world wide.

On the legal side, The College of Law in New South Wales has developed an electronic version of a module in the post-graduate, pre-admission skills training course (Vocational Legal Training), The “Professional Program” is a 15 week course offered in the form of three multimedia CDs with access to chat groups, lectures, email and College dial-up facilities. Only three weeks of the course are spent on campus. The module is also offered in the traditional lecture-based format. However, the majority of students opt to undertake the electronic version. The course fees are the same for either mode of delivery. The NSW College of Law has had a number of other Universities express an interest in developing similar electronic versions of their legal courses.

The convenience and flexibility factors make this type of learning very attractive to the busy professional. Strategic partnerships between professional firms and external training providers are a cost-effective and efficient way to access expert knowledge. Traditionally, professional firms have conducted technical training programs internally, utilising in-house expertise. The programs have worked well and have had the advantage of specific tailoring to the needs of the firm. But rapidly increasing staff numbers, and an ever increasing range of training needs, have made this form of training harder to sustain. Sending staff to seminars run by external training providers has been of limited success – these tend to be generic, and often either too advanced or too basic for the firms’ needs. Partnering...
arrangements between firms and external training providers have therefore begun to flourish. Arthur Robinson & Hedderwicks has contracted an external consultant to provide customised presentation skills training for all its lawyers, with training in other areas such as negotiation skills and project management skills on the training partnering agenda. Apart from providing an opportunity to deliver customised training, external consultants offer the advantage of providing new perspectives on issues and practical ideas on ways to approach problems. They can advise on global best practice, and offer an objective point of view.

What does this all mean for business? Training and HR practitioners will have a wider choice when deciding on the medium in which training is delivered, and several options for achieving outcomes. There will be a shift from the importance of knowing something, to that of knowing where to access that knowledge. Intranet and Internet access will allow training to reach remote locations, through sophisticated computer based training programs. Information technology skills training will remain a constant. A by-product of this reorganisation is the move towards a less paper-dependent office – for law firms in particular, that is a move in the right direction.

‘Defence today is a knowledge business. The edge we seek is the knowledge edge – in the broadest sense. Our critical assets are the knowledge, skills and innovative drive of the people who defend Australia. Australia’s future security depends on our ability to expand those skills and knowledge – it depends on our capacity to learn.’

To Defence, the national education and training systems are a strategic asset. They contribute significantly to the development of Defence capability in peace, and will be a major source of qualified people to the Australian Defence Force (ADF) and the Department of Defence in times of partial or complete mobilisation.

Higher education (HE) and vocational education and training (VET) are two of the means by which Defence creates, sustains and deploys its intellectual capital. HE and VET provided by Defence or purchased from the national systems are primary means by which Defence people acquire the skills and knowledge that enable them to perform their functions. How Defence grows and develops its people will, in the end, largely determine the level and sustainability of Australian Defence capability. The national education and training systems and Defence’s relationship with them are therefore seen to be significant national strategic assets. If either the national or Defence education and training systems degrade, so too does Australian Defence capability.

DEFENCE EDUCATION AND TRAINING IN A CHANGING ENVIRONMENT

Defence Education and Training

The Defence education and training system is large. While it has a strong focus on key and unique warfighting skills (for example, tank gunnery), it also addresses many skills and knowledge shared with the wider Australian workforce (for example, management).

- The ADF has over 350 documented career streams for its 52,019 full-time personnel (as at 30 June 1999), each with defined patterns of education, training and experience. Many of these careers are directly comparable to careers in other industries.
- The Australian Defence Force Academy, through the University of the University of NSW, offers undergraduate education to ADF Officer trainees and postgraduate education to the Defence community. The Australian Defence College offers education at a postgraduate level to officers within the Defence Organisation. Defence maintains several agreements with Australian universities for the provision of specific higher education programs in fields such as scientific management and project management.
- The Defence Organisation has one Quality Endorsed Training Organisation (QETO) and six Registered Training Organisations (RTO). The Defence RTOs are actively seeking QETO status. Between them the Defence QETO and RTOs have over 350 current accredited VET qualifications listed on the National Training Information Service, most with multiple exit points.
- A member of the ADF can expect to spend over a quarter of their career in full-time Defence education and training. When they leave Defence, they will do so with at least one, and most likely several nationally recognised qualifications.

Defence is committed to the integration of its VET with the National Training Framework. This integration is the key externally directed element of Defence education and training strategy. Its basis is the commonalities in some of the work undertaken in Defence with work elsewhere and the stated outcomes of the National Training Framework.

For Defence, such integration is seen to facilitate:
- concentration of Defence’s limited education and training resources into those areas where only Defence can provide the VET required;
- benchmarking of Defence VET against other VET provision;
- articulation of Defence VET into other post-compulsory education and training;
- introduction of concepts such as ‘flexible careers’ whereby Defence people can alternate between Defence and non-Defence employment;
- recruitment actions, especially in times of mobilisation;
- retention mechanisms through the prospect of additional nationally recognised qualifications flowing from further Defence VET and service; and
- effective resettlement of Defence people into industry on leaving Defence through national recognition of skills and knowledge gained from Defence education, training and employment.

Defence believes that its education and training systems perform well. Australian Defence people are highly regarded world wide for their competence and professionalism. This is clearly demonstrated in the day to day performance of the ADF as evidenced in the succession of successful operations the ADF has been engaged in over the last two decades. Australian Defence education and training is also highly regarded in the region. Our regional neighbours look to the ADF as a source of education and training, as a source of expertise on VET, and, on occasion, as a model. Defence VET has a good reputation with industry, other VET providers, and State and Territory VET Bodies. Defence people, when they leave Defence, are highly employable.

There are considerable pressures on Defence to improve the efficiency and effectiveness of its education and training. Recent reductions in the size of the ADF, with 65% to be employed in combat or combat related areas, has meant extensive and ongoing restructuring of the Defence workforce, and also a need to reduce numbers involved at any one time in off-the-job education and training. The structure of the relationship between work and education and training is changing, both in response to these pressures in Defence, and to broader trends in national education and training.

As Defence can no longer afford to have a large percentage of its workforce at any one time involved in off-the-job education and training, alternative mechanisms for the delivery and assessment are required. This means not only investigating the implications of and, where appropriate, adopting technologies for the delivery and assessment of Defence education and training to the workplace, it means accessing alternative delivery and assessment modes from the national education and training systems.

Defence funding for education and training is unlikely to increase given other demands on the Defence budget. Defence education and training must, therefore, gain better leverage from the resources it has. This means not only becoming more efficient in the way Defence conducts its education and training, it also means drawing support more effectively and efficiently from the national systems.

Defence Interests in National Education and Training

Defence’s interests in national education and training are threefold. First, Defence requires access from all its locations to education and training services for all its people, including the families of ADF personnel. Defence also requires there be mutual recognition of qualifications awarded – between providers, and...
between States and Territories. The Defence workforce is diverse, dispersed and, for the ADF, required to be geographically mobile. In the past these factors have impeded effective implementation of education and training. Defence cannot afford to let this remain unchanged if it wants to continue the development of its intellectual resources, and also address the concerns of its members’ families.

Second, Defence requires quality services. Defence believes these are provided by the Australian Universities. Defence believes these can be achieved through implementation of the National Training Framework in the VET sector, in particular through those policies directed at strengthening competition among providers and access to diverse sources of supply, and through those policies directed at quality assurance – of Training Packages and VET providers. Defence does not believe that any one provider can meet all its education and training needs, or that it knows the education and training markets so well that it can afford to make choices without testing those markets. Accreditation and the registration of providers within quality frameworks are, in this context, important vehicles for the quality assurance Defence seeks.

Third, Defence requires flexibility in timing, location and mode of delivery through access to, and exploitation of, emerging learning technologies in education and training. Defence’s needs are diverse and often specific to Defence. Defence wants to be able to package both its own and purchased education and training services to meet its needs. It does not want to expend resources adjusting to the structures or processes of other education and training providers unless this is critical to the maintenance of quality service. In this context, the Principles of Mutual Recognition within the Australian Recognition Framework are important for Defence.

The challenge for Defence education and training is to determine how best to optimise its access to the national education and training systems to support these interests, even as those systems themselves continue to evolve and restructure. Defence’s aim is to develop a much closer relationship with both the HE and VET sectors in order to help them meet Defence’s needs. Defence wants as seamless a transition as possible between its education and training systems and the national systems. There are multiple efficiencies and benefits to Defence in utilising external systems to support Defence education and training.

Defence, therefore, actively supports national policy initiatives directed at improving Australia’s capacity to support and sustain the development and competitiveness of the Australian workforce in a global economy. A major result is an increasingly competitive environment for the provision of quality, flexible education and training services. In particular, recent national policies fit with Defence concerns about the place of, and importance of, education and training to Defence capability, particularly those policies directed at promoting: user choice, diversity of supply, flexibility in the packaging of education and training services (such as greater accreditation and cross recognition of qualifications), and flexible learning and the introduction of technologies to remove constraints of time and geography on education and training delivery.

**BUSINESS COMMITMENT TO HIGHER EDUCATION – A COMMERCIAL NECESSITY?**

Until recent times, few companies considered higher education as being anything more than a source of graduate recruitment. Some businesses offered scholarships or support to students and centres of higher education but, in truth, it was only to secure their seat at the recruitment table or perhaps as a gesture of social conscience.

Today, centres of higher education are interacting more directly with industry. These centres, due to their need to become more commercial as Governments decrease direct funding, are actively soliciting this increased interaction. The interaction however is also sought by both private and public business sectors as they drive to become ever more competitive and keep up with the accelerating rate of change of business and technology.

There is a real challenge in educating people in response to economic, technological and workplace change. This is the issue that needs much more energy, lateral thinking and determination.

If we take the issue as:

**How can business and the community provide well-timed, cost-effective education and training for the workforce to help ensure a continuously competitive national workforce in the face of accelerating change?**

... then a number of interrelated issues arise, e.g.:

- On-going competitiveness and survival (or the useful transformation) of individual businesses.
- Employee independence, well-being and employability.
- Re-employment, e.g. as a consequence of downsizing, career transition, etc.
- Increased business and national productivity.
“Workplace” education would have to be:
b. Well designed, on-the-job, at the time of need for the business and at the point of need for the individual.
c. Closely integrated with company policy development.

Businesses are facing challenges of a fundamentally different nature to that confronted ten years ago. To paraphrase some of the messages published in Issue 5 of BHERT News: the knowledge economy of tomorrow is with us today.

It is often stated that the only source of competitive advantage remaining is better learning and better knowledge management. The vision for Australian business should perhaps be to make itself more competitive in its operations by employing relevant knowledge wherever it is found.

To realise this vision, business has to overcome significant challenges. The traditional skills are becoming less important as knowledge in all its guises becomes available to all, via distance learning, the Internet or other technological advances. The real challenge for businesses will be educating employees to be able to process the overwhelming amount of information available and to retain the corporate knowledge database when people move between jobs in an ever more mobile workforce.

Business is meeting increasingly stronger international competition

All businesses now operate in an ever increasingly competitive environment. Competition not only is able to deliver business solutions “cheaper, faster and better” but also has the ability to recruit and retain skilled resources.

In a recent report based on a survey of Chief Executives in the upstream oil & gas industry, a major conclusion was that the industry faces a significant challenge to attract and retain the best and brightest talent for operations and management. Consistent downsizing over time and competition from growth areas such as telecommunications necessitate the industry taking steps to ensure a generation of talented employees is not lost, particularly as the trend in industry is towards contracting of services rather than permanent employment of staff.

Business/Higher Education Partnerships

If we accept that the challenges for business and industry today are significantly different from the time when most of today’s leaders and managers entered their current jobs, or worse, when they qualified, then how do we educate staff to cope in this changing world?

It is not realistic any more to assume staff will ‘pick up’ the required new skills on the job; business is now significantly dependent on centres of higher education to formally retrain existing resources (as part of lifelong learning) in addition to general recruitment needs.

BHERT Position Paper No. 1 (July 1998) discusses Higher Education in Australia: The Global Imperative. In brief the message is that Australia has to embrace the new knowledge-based economy and prosper through it; there is no alternative. Higher education is therefore critical to the future of this country, in creating a “learning society” in which all Australians of whatever social, cultural and economic background have access to a post-secondary education of value.

Since business is dependant on higher education centres, there is a responsibility for business to partner such centres to properly prepare new resources or retrain existing resources to take up new challenges and ultimately enrich both themselves and their companies.

Like any partnership, to be successful there have to be benefits for all parties involved. For business the benefits may include:
- ongoing training of resources to meet the demands of new technologies and changes in management processes, organisational structures and customer needs;
- access to centres for R&D;
- recruitment of appropriately skilled resources local to the market but with a global perspective;
- access to knowledge and competence from universities and research institutes for industrial development of new knowledge-based technology for immediate as well as strategic purposes;
- a different employment philosophy with an independent-minded, multi-skilled workforce; and
- structured frameworks for high-level conceptual thinking on business issues, such as strategy, globalisation, change, etc.

For the higher education centres, benefits include:
- delivery of relevant programmes to improve business performance;
- financial funding or in-kind contributions;
- customisation of education processes to the requirements of the ultimate employers;
- access to business leaders for mentoring of students (and academic staff);
- applied R&D projects; and
- partnering with business enabling cross exchange of ideas, systems and personnel.

continued over >

By
STEVE HINDMARSH
Director, Offshore Oil & Gas, Kvaerner Australia
The Commercial Necessity
In the new millennium, business direction will be dominated by a handful of highly creative and responsive worldwide organisations. In coming years, Australia has to continue to build on its technological strengths and creativity and continue to explore new niche markets to add even greater value to its world-class initiatives.
This new millennium vision will only be realised through the recruitment, ongoing training and retention of the very best human resources. Businesses which recognise this as a commercial necessity will be the most successful.

KVAERNER PROFILE
As an example of a company actively supporting higher education in Australia, some details of Kvaerner may be of interest.

Kvaerner is an Anglo-Norwegian business, with a London-based international headquarters. Annual revenues are approximately US$10 billion, with some 55,000 permanent staff located in more than 100 countries.

For the last two years, the Group has been ranked in first place by Engineering News Record, the respected U.S. engineering & construction journal, in its survey of ‘The Top 225 International Contractors’, ranked by revenue, scope of work and geographical spread.

In Australia, Kvaerner has established its position as a leading, technology-based engineering and construction contractor for the resource and process industries. With more than 50 year’s continuous operating experience in Australia, Kvaerner combines global strength with local presence, offering a full range of services from studies, engineering, procurement and construction, through to commissioning, training and third party operations and maintenance. Kvaerner operates through centres in Melbourne, Brisbane and Perth.

Kvaerner commitment to higher education in Australia currently includes:

- Membership of the BHERT Board of Directors through Chief Executive, Dr Mark Toner;
- senior management representation on UWA and Murdoch industry advisory boards;
- scholarships at under-graduate and post-graduate level at various Australian Universities;
- contribution to under-graduate and graduate training through participation in lecture courses;
- student vacation employment;
- graduate recruitment;
- the Kvaerner Excellence Prize awarded for the best project in the subsea technology module of the degree course Master of Oil & Gas Engineering, UWA;
- the Kvaerner Oil and Gas Prize awarded for the best MSc. Thesis for the degree Master of Oil & Gas Engineering, UWA; and
- the Kvaerner-sponsored Chemeca Design Prize for the best final-year chemical engineering design project in Australian Universities.

Kvaerner’s support for higher education in Australia is part of the Group’s worldwide commitment to R&D and close liaison with higher education institutions.

THE CONTEXT
The results of an Information Technology and Telecommunications (IT & T) Skills Task Force survey, released in September 1999, have confirmed what most of us already suspected: Australia faces a shortage of skilled employees in this industry with estimates of an additional 32,000 staff needed over the next twelve months, 89,000 over the next three years and 180,000 by the year 2004.

This estimated shortfall only takes into account business’ stated Australian requirements and does not attempt to estimate any net loss associated with those seeking overseas employment.

Consider as well that staff turnover in our industry is currently running at approximately 25 per cent on an annual basis according to the latest available AIIA surveys. One begins to appreciate the dimensions of the challenge faced by companies attempting to serve a growing market and manage sustainable growth.

Superimposed on these rather dramatic resource statistics is a dynamic Information Technology market place with constant change in the skills and competencies demanded by the pace of business evolution and technological change.

In recent years we have moved through successive phases of high demand for skills associated with technology based business initiatives like Enterprise Resource Planning, the demands of Y2K remediation, and now developments around the “Global Extended Enterprise” in areas such as Electronic Commerce and Customer Relationship Management. The GST will also place specific demands on the IT skills market in the short term.

In summary, an environment of skills shortage, rapid change and high turnover, as some companies react by buying the staff they need at ever increasing cost.
THE PLACE AND IMPORTANCE OF HIGHER EDUCATION

With a focus on the competitive environment and the dynamics previously described, no company will wish to waste dollars on education which lacks relevance or payback in terms of employee satisfaction and contribution to the bottom line. It is our experience that all options and delivery mechanisms have a place in an effective Higher Education strategy.

If we define Higher Education as all forms of post secondary education and training, a framework to examine its importance might follow the progression of a typical employee through their career with an IT consulting company such as DMR.

At the point of hire, undergraduate or post graduate qualifications would have been part of the initial selection criteria. These remain highly relevant as they not only demonstrate a level of mastery of a particular discipline and curriculum, but equally importantly, a level of commitment, and competence in areas such as analysis, scientific method and communication skills.

The IT services field accommodates graduates from many disciplines, not only those specifically focused on Information Technology. Close collaboration with tertiary institutions is very important to us as we seek to attract and select the candidates with appropriate strengths and these foundation skills.

Immediately after entry, the emphasis may shift to formal internal programs for orientation and induction, and then shift to substantial entry level programs aimed at a structured introduction to company processes, methodologies and techniques. These programs are particularly important for the graduate intake and for staff with no prior experience in the IT Services industry. They do however represent a substantial investment, including overseas travel, and need to be aligned with effective career planning and management if the investment is to provide a return.

On entering the fee generating workforce, our emphasis would shift to new sources, delivery mechanisms and pathways.

Staff may be directed back to, or privately undertake, a variety of short vocational courses from external tertiary institutions. When selected as part of personal or corporate career development and succession management programs, staff may also be supported in Diploma or Post Graduate programs.

In addition, specific short seminars and courses will be obtained through private sector organisations where these supplement our internal training capability.

Typical examples would be around the learning of soft skills such as negotiating and recruiting technique, as well as the certifications provided by product suppliers where these are required for specific projects and assignments, or represent a broadening of an individual’s capability and development.

Company support for this mix of external supply and delivery always passes through a filter of career management for relevance, business value and career enhancement.

As part of a “life-long learning” regime and a “just in time” approach to assignment roles and project demands, we also maintain internal training strengths focused primarily on our proprietary methodologies and techniques.

Over the years we have moved away from a reliance on classroom technique, and while this still has a place in the mix, we now rely more heavily on workgroup training on the job, accompanied by skilled coaches who review individual and team activity and provide focused personal attention to team members and the quality of delivery to the client.

To supplement this directed training we also provide a broad catalogue of courseware for computer based and self-paced education over the net.

CONCLUSION

It should not be difficult to accept the conclusion that Higher Education is both fundamentally important and intricately woven into our business.

No source of supply or delivery mechanism predominates in this mosaic and what is important to us is the most economic balance between external and internal sources of supply and the mechanisms to provide universal access and cost effective delivery.

To achieve optimum results from the training and education investment, clear policies are necessary, supported by effective career management and remuneration review. No company wishes to develop and upskill staff, at considerable cost, to find that a competitor places a higher value on their skills and capability.

While we have not yet embraced the concept of the internal “university” which we see emerging with large multinational and corporate entities, external education will increasingly compete with internal capability and delivery and must be prepared for this competition and also to be prepared to partner effectively in order to succeed.
Applications were sought earlier this year and were judged by a suitably qualified panel of judges under the chairmanship of Professor Leon Mann, Pratt Family Chair in Leadership and Decision Making, The University of Melbourne, and comprised:

Dr Bob Frater, AO  
Vice-President for Innovation, ResMed Ltd

Mr Peter Laver,  
Chairman, Ceramic Fuel Cells Ltd

Dr Jane Munro,  
Principal & Chief Executive Officer, Firbank Grammar School

Professor Vicki Sara,  
Chairman, Australian Research Council

Dr Peter Scaife,  
Director, Centre for Sustainable Technology, University of Newcastle

Ms Moira Scollay,  
Chief Executive Officer, Australian National Training Authority

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. National benefits
5. Cultural impact on the partner / organisation.

To be eligible at least one of the participants in the project or program had to be a member of BHERT.

The Business/Higher Education Round Table wishes to acknowledge the generous support of the following organisations:

**MAJOR SPONSOR**

The Industry Research and Development Board is an independent statutory body whose purpose is to administer specific Federal Government programs in support of industry-based innovation, and to provide advice to government on national industry-based R&D strategies and priorities. By these means, the IR&D Board has as its broad mission to increase the level and commercial success of industry-based R&D in Australia. In line with industry assistance programs, the IR&D Board utilises the services of AusIndustry (within the Dept of Industry, Science and Resources) as a single point of contact for businesses wishing to access the innovation programs.

AusIndustry, the Federal Government’s program delivery agency, is involved in a range of measures designed to encourage industry innovation. Specifically, it aims to encourage research and development and innovation within Australia. Programs administered through AusIndustry include the R&D Tax Concession and a range of programs which provide targeted support for basic R&D through to commercialisation and technology diffusion.

**SPONSORS**

Australian National University  
Central Queensland University

Edith Cowan University  
Griffith University

Mobil Oil Australia Limited  
P&O Australia Limited

Philip Morris (Australia) Ltd  
Queensland University of Technology

RMIT University  
Shell Australia Limited

The 1999 Awards were presented by Senator the Hon Nick Minchin, Minister for Industry, Science and Resources, at a dinner on Thursday, 18 November 1999, at the Hotel Inter-Continental, Sydney. Extracts from the Minister’s address prior to the announcement of the winning entries can be found on pages 28 to 29.
Turnover less than $50m per annum and Project/Program less than 3 years in train:

Winner: Curtin University of Technology
The Bank of Western Australia

Title: Electronic Commerce Network

Made possible by: Philip Morris Australia Limited

This program is to establish a self-funding regional Electronic Commerce research and education centre operating three businesses – education and training, research and development, and technology transfer and commercialisation.

Honourable Mention:

Dept of Mechanical & Manufacturing Engineering
(The University of Melbourne)
Advanced Engineering Centre for Manufacturing
Unidrive Pty Ltd
Gale Australia Pty Ltd
National Forge Ltd
Aerospace Technologies of Australia Limited

Title: Collaborative University/Industry Programme in Engineering Design

This program involves teams of final year undergraduates who work on collaborative projects with industry – systems design and product design. It is designed to enhance the technology base for local manufacturing industry. It provides fresh ideas and solutions to company problems.

Turnover less than $50m per annum and Project/Program more than 3 years in train:

Winner: Institute of Transport Studies
(The University of Sydney)
The Bus and Coach Association of NSW

Title: A Quality Partnership in Training, Education and Research

Sponsor: Griffith University

This program is a joint venture between the Institute of Transport Studies and the Bus and Coach Association of NSW, which recognised a need, and an opportunity to design, develop and deliver a transport management certificate program, as well as a framework within which ITS’s research could provide substantive outputs to assist a major sector of the transport industry.
Turnover more than $50m per annum and Project/Program less than 3 years in train:

Winner: Centre for Public Awareness of Science (The Australian National University)  
QUESTACON – The National Science and Technology Centre  
Shell Australia Limited

Title: Centre for Public Awareness of Science  
Sponsor: Queensland University of Technology

This program is a University Centre whose brief is to empower Australians by encouraging in them the confidence of ‘ownership’ of modern science. It is intended to increase science awareness in the Australian community and to improve communication skills of scientists.

Honourable Mention:

Morgan & Banks  
RMIT University

Title: Morgan & Banks – RMIT Strategic Alliance

This program is a Strategic Alliance between Morgan & Banks and RMIT University which brings together the two organisations’ established expertise in education, employment and career management to provide a comprehensive suite of services to individual and industry clients, as well as RMIT students.

Turnover more than $50m per annum and Project/Program more than 3 years in train:

Winner: The University of Sydney  
Australian Stock Exchange  
Sydney Futures Exchange  
Australian Financial Markets Association  
Computershare Limited  
Asia-Pacific Capital Markets Limited

Title: Efficient Security Market Design

Sponsor: Shell Australia Limited/P&O Australia Limited

This program evaluates the design of securities markets (e.g. regulation, technology, financial instruments, participants) with a view to ensuring that they provide the largest possible supply of cost effective capital to support industry product innovation and development.
Turnover less than $50m per annum and Project/Program less than 3 years in train:

Winner: Agricultural Machinery Research & Design Centre (University of South Australia)  
Horwood Bagshaw  
Title: Design and Evaluation of Tillage and Seeding Equipment  
Sponsor: The Australian National University  
This project is the application of AMRDC’s mechanical engineering Research and Development expertise to develop new products for agricultural machinery manufacturer Horwood Bagshaw.

Turnover less than $50m per annum and Project/Program more than 3 years in train:

Winner: School of Electrical & Electronic Engineering (Queensland University of Technology)  
Voxson International Ltd  
Title: Innovative Design and Development of Australia’s only Digital Cellular Telephone  
Sponsor: Central Queensland University  
This program was set up to provide final year Electrical and Electronic Systems Engineering students with experience in working on real-life projects at Voxson related to their activities at the cutting-edge of mobile communications. The success of this has now developed to the extent that almost the entire R&D team of Voxson is made up of QUT graduates. This team has designed and developed new digital mobile phone technology that is leading the world in design, functionality, weight and size.

Turnover more than $50m per annum and Project/Program less than 3 years in train:

Winner: Polymer Technology Centre (RMIT University)  
Huskibond (Div. of Ricegrowers Co-operative Ltd)  
Title: Development of Novel Commercially Viable Technology to Manufacture Value-Added Products from Rice Hulls and Recycled Polymer Waste  
Sponsor: Edith Cowan University  
This project will develop, demonstrate and commercialise novel technology that will be the basis of a commercially viable and novel manufacturing process to produce value added products for use in the building and transport industries from rice hulls and recycled plastic resins or binders.
For Outstanding Achievement in Collaborative R&D

Turnover more than $50m per annum and Project/Program more than 3 years in train:

Winner: Centre for Immunology & Cancer Research (The University of Queensland)  
CSL Limited

Title: Vaccines to Prevent and Treat Cervical Cancer

Sponsor: RMIT University

This project is the development of innovative vaccine technology for prevention and treatment of papillomavirus infection.

Honourable Mention:

BHP Steel  
The University of Sydney

Title: Research into Cold-Formed Open Section and Tubular Structural Members

A detailed research program has been undertaken at the University of Sydney for over 15 years. The program has involved detailed experimental and theoretical research into the structural capacity of cold-formed steel structural members.

For Outstanding Achievement in International Collaborative R&D

Winner: Centre for Magnetic Resonance (University of Queensland)  
Bruker Analytik

Title: Advanced Magnetic Resonance Technology – Manufacture and Development of Nuclear Magnetic Resonance Equipment

Sponsor: The University of Sydney

This Centre has successfully developed a series of probes and gradients that can be used in Bruker Magnets for research. The instruments are manufactured in their engineering workshop and distributed world-wide through Bruker Analytik.
Winner: Murdoch University
Curtin University of Technology
Dept of Minerals & Energy
AMIRA International
CSIRO Minerals
Acacia Resources Ltd
Alcoa of Australia
BHP Research & Technology Development
Comalco Aluminium Ltd
Nabalco Pty Limited
Normandy Mining Ltd
Pasminco Limited
Queensland Alumina Limited
Resolute Mining
Rio Tinto Limited
University of Queensland
WMC Resources Ltd
Worsley Alumina

Title: Hydrometallurgy Research at the A J Parker CRC for Hydrometallurgy

Sponsor: Mobil Oil Australia Limited

This project is to carry out cooperative research into the optimisation of hydrometallurgical processing of Australian alumina, gold, nickel, etc. It is intended to have carried out significant research in hydrometallurgy and to have transferred the results to industry; to have trained researchers in hydrometallurgy and provided relevant in-service training.

Note your diary
– applications for this year’s Awards will be called in May.
Thanks for the opportunity to be part of your Awards Dinner.

I am glad my Department was able to help sponsor the event and am pleased to be involved with a group led by two men I greatly admire – Roland Williams and Ashley Goldsworthy.

I have known and worked with Ashley for many years in the Liberal Party, which he led with great distinction as Federal President, and it has been a real pleasure to work with Roland over the past year in his former capacity as Chairman of Shell.

Ashley and Roland are outstanding examples of businessmen who make a huge voluntary commitment to their community – both have earned widespread respect.

I must confess that before becoming Industry Minister last year I was unaware of the Business/Higher Education Round Table.

Not being in business or higher education, I hope you’ll forgive me.

One year as Industry Minister has impressed upon me the importance of close collaboration between business and higher education. BHERT is to be congratulated on its work to achieve that objective.

BHERT’s core belief – that a prerequisite for a more prosperous and equitable society in Australia is a more highly-educated community – is one to which politicians on both sides could all subscribe. Greater prosperity and equity are indeed dependent upon achieving high skill levels through education.

Following the recent Republic referendum, there has been a fascinating public debate about why Australians voted ‘No’. Far too many Republicans condescendingly asserted that Australians were too ignorant to understand the virtues of the Republic on offer. To the contrary, as a ‘No Case’ supporter, I was amazed that the highly educated who voted ‘Yes’ appeared to lack the commonsense of the less well-educated ‘No’ voters!

The Referendum post-mortems have usefully thrown light upon the difficult subject of the emerging Great Divide in Australia between the well-paid and job-secure inhabitants of our inner cities, and their complete opposites in outer urban and regional areas of Australia.

Many in business and higher education no doubt thought the Republic on offer was a very progressive and attractive idea. The rest of Australia thought the Republic was utterly irrelevant to their daily lives. Thus the republic debate and the Victorian election did epitomise the development of two Australia’s and the gap between them.

No society that wants to survive can ignore this widening gap – but nor can we assume there are simple solutions.

The one thing it does highlight is the need to maximise the spread of opportunity for all Australians to realise their full potential – and the best way to achieve that is through education. Free societies offering opportunity inevitably reward some of their members with great wealth.
Our task is not to restrict opportunities to become wealthy, in the name of equity, but to ensure that as many as possible have an equal opportunity to achieve their own vision of a high quality of life. Achieving that goal requires a focus on economic growth, wealth generation and investment in education.

High rates of economic growth in developed economies are increasingly a function of the creation and utilisation of knowledge. The growing interaction between business and higher education institutions reflects the acceptance of that truth.

That interaction – which is what BHERT is all about – has recently been the subject of an important report by a Working Group of the Coordinating Committee on Science and Technology, chaired by Professor Vicki Sara.

My Department is releasing the Report tomorrow:

I commend it to your organisation – it’s a very useful analysis of the current state of university-industry interaction and how that interaction can be optimised in order to achieve the high levels of knowledge, skills and creativity needed to keep Australian business internationally competitive.

The report covers a range of significant issues, but in particular it focuses on barriers to research commercialisation in Australia, a matter of considerable importance to the Government.

It identifies the lack of an entrepreneurial culture in universities, and recommends developing award and incentive structures to encourage entrepreneurship by academic researchers.

This may be anathema to some purists, but an entrepreneurial culture is vital.

I recently read Lester Thurow’s latest book, “Building Wealth”. In it, he reports that his employer, the Mass. Institute of Technology has a long tradition of entrepreneurship. MIT graduates and faculty members have founded 4,000 companies employing 1.1m people with sales of $232B. MIT-founded companies collectively would form the 24th largest economy in the world. Thurow describes the MIT Enterprise Forum which allows those who have started new businesses to provide tutoring and mentoring for those who want to start new businesses. MIT has an annual $50,000 prize for the student with the best new business plan, and a $30,000 prize for the best MIT student-inventor of the year. I would love to see more Australian universities following MIT’s lead.

After a year as Industry Minister, it is very clear to me that the best thing the Federal Government can do to enhance research commercialisation in Australia is to lower our punitive Capital Gains Tax. Currently, CGT is killing any incentive to invest in commercialising research in Australia.

It is a huge turn off to foreign venture capital funds.

The CGT reforms we’ve announced in response to the Ralph Report are vital to our future prosperity.

Yesterday I announced another initiative to improve research commercialisation – our so called COMET Program.

Comet – Commercialising Emerging Technologies – is a $30m program over 3 years using private sector case managers to assist up to 900 individuals and businesses to develop skills and implement strategies to commercialise new products, services and processes.

It targets a clear gap in our innovation process. Comet will complement a range of Federal Government programs that support innovation.

In order to highlight the importance of Innovation, and to assess the health of our Innovation System, we’re joining with the Business Council of Australia to hold a National Innovation Summit next February.

The strong commitment by the Government and the business community to the Summit will focus on what we need to do as a nation to improve our innovation performance.

To that end I’ve read with interest your own recent survey of benefits from Commonwealth Government Business Programs.

I commend you on the report, and assure you we will be carefully analysing its findings.

No society that wants to survive can ignore this widening gap – but nor can we assume there are simple solutions.

The report demonstrates strong support for the R&D Tax Concession.

One issue that has dogged my 12 month tenure in Industry has been business indignation with reduction in concession to 125%.

I have been forced to remind business audiences of two things. We inherited a Government budget in disarray, and the burden of eliminating the annual $10b deficit had to be shared. And that Treasury wanted to reduce the Concession to 100%.

With the budget under real pressure, there should be no expectation of a restoration of the Concession to 150%. The $350m cost to revenue is money we simply don’t have.

However, I was pleased that there was no attempt during the Ralph Committee process to reduce the concession any further.

The Tax Concession is only one element of our support for R&D and indeed Australian public sector expenditure on R&D is proportionately the 3rd highest in the OECD.

The real issue we face is how to increase Australia’s relatively low business expenditure on R&D. This should be a key focus of discussion at the Innovation Summit.

I would like to conclude by congratulating tonight’s Award winners in advance, and thank Roland and Ashley for the opportunity to be with you tonight.
There is surely no doubt in anyone’s mind that science and technology are driving rapid social change. The pace is increasing with incredible speed, and still gaining momentum. It is very difficult to know what science, and society, will look like in 50 or 100 years, let alone at the end of the next millennium. Many developments that greatly impact our lives have occurred very recently indeed.

The revolution in information technology that has already transformed beyond recognition both the way that we work and the realities of the workplace is less than 20 years old. The consequences for employment in small towns have been disastrous, an effect that probably contributed to the Hanson phenomenon. Mid-level jobs are a threatened species. Top-down management styles and rigid administrative structures look more and more irrelevant and retrogressive in everything from business to universities. Competition in almost every sphere is increasingly global rather than local. We take our cell phones, our e-mail and the fact that we can fly to Europe or North America for a brief business or scientific meeting completely for granted. Think back a little. The consequences of the industrial revolution have been felt by the human family for less than 200 years. The first steam ships came to Australia in the 19th century: most people still travelled to the northern hemisphere by ship as late as the 1950’s. The death of a child that was so familiar to our great-grandparents and grandparents is now perceived as an unacceptable rarity, at least in the advanced societies. Antibiotics have been around for less than 60 years and the Salk poliomyelitis vaccine for about 40 years. Poliomyelitis may be eradicated from the world by 2002.

The progressive development of the statins, angioplasty and cardiac bypass surgery since the 1970’s has massively decreased the toll of vascular disease. Only 20 or 30 years ago, many of the senior leadership group were either dead of coronary thrombosis (or suffering severe angina) by 60 years of age. Among prominent Australians, Ian Clunies Ross and Howard Florey are just two whose contributions to society were lost far too soon. Recent experiments with genetically engineered mice give promise of a novel treatment for Alzheimer’s disease, a condition that poses enormous economic problems for long-term health care. Interestingly, this work was done in a California biotechnology company, not in a research institute or a university.

Prosperity in the greatest of all the economies, the United States is at (or close to) an all time high. This has occurred despite the massive shift in manufacturing to the developing countries. The high-polluting, “rust-belt” activities that drove wealth generation from the 19th century until well after the end of the second world war had moved to back stage. That industrial revolution is over, and we are in the early stages of a completely new era based on knowledge and insight. The wealthiest man in the world, Bill Gates, sells software, not computers. Ted Turner and Rupert Murdoch market entertainment and news, not
television sets and printing machinery.

The question that must obsess us is “How is the continued prosperity of Australia to be ensured in this new world?” An underlying reality is that this country has a solid base in the agricultural and mining sectors. In some senses being resource-rich has been a mixed blessing, encouraging the “she’ll be right mate/lucky country” type of thinking that led to the (hopefully historical) lack of commitment and energy on the part of too many Australians. A better way to look at our wealth of natural resources may be to think of them as a solid insurance policy that should allow us to be courageous and innovative.

There is, for example, probably enough coal in this country to fuel the world through the next millennium, with new clean-burning technologies again making coal an ecologically feasible energy source. Our research activities in both agriculture and mining are of very high quality and have considerable impact on the international scene. Even so, we are constantly reminded that primary production is extremely vulnerable to the ravages of the weather, the level of global activity in manufacturing consumer durables and the American farm lobby.

The same is true of tourism. Most of the reasonably fit, upper middle class Americans of my acquaintance want to visit, and dive on, the Great Barrier Reef. Those who have seen the Kakadu and the cave art leave with ineradicable memories and a sense of awe. The potential of the rapidly expanding demand for eco-tourism is immense. Preservation of our pristine wilderness areas makes the very best economic sense for the future, though this obvious message still escapes some and (for example) the fragile Cooper’s Creek wetland ecosystem continues to be under threat. Again, however, as we well realise from the Asian down-turn, tourism is very vulnerable to financial realities elsewhere.

The clear lesson is that any society that relies solely on primary production, tourism and service-based industries may have a base that is stable at a fairly low level, but cannot hope to enjoy consistent prosperity. Devolution to the status of global mine, farm and playground as a consequence of the free operation of international market forces is a dismal scenario. We have to do better than that or face the prospect of being a third-rate, technology-poor country functioning essentially as a colony of wealthy and powerful interests elsewhere. Where is the hope for succeeding generations of Australians in that scenario?

Many of those who are thinking seriously about the long-term economic viability of this country are looking to the new knowledge-based industries as a source of future prosperity. A committee of leading scientists and scientific administrators chaired by the Sydney businessman, Peter Wills, recently laid out this potential very clearly for the medical research and related biotechnology areas. The abbreviated version of the Will’s Report, “The Virtuous Cycle: working together for health and medical research”, makes extremely worthwhile reading. The underlying principles are of general validity for all areas of modern, research-based industrial development. It should be available from the government printing office, and I commend it to you.

The Federal Parliament, with the support of the Prime Minister and the Opposition, accepted the case made for “Wills” by the Minister for Health and Aged Care (Michael Wooldridge) and the recommendations are to be implemented in full. This means a 20% per annum real dollar increase in funding for each of the next 5 years, providing a great boost in both opportunity and morale for the outstanding (but hitherto increasingly beleaguered) medical research community. The question of realistic salaries, especially for senior scientists, needs to be dealt with, but this is presumably in hand. The dollar amounts when considered in the context of the Australian federal health budget are peanuts.

After more than 20 years of contraction, this 5 year doubling of the medical research budget may mean that Australia has turned a major corner in thinking about public support for science. Some of the States, particularly Victoria and Queensland, are being very innovative. Queensland is aiming for the emergence of a biotechnology “silicon valley”, driven by the “research engine” of the 3 Brisbane Universities (particularly the University of Queensland), the internationally-recognised Queensland Institute for Medical Research, and the local CSIRO laboratories.

The Victorian Government, following the thinking exemplified by the Premier and Development Minister, Mark Birrell, is pushing in the same general direction. Again, the Universities, the CSIRO Laboratories and the spectrum of prestigious private Research Institutes in Melbourne constitute a world class research enterprise, particularly in the Parkville precinct. The net result must be that any high technology player (such as a drug company) that is thinking of establishing activities in Australia will look first at Queensland and Victoria.

Fierce competition between States for new industrial development has long been a feature of the North American scene. The various legislatures vie with each other to offer tax concessions and the like to foster “start ups”, or to attract older companies that are seeking to develop new activities. There will be situations where Australia’s Federal government may have to enter just this competition if it is to persuade North American and European high technology-based companies to
locate activities here. Both cultural and legislative adjustment may be needed if we are to develop the necessary negotiating skills and flexibility of outlook that will make us credible, global players in this intense milieu. Do we even know how to speak the language? We need to learn it.

In general, the lack of industry-based research and appropriate industrial partners for biotechnology development is a cause for major concern in Australia. Some of the major companies have been decreasing, or even closing out completely, their research activities. Attempts at developing a venture capital type culture are not finding an easy road. Perhaps this will be helped by cutting capital gains taxes, but there is a sense of a much deeper conservatism. How are we to get around this?

The problem has to be tackled, and at least some of the initiative must come from the business community. Are we too risk averse, or is it simply that we lack the expertise to address this area? Maybe, as in the USA, many innovative business leaders of the future will be trained scientists. Americans often seem to me to get business skills with their mother’s milk. Do we need to look at our primary and secondary education systems from this regard? Perhaps it would help for young scientists to do business internships, either here or in the USA. Might the business community fund such a scheme?

At the other end of the spectrum, we must realise that there will be no innovation-based industrial development unless we keep both our educational institutions and basic science activities strong. Discovery oriented research both feeds in new ideas, and provides rigorous training for the best young minds. The logical development from biotechnology to small molecule (drug) therapy exemplified by the “Relenza” experience requires that we have strong bioinformatics and combinatorial chemistry, activities that are based in the core disciplines of mathematics and chemistry.

The universities are desperately in need of a “Wills” type initiative to increase the level of resources available for the peer reviewed research activities supported currently via the Australia Research Council. Further funds are essential to strengthen and maintain research infrastructure. These might, as in the USA, be best supplied as a realistic indirect cost rate on competitive grants. We must never lose sight of the fact that our top universities provide much of the human and intellectual fuel for the research engines that drive high technology development.

Most of us are good at identifying what is exciting now. We know that biotechnology has “legs”, and that there are enormous possibilities for the long term. This is a high-risk area, but the potential benefits are enormous. However, we should also keep in mind that the big question is always: “what next?” The trick is to be ahead of the game. Who could have predicted the internet? Maybe the next breakthrough will come ideas based in linguistics, or cognitive neuroscience, or social anthropology: who knows!

In the broadest sense, the more effort we make to provide in depth education across the board, the more we encourage innovation and experiment, the brighter the future is likely to be. Flexibility, both of mind and in our institutional structures, is essential. Nothing can be certain but change itself. We must act and think accordingly.
The Most Reverend George Pell, Roman Catholic Archbishop of Melbourne since August 1996, will deliver a luncheon address in Melbourne, on Friday, 5 May 2000 at the Sheraton Towers Southgate.

From 1987-96 he was bishop for the Southern Region of Melbourne and Parish Priest of Mentone. He worked as administrator of Bungaree parish in 1984 and served as assistant priest in the parishes of Ballarat East (1973-83) and Swan Hill (1971-72).

Archbishop Pell was appointed Director of the Aquinas Campus of the Institute of Catholic Education from 1974-84 and Principal of the Institute of Catholic Education 1981-84 (now merged into Australian Catholic University), he was Rector of Corpus Christi College, the provincial seminary for Victoria and Tasmania from 1985-87. He has a Licentiate in Theology from Urban University (Rome), a Master’s degree in Education from Monash University, a Doctorate of Philosophy from Oxford University and is a Fellow of the Australian College of Education. He was a visiting Scholar at Campion Hall (Oxford University) in 1979 and at St Edmund’s College, Cambridge University in 1983.

Dr Pell was Episcopal Vicar for Education in the Diocese of Ballarat (1973-84), a founding member of the Catholic Education Commission of Victoria (1973-84), a member of the Academic Board of State College of Victoria and at different times a member of the Councils of the State College of Victoria – Ballarat, the Ballarat College of Advanced Education and Signadou College, Canberra. In 1988-97 he was a member of the National Catholic Education Commission and Secretary to the Bishops’ Committee for Education from 1994-97.

In 1989 he was appointed Chairman of the Committee charged with setting up the new Australian Catholic University, and in 1991-95 he was foundation Pro-Chancellor. Since 1990 he has been a member of the Vatican Congregation for the Doctrine of the Faith. He is also a Consultant to the Pontifical Council for the Family and was a member of the Pontifical Council for Justice and Peace (1990-95).

In September 1996 Oxford University Press published Issues of Faith and Morals, written by Archbishop Pell for senior secondary classes and parish groups. Other publications by His Grace include The Sisters of St Joseph in Swan Hill 1922-72 (1972), Catholicism in Australia (1988), and Rerum Novarum – One Hundred Years Later (1992).

In earlier years the bishop was a keen sports coach in soccer, Aussie Rules and rowing. As a long term supporter and member of the Richmond Football Club, since he signed to play with them in 1959, he has been heartened by their return to form in the last couple of years. He is Vice Patron of the Richmond Football Club.

Members are asked to note these dates in their diaries. Further information will be given in due course.

---

**LEADERSHIP IN INNOVATION COURSE**

One of the most exciting initiatives BHERT is involved in is the unique Leadership in Innovation program.

The program is an intensive three-module live-in training course for prospective R&D managers developed by the CSIRO and the Business/Higher Education Round Table (a forum of business leaders and university vice-chancellors) with significant input into the program from BHP, F H Faulding, and the University of Melbourne.

The *Achievement Through Teams – Leadership in Innovation* program involves three residential periods of five days duration (commencing on a Sunday afternoon and finishing Friday lunch time). Module 1 is about Self-Management; Module 2, Team Building and Module 3, Organisation Culture and the Future of R&D.

The residential courses are held at small, quality conference centres close to capital cities. The course design is specific to the needs of R&D technical project leaders; brings together participants from across organisations and functions; encourages integration of professional behaviour with personal goals; and encourages leadership through trust, respect for others and generating enthusiasm for a project.

The program is highly responsive to individual and group needs and provides an environment where participants form a strong learning community and ongoing networks.

The cost of the course is $10,000, which includes accommodation and meals, all training, course materials and coaching between modules.

The Federal Minister for Education, Training and Youth Affairs has provided a 50% subsidy, amounting to $240,000, for 48 university participants to attend the program over the next two financial years.

Dates for Achievement Through Teams Courses for 2000 are as follows:

**ATT 12**

<table>
<thead>
<tr>
<th>Module</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5 – 10 March 2000</td>
</tr>
<tr>
<td>2</td>
<td>9 – 14 April 2000</td>
</tr>
<tr>
<td>3</td>
<td>21 – 26 May 2000</td>
</tr>
</tbody>
</table>

**ATT 13**

<table>
<thead>
<tr>
<th>Module</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 – 9 June 2000</td>
</tr>
<tr>
<td>2</td>
<td>16 – 21 July 2000</td>
</tr>
<tr>
<td>3</td>
<td>20 – 25 August 2000</td>
</tr>
</tbody>
</table>

**ATT 14**

<table>
<thead>
<tr>
<th>Module</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15 – 20 October 2000</td>
</tr>
<tr>
<td>2</td>
<td>3 – 8 December 2000</td>
</tr>
<tr>
<td>3</td>
<td>4 – 9 February 2001</td>
</tr>
</tbody>
</table>

Information: Margaret Redford, Ph: 02 6276 6265 or email: Margaret.Redford@lctd.csiro.au
BHERT has again been associated with the CRC Leadership Course, an intensive, innovative five-day program for outstanding PhD students and post-doctoral fellows.

The 1999 Course, which was held from 23-27 November in Townsville, was attended by young scientists and technologists from 13 Cooperative Research Centres across Australia.

Under the direction of Professor Leon Mann (Melbourne Business School) and Associate Professor Bob Marshall (CSIRO and Melbourne Business School) the participants developed their leadership and team building skills, and worked on their plans for career development and transition to the world of research and development.

BHERT awarded scholarships to two participants in the Course, Greg Doherty (CRC Reef Research Centre) and Rosalie Pollock (Australian Petroleum CRC) were selected as having outstanding potential for careers in research and development.

Greg Doherty's research project is the result of collaboration between industry (BHP Cannington, Queensland Nickel, Townsville Port Authority and the Great Barrier Reef Marine Park Authority), AIMS, CRC Reef and James Cook University, to assist the management of the potential risks posed by heavy metals in sediments of the Great Barrier Reef lagoon.

Work being undertaken includes the testing of statistical models to identify contaminant heavy metals from background and the development of new methods to measure sediment and water labile heavy metal concentrations in situ. This work will be used to provide meaningful guidelines to the community of North Queensland to ensure ecologically sustainable development of the region.

“The course was a pleasure to attend as it was well run and focussed towards learning skills of how to work better within teams and get the most out of teams of people. In particular the stakeholder sessions, where stakeholders of the CRCs were given the opportunity to discuss the role of the CRCs and future directions and opportunities within the CRC, was an excellent opportunity.”

Rosalie Pollock is into the second year of her Ph.D. (Petroleum Geology) at the National Centre for Petroleum Geology and Geophysics in Adelaide. The NCPGG is part of the Australian Petroleum CRC. Her project is based in the western Otway Basin in southern Australia and it is being sponsored by Boral Energy Resources and the South Australian department of mines (known as Primary Industries and Resources S.A.). The aim of her project is to document the basin fill history, using a technique known as sequence stratigraphy, which will help determine the locations of new sources of hydrocarbons.

“The Leadership and Career Development workshop was fantastic. I learnt a lot about myself and I was taught skills that I will use, not only in my career, but in my personal life as well. I gained an insight into team function with the practice gained from interacting with our syndicate groups. This will be invaluable to me in the future as companies in the petroleum industry regularly use multi-disciplinary teams to complete projects. I also found the discussions about communication very interesting and have already put some of the skills into practice!”

“Thankyou for giving me the chance to attend the Townsville workshop, I had a great week and thought this was one of the most useful, relevant and practical courses I have participated in.”
As a unique group of leaders in Australian business and higher education and research organisations, the Business/Higher Education Round Table (BHERT) sees as part of its responsibility the need to articulate its views on matters of importance germane to its Mission.

In recent times BHERT has issued several papers - copies of which are available from the BHERT Secretariat.

BHERT Paper No. 1 (June 1999) – R&D Leadership Training: Direct Contribution to an Enterprise

Background
One of the biggest issues facing an enterprise is achieving commercialisation outcomes in the face of unpredictable change. Nowhere is this more challenging than in the area of transforming ideas and inventions into fully developed products genuinely valued by the marketplace. Leadership of R&D activities, particularly the development phase, and achievement through teams are critical to the success of an enterprise where many multi-disciplinary interactions and complex processes must be orchestrated to achieve desired outcomes.

F. H. Faulding & Co. Ltd is a diversified health and personal care company. Faulding’s principal businesses are generic oral and injectable pharmaceuticals, consumer health products, the provision of distribution and retail management services to pharmacies and logistics management services to hospitals. Faulding markets its products to, and has representation in, over 70 countries and employs 3,500 people worldwide.

The Investment
The CSIRO-BHERT R&D Leadership Program was selected to be the vehicle to assist driving change and improvements in Faulding’s development processes.

Organisational Outcomes
Although the initial focus was on improved technical outcomes, an equally important benefit has been the major contribution of course participants in helping to resolve operational issues and implement major strategic and organisational change.

The team of trained participants has helped reduce total development and technology transfer times by 25-30%.

A significant increase in the number of parallel activities has been achieved with a greater number of projects and product introductions being handled simultaneously.

Personal Outcomes
Due to its experiential approach the course has had a lasting and positive impact on all participants. Without exception all participants realised significant personal outcomes from the course - both in their professional and private lives.

Summary
In the context of the enterprise, benefits from the course require a significant commitment from management to ensure that a “critical mass” of participants is built up as quickly as possible.

Based on this experience the critical mass for training is believed to be approximately 10% of potential leaders from all relevant functions and the return on this investment in training is at least 10-fold within the first year - (in Faulding’s case this represents a dollar contribution to the bottom line of $1.5 million in the first year).


Issue No. 5 (June 1999) of BHERT NEWS focussed on “The Knowledge Economy of Tomorrow”. This BHERT Paper extracts a number of statistical indicators from a document published in June 1999 by the Organisation for Economic Co-operation and Development (OECD), and provides some useful and interesting comparative data on Australia’s relative global position within the context of the knowledge-based economy.

BHERT Paper No. 3 (September 1999) – BHERT: Survey of Benefits from Commonwealth Government Business Programs

In recent times there has been considerable debate on the level of R&D undertaken by business in Australia, how we compare with other developed nations, and the trend of business expenditure over recent years.

Government programs designed to promote and encourage R&D and innovation obviously play a significant role in this context.

Raw statistics, whilst helping to measure and track levels of expenditure, do little to explain the underlying reasons for changes or trends in levels of expenditure.

BHERT recognises the fundamental importance of R&D as the main driver of innovation, and the critical role government policy plays in building a supportive infrastructure for R&D.

In this context BHERT decided to conduct a survey across a range of companies to try to better understand the reasons behind the statistics and the impact various Commonwealth Government programs were having on business R&D expenditure.

The Report identifies what the respondents saw as the critical issues in R&D support and provides a series of compelling short case studies highlighting the experience of the business community with various government business programs in support of R&D.
As a unique group of leaders in Australian business and higher education, the Business/Higher Education Round Table (BHERT) sees as part of its responsibility the need to articulate its views on matters of importance germane to its Mission. In recent times it has issued three Policy Statements – copies of which are available from the BHERT Secretariat.

**BHERT Policy Statements**


The Business/Higher Education Round Table (BHERT) comprises the chief executives of many of Australia’s major corporations and the vice-chancellors of Australia’s universities, with the mission of advancing the goals and improving the performance of both business and higher education for the benefit of Australian society.

Education and training is a key ingredient in growing and developing the Australian economy. The industries of tomorrow are going to be increasingly knowledge-based. Higher education therefore is critical to the future of this country; in creating a “learning society” in which all Australians, of whatever social, cultural and economic background, have access to a post-secondary education of excellent value.

Without a national vision and sufficient investment in our higher education system, Australia and today’s young Australians are likely to be marginalised as the region moves towards higher welfare standards and more advanced social and political structures. Our goal is that Australia must develop the expertise of its human resources so that it is a significant regional leader in professional, service, education and technological fields.
In today’s environment there is a certain tension which universities and their staff feel in attempting to maintain the traditions of high quality research, scholarship and teaching.

Increasingly, reducing resources, coupled with a greater emphasis on revenue raising and entrepreneurial activities as well as inter-institutional competition, both domestic and international, have led universities and their staff to question their capacity to maintain the quality of the learning experience that they provide and the values of the research they undertake.

BHERT has identified the necessary key features of the higher education sector in this country – the prerequisites for Australian universities to compete effectively at the highest international levels.

Position Paper No. 2 (October 1998) – The Development of Cooperative Research Centres

CRCs were established in Australia in 1991 to foster ties between universities, industry and government departments and research organisations, in order to bring research closer to commercial realities and provide education and training opportunities. The program was established to address a number of specific issues, among which were:

1. The need to ensure that advances in science and technology were linked to applications in various sectors of the economy.

2. Related to this was the need to improve international competitiveness. The need to ensure that Australia’s undergraduate and graduate programs in science and technology were of world class; specifically involving researchers from outside the higher education sector to ensure better quality and performance.

The CRC Program was to play an important role in ensuring that Australia benefited from the strength of its science and technology resources. Specifically, it would help ensure that Australian research and research training remained at the forefront in those areas of specific importance to the country as a whole.

There are 67 Centres currently operating in six industrial areas:

- manufacturing technology;
- information and communication technology;
- mining and energy;
- agriculture and rural based manufacturing;
- environment; and
- medical science and technology.

Overall the program has resulted in a strongly positive effect on Australian spending on research and development by government departments, universities, CSIRO and other public R&D agencies and industry.

Position Paper No. 3 (April 1999) – The Case for Additional Investment in Basic Research in Australia

In the latter half of this decade many OECD governments, including the US, Japan, Germany, UK and Canada, have recognised public investment in basic research as essential for economic development. Emerging Asian economies, despite the setbacks of the recent financial crisis, are maintaining growth in public investment in R&D including basic research. All these countries have provided additional funding for basic research despite competing budget priorities.

Much of the economic growth in this decade is attributable to the growth of knowledge based industries particularly those associated with information technology and biotechnology.

Returns on investment in basic research over the next decade are expected to be even greater than in the 1990s. Completion of the sequencing of the human genome scheduled for 2003, for example, will provide unprecedented opportunities for growth in biotechnology industries for countries able and willing to position themselves. Australia is one of only eight to ten countries that have this capability. Continuing rapid advances in information and communications technologies provide immense opportunities for nations prepared to exploit them.

As in the case of the UK, where substantial funding increases for research were provided within the context of a Competitiveness White Paper, Australia needs to ensure that additional funding is provided within a broader policy framework. Such a framework should ensure maximum returns from this investment through diffusion of knowledge to industry and community, improving the skills level of the workforce, encouraging organisational culture change and collaboration, and promoting competition.
On 17 November 1999, BHERT convened a one day Higher Education Summit, for members only, which was attended (all day) by the Hon. Dr David Kemp, MP, Federal Minister for Education, Training and Youth Affairs.

The meeting was very successful and feedback from those participating was extremely positive, as was the Minister himself. The real success will be in the outcomes that flow from the meeting. The meeting itself was useful as the commencement of a regular dialogue between BHERT and the Minister. It also highlighted a number of issues that needed to be addressed by various stakeholders in higher education.

Another benefit was that the Minister indicated quite clearly that he welcomed advice from a variety of sources, and he saw BHERT as being a valuable potential source of advice.

This opens up some new opportunities for BHERT, and it would be remiss of us if we did not grasp the moment.

As a consequence we sought volunteers from our membership to establish Task Forces on some key issues. The objective of a Task Force is to examine an issue and produce a Position Paper for the Minister that gives him an option or perhaps several alternative options for addressing that issue.

The response was overwhelming. Below is a list of the Task Forces that have been established and their membership.
Mission Statement

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

It is a forum where leaders of Australia’s business, research and academic communities can jointly examine important issues of mutual interest, to improve the interaction between Australian business and higher education institutions, and to guide the future directions of higher education.

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

BHERT 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.

The membership of BHERT comprises, by invitation, the chief executives of major Australian corporations and research organisations, and the vice-chancellors of Australian universities. BHERT pursues a number of activities through its Working Groups, State Chapters and active alliances with relevant organisations both domestically and internationally. It publishes a regular newsletter (BHERT NEWS), reporting on its activities and current issues of concern relevant to its Mission.
PRESS RELEASE:

Dr Roland Williams, President of the Business/Higher Education Round Table (BHERT), was made a Commander in the Order of the British Empire in the New Year’s Honours list of the United Kingdom.

Professor Ashley Goldsworthy, Executive Director of BHERT, said that Dr Williams was accorded the honour for his services to British-Australian relations.

Dr Williams recently retired as Chairman and Chief Executive of Shell Australia. He has been President of BHERT since 1997. Professor Goldsworthy said that Dr Williams was a very active and committed President who played a significant role in the affairs of BHERT, and provided inspired leadership in advancing the cause of higher education in Australia.

BHERT’s mission is to pursue jointly initiatives that will advance the goals and improve the performance of both business and higher education for the benefit of Australian society.

It is a forum where leaders of Australia’s business, research and academic communities can jointly examine important issues of mutual interest, to improve the interaction between Australian business and higher education institutions, and to guide the future directions of higher education.

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

Dr Williams had a distinguished business career. Following graduation and research in chemical engineering in the UK and France, he joined Shell in the Netherlands in 1963. Over the next fifteen years he worked in oil refining technology, operations and management in various countries including the Netherlands, Thailand, the United Kingdom and Australia where he was Refinery Manager at Geelong. This was followed by five years in oil supply and trading, firstly in Shell Netherlands and then as Vice-President in the Group’s European Region. His next assignment was as Chief Executive of the Shell Companies in Sweden and in 1987 he took up the positions of Coordinator, Coal and Natural Gas for the Royal Dutch/Shell Group of Companies and Managing Director of Shell Coal International and Shell International Gas, London.

Dr Williams has an eclectic sphere of interests ranging from an ardent pursuit of rugby, as befits a Welshman, to being a director of the Melbourne Symphony Orchestra.

For further information, please contact: Professor Ashley Goldsworthy 0414 952 273

25 January 2000

PLEASE NOTE THE FOLLOWING DATES FOR BHERT MEETINGS IN 2000:

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Time</th>
<th>Additional Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, 23 May 2000</td>
<td>Sydney</td>
<td>4pm - 7pm,</td>
<td>followed by dinner at which Dr Robin Batterham,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chief Scientist, will deliver the after-dinner address</td>
</tr>
<tr>
<td>Thursday, 16 November 2000</td>
<td>Melbourne</td>
<td>2.30pm - 5pm</td>
<td>(inclusive of Annual General Meeting), followed by Awards dinner</td>
</tr>
</tbody>
</table>