

## Issues paper for Shared Technology 2

### **Background for this project**

As the working title of this current project suggests, there is an initial report titled *Shared Technology: A Roadmap for Emerging and Traditional Industries to 2008*.<sup>1</sup> This previous report and this current project have been funded by the Australian National Training Authority (ANTA) through the EE-Oz Skills Council. In this first report an overview of the types of technology that were likely to be shared among a number of industries was reviewed and highlighted. The industries highlighted revolved primarily around those industries that used electronic devices and these industries included automotive, building and construction, electrical, electronics, engineering, information technology and telecommunications.

This report found that there is an expected increased use in information and communication technologies (ICT) including wireless communications across all of the industries mentioned above. Additionally these ICT devices will gather and convey more information that will need to be interpreted and managed. Four major themes were identified and these are that:

1. most information systems will be increasingly open-systems where information can be shared more easily;
2. an awareness of the pending changes is important for planning within the workplace;
3. the delivery of training is not well organised and is fragmented residing within traditional subject areas in training providers; and,
4. existing workers are the focus for this training and need to learn these new skills through user-friendly training programs.

The initial report concluded with the suggestion that the following issues be further researched.

1. How will training systems and the related infrastructure respond in a timely and flexible manner in order to meet business expectations?
2. How can the skill sets that reside across industries be acknowledged and responded to in an effective manner? This issue includes the gathering of advice from industry leadership for use within the training system.
3. With the intention of improving the quality of Australia's skills pool and the training system, how is the adoption of these technologies to be linked to national workforce planning, strategy formation and implementation?

### **Progress since the release of Shared Technology Report**

The first report has been highly regarded by a number of organisations including ANTA. In its inaugural National Industry Skills Forum in September 2003, ANTA used the report as a focus for discussion and feedback from the invited guests.<sup>2</sup> ANTA also invited the author to a Roundtable Discussion on Innovation<sup>3</sup> that formed part of its National Strategy for VET

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<sup>1</sup> Lindhjem, A. (2003). *Shared Technology: A Roadmap for Traditional and Emerging Industries to 2008*. Brisbane, QLD: Australian National Training Authority. Available: <http://www.anta.gov.au/sharedtechnology.asp>. Accessed: 27 May, 2004.

<sup>2</sup> ANTA. (2003). *National Industry Skills Forum Report – Melbourne 30 September, 2003*. Brisbane, QLD: Author. Available: <http://www.anta.gov.au/publication.asp?qsID=602> Accessed: 27 May 2004.

<sup>3</sup> ANTA. (2003). *Innovation through Partnerships*. Brisbane, QLD: Author. Available: <http://www.anta.gov.au/publication.asp?qsID=563> Accessed: 27 May 2004.

2004-2010 *Shaping our Future*.<sup>4</sup> The national broadcaster, the ABC, featured the report in a short radio program on *Life Matters*.<sup>5</sup> The author has also contributed to an up-coming NCVER publication on VET and innovation which provides some suggestions for the development of partnerships between emerging industries and the vocational education and training (VET) community.<sup>6</sup>

Other organisations such as the Australian Electrical and Electronics Manufacturer's Association (AEEMA),<sup>7</sup> the Victorian Department of Education – Specialist Centres and the Western Australian Department of Education and Training have used the report to further their strategy planning. Individuals within VET who have been made aware of the report through industry publications (such as EE-Oz's newsletter) have relayed personal comments regarding their use of the information included for their own personal planning. The report remains available through the ANTA and the Shared Technology website.<sup>8</sup>

### ***What this project will provide***

The aim of this project is to identify the extent to which the impact of converging and shared technology across a number of key industry sectors is having on the formal VET delivery system and how it, at best, effectively addressed the needs of new and emerging workforce.

The outcome of the project is to produce a comprehensive report with related recommendations. The industries covered will be automotive, construction, property services, energy, electrotechnology, communications, manufacturing and engineering and information technology vocations. The emphasis will be upon the impact that converging and shared technology is having across these key industry sectors on the formal VET delivery system. It will advise how it best to effectively address the needs of a new and emerging workforce.

Two questions will be investigated. These are:

1. How is shared technology redefining work and therefore the VET level skills required by the Australian workplace in the next five years? To this end, the project will investigate how both a range of relevant companies, as well as individual workers are cross the chosen industries engage in and absorb new and shared technologies.
2. What VET level training models and institutions could provide the best options in dealing with the impact of shared technology in the workplace? The project will provide an overview of the current VET system in terms of its capacity to effectively deliver against the needs of shared technology and the changing workplace. Included will be the identification of strategies within the existing VET system that will enable maximum responsiveness to meeting industry requirements for new technology training deliver over the next five years. This will include public and private training providers.

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<sup>4</sup> ANTA. (2003). *National Strategy for VET 2004-2010 Shaping our Future*. Brisbane, QLD: Author. Available: <http://www.anta.gov.au/dapstrategy.asp> Accessed: 27 May 2004.

<sup>5</sup> ABC. (2003). *The Unmet Demand of the Electronics Industry*. Canberra: Author. Available: <http://www.abc.net.au/rn/talks/lm/stories/s947867.htm> Accessed: 27 May 2004.

<sup>6</sup> Dawe, S. (2004). How VET Can Enhance Innovation's Economic Impact. Adelaide: NCVER. Available: <http://www.ncver.edu.au/newsevents/insight/issue13/innovate.html> Accessed: 27 May 2004.

<sup>7</sup> Australian Innovation Exchange Network (2004). *Technology Roadmap to 2020*. Available: [http://www.innovationexchange.com.au/networknews.read.html?ft\\_id=00000000114](http://www.innovationexchange.com.au/networknews.read.html?ft_id=00000000114) Accessed: 27 May 2004.

<sup>8</sup> Available: <http://www.anta.gov.au/sharedtechnology.asp> or for information on the current project <http://www.sharedtechnology.net.au>

The timeframe for completion and the methodology are outlined below.

### ***Current thinking and planning amongst other key economies***

As part of the development of the project and for the preparation of this issues paper, a synopsis of current thinking and planning among other key economies has been prepared. Much of what is available to be reviewed comes from the policies of European-based organisations who have been aware of the increase in technology use and a rapidly aging workforce. The information centres around the broad heading of “lifelong learning” rather than technology adoption or workplace learning. It is this keyword that has been used in the literature search in preparing this section of the issues paper. While there is a general interest in lifelong learning for the purposes of this report, the main focus of this report are some of the subsets of lifelong learning. Specifically those issues that deal with existing workers rather than building a national culture which will allow for rapid adoption by the general public of new concepts and skills.

The following lengthy definition of lifelong learning has been developed by the International Labour Organization and provides the basis for this review.

“Visions of lifelong learning often have different underlying objectives. Sometimes lifelong learning is emphasized for its presumed effectiveness outcomes, for example as a means of making labour markets operate more efficiently, improving productivity by assisting workers develop skills and adapt to change in the work place and seize opportunities that globalization and more open markets may offer. Other visions and statements see lifelong learning as emphasizing equity objectives: giving vulnerable groups a chance to improve their labour market prospects and act as a vehicle of social inclusion, helping people come out of dependency and low expectations, and overcoming the wastage of potential talent in a vicious circle of under-achievement, self-depreciation, and petty crime. It is claimed that learning can overcome these negative phenomena by building self-confidence and independence.”<sup>9</sup>

As outlined above, some of the policies are directed towards a ‘learning for all’ approach through an Adult and Community Education position to build a national character for lifelong learning. This approach includes citizenship, bilingual abilities (in non-English speaking countries), basic literacy (primarily in English speaking countries) and personal growth. Others, especially the United States, are more focused on ensuring that there is capacity in the lower-end of the workforce to support commerce rather than for nation building. This looks at the important areas of team-work, customer relationships, technology use and general literacy. These reported policy positions reflect aspects of the local conditions and the ideology of the nation.

While each view point accepts that informal learning occurs by individuals or within enterprises this is largely ignored. Instead each view provides direction for the development of institutional training (publicly or privately funded), incentive systems for disadvantaged workers and, to a lesser extent, those individuals already in work. It is acknowledged that of those already in the workforce the best educated workers are usually the first to receive additional training<sup>10</sup> and this may lead to the existing, less well educated worker being overlooked by managers who are considering the allocation of educational resources. That is, individual decisions by managers (as to who would be the most likely to benefit from the limited resources available for additional training) affect the development of the total

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<sup>9</sup> ILO. (2004). *Lifelong learning in Asia and the Pacific: Policies and practices*, p. 7. Geneva: Author. Available: [www.ilo.org/public/english/employment/skills/download/event/lll\\_meeting\\_bangkok\\_report.pdf](http://www.ilo.org/public/english/employment/skills/download/event/lll_meeting_bangkok_report.pdf) Accessed: 5 May, 2004.

<sup>10</sup> Ashton, D., & Green, F. (1996). *Education, Training and the Global Economy*. Cheltenham, UK: Edward Elgar.

workforce by excluding those who may need the most assistance. These decisions are widespread and have affected the opportunities for up-skilling within many organisations.

One final point, the position taken by each organisation regarding the relevant issues for this paper has not been critically reviewed. It is believed that the communication of the policy position should be without comment in order to provide a review without introducing personal ideologies.

## **International policy positions for existing workers and up-skilling**

### **United Nations Educational, Scientific and Cultural Organization (UNESCO) International Labour Organization (ILO)**

These organisations provide an in-depth policy analysis and recommendation for technical and vocational education and training that focuses on equity and labour force development through combinations of on-the-job and flexible off-the-job training. One interesting differentiation from other policies is UNESCO and the ILO have identified the role of lecturers and teachers within the training system. It is suggested that these individuals move away from a narrow technical focus towards one that is more inclusive with other technical specialities as well as the social, economic, environmental and cultural contexts. Additionally, the requirement for continuing professional development does not end with the front-line staff but also extends to management and the administrative roles within training providers.<sup>11</sup>

The ILO has prepared an agenda item for its 92nd Session in June 2004 that looks at the issue of international cooperation for human resource training and development. In a paper prepared after the 91st session, the ILO encourages basic education, the development of core work skills (generic competencies) and the ability to participate in lifelong learning. “Workers will need more knowledge and higher technical skills in order to be able to exploit the productive potential of advanced technologies, particularly ICTs.”<sup>12</sup>

### **Organisation for Economic Co-operation and Development (OECD)**

The OECD recognised the importance of having a workforce that is familiar with continuing education and learning since 1996 and this issue of lifelong learning is central to the OECD’s review of adult learning. There is a recognition that the cultural and societal demand for continuing education is a major influence for the adoption of learning activities. There is also an acknowledgement that those who are least interested in learning or who have been forced into learning are the first to withdraw from these opportunities. Therefore continuing education is more often accessed by those who already have reasonable levels of education. There is a recommendation that ‘social partners’ are included within policy development along with bipartite (employers and unions) and tripartite (governments, employers and unions) arrangements.<sup>13</sup>

Perhaps the reason for this is the self-assessment by those who are less well educated or have lower skills from continuing education. This group (identified through European data) has been found to assess their skills as being sufficient even though these are objectively

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<sup>11</sup> UNESCO, ILO (2002). *Technical and Vocational Education and Training for the Twenty-first Century*. Paris: UNESCO; Geneva, ILO. Available: <http://unesdoc.unesco.org/images/0012/001260/126050e.pdf> Accessed: 19 May, 2004.

<sup>12</sup> ILO. (2001). *Learning and Training for Work in the Knowledge Society*, p. 41. Geneva: Author. Available: [http://www.ilo.org/public/english/employment/skills/recomm/report/ch\\_int.htm](http://www.ilo.org/public/english/employment/skills/recomm/report/ch_int.htm) Accessed: 24 May, 2004.

<sup>13</sup> OECD. (2001). *Thematic Review on Adult Learning: Highlights, Emerging Issues and Lessons to Date*. Paris: Author. [http://www.oecd.org/LongAbstract/0,2546,en\\_2649\\_34511\\_2077964\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/LongAbstract/0,2546,en_2649_34511_2077964_1_1_1_1,00.html) Accessed: 9 May, 2004.

measured as 'below standard' and who then have no perceived need continuing in education and therefore do not participate. This then is of particular concern for policy makers in encouraging this group to re-engage with the education system and convincing them to remain.<sup>14</sup>

### **World Bank**

In its recent review of the global knowledge economy and lifelong learning, the World Bank recognises the importance of changing the way that training is delivered. While on one hand there is the encouragement for governments to provide more funding, the Bank emphasises the importance of privately-funded training institutions in the provision of training. The Bank notes that institutionalised training providers suffer from 'reform fatigue' and that it is not equipped to deal with continual change. The recommendation is for a semi-regulated system that includes quality assurance mechanisms; accreditation; and, better coordination between public and private training providers through government agencies.<sup>15</sup>

### **Europe**

There are a number of organisations who have developed policy statements and positions for the up-skilling of existing workers. Among these are the European Commission and a number of other organisations such as European Centre for the Development of Vocational Training (CEDEFOP). Central to these policy positions are the recognition of an aging population and the need to encourage existing and older workers to continue in employment. Additionally, European thought is conscious of the need to ensure equity and access to all citizens and to avoid discriminative practices within continuing education as well as to build a democratic and tolerant community.

To a certain extent, the European vocational education environment is similar to that of Australia in the early 1990s where there is the need for recognition of prior learning, standardisation of competencies and for the portability of qualifications within the European Community. Interestingly, it is reported that European participation in training of those who are of working age varies from over 90% to around 10% of population.<sup>16</sup>

### **European Commission**

The European Commission has been working on developing policies and positions related to lifelong learning since 2000. The Commission reports that the "traditional policies and institutions are increasingly ill-equipped to empower citizens for actively dealing with the consequences of globalisation, demographic change, digital technology and environmental damage. Yet people, their knowledge and competences are the key to Europe's future."<sup>17</sup> However the goals of this particular approach are more related to the entire population than a particular section of the workforce.

### **Individual Countries**

As would be expected, each country within the European Union funds the training system and provides incentives differently. A recent review provides a detailed summary of these funding

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<sup>14</sup> OECD. (2003). *Beyond Rhetoric: Adult Learning Policies and Practices*. Paris: Author.

<sup>15</sup> The World Bank. (2003). *Lifelong Learning in the Global Knowledge Economy: Challenges for Developing Countries*. Washington, DC: Author. Available:

[http://www1.worldbank.org/education/lifelong\\_learning/lifelong\\_learning\\_GKE.asp](http://www1.worldbank.org/education/lifelong_learning/lifelong_learning_GKE.asp) Accessed: 24 May, 2004.

<sup>16</sup> Reading, V. (2003). Comment on 'Making a European Area of Lifelong Learning a Reality'. Available:

[http://europa.eu.int/comm/education/policies/life/index\\_en.html](http://europa.eu.int/comm/education/policies/life/index_en.html) Accessed: 22 April, 2004.

<sup>17</sup> Commission of the European Communities. (2001). *Making a European Area of Lifelong Learning a Reality*, p. 3. Brussels: Author. Available: [http://europa.eu.int/comm/education/pdf\\_en.html](http://europa.eu.int/comm/education/pdf_en.html) Accessed: 19 May, 2004.

arrangements and subsidies that includes training levies, assistance for unemployed workers, loans, and incentives for employers.<sup>18</sup>

### **Finland**

In a number of reports, the Finish VET structure is noted as having a very friendly system for existing workers with reports that there are more mature aged students studying than school leavers. Changes were made in Finland in the late 1980s in response to a growing skills shortage for skilled labour and a very inflexible technology-centric vocational education structure that prevented the sharing of ideas outside of industry boundaries. These changes were underscored with the commitment to good performance and high quality output and included up-skilling of the individuals who were delivering this training. A large number of provisional vocational colleges were established and were allowed to examine and respond to their markets. Not all of these colleges were expected to be viable and those who were not were closed or amalgamated into the successful colleges. In a very real sense, Finland completely overhauled its VET delivery system and is now recognised as a highly innovative country.<sup>19</sup>

### **Asia**

There are a number of international organisations who are interested in promoting lifelong learning within the workforce in Asia. The ILO provides a good overview of lifelong learning in Asia<sup>20</sup> as well as the Asian Pacific Economic Cooperation (APEC) group. There is a growing awareness that lifelong learning is important with countries such as Japan, the Republic of Korea and Thailand introducing laws to ensure the availability this education. These changes and emphasis on retaining an aging workforce are believed to be as a result of the recognition of skill demands during the rapid economic development in this area in the early 1990s and the increase in unemployment in the later part of the 1990s. The approach to lifelong learning and workplace-relevant learning does differ amongst these countries. For example Japan relies primarily on enterprise-funded training and Singapore relies upon institutionalised training.<sup>21</sup> Some Asian initiatives are discussed below.

### **Singapore**

The Singaporean Skills Development Fund has actively encouraged employers to enrol their employees in non-formal, recognised basic education programmes that are administered by the Institute of Technical Education. Legislation requires employers of low-paid employees to contribute around 1% of the total wage to this fund. The programs available to workers joining or re-entering the workforce include:

- Basic Education for Skills Training (BEST) Programme – provides basic literacy and numeracy training;
- Worker Improvement through Secondary Education (WISE) – a programme for adults to improve their competency in English and maths;

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<sup>18</sup> Petrie, V. (2003). *New Learning and Older Workers: An Overview of Resources & Methodological Analysis of a Project Undertaken in a Framework of the Cedefop Research Arena (Cedra)*. Thessaloniki, GR: CEDEFOP. Available: [http://www.theknownet.com/rem\\_d\\_nnQ6100/knwa\\_t\\_oBB13685/listing.fcgi](http://www.theknownet.com/rem_d_nnQ6100/knwa_t_oBB13685/listing.fcgi) Accessed: 18 May, 2004.

<sup>19</sup> OECD. (2003). *The Science, Technology and Industry (STI) Scoreboard 2003*, Paris: Author.

<sup>20</sup> ILO. (2004). *Lifelong learning in Asia and the Pacific: Policies and practices*. Geneva: Author. Available: [www.ilo.org/public/english/employment/skills/download/event/III\\_meeting\\_bangkok\\_report.pdf](http://www.ilo.org/public/english/employment/skills/download/event/III_meeting_bangkok_report.pdf) Accessed: 5 May, 2004.

<sup>21</sup> Han, S. (2001). Creating systems for lifelong learning in Asia. *Asia Pacific Education Review*, 2(2), 85-95. Available: <http://aped.snu.ac.kr/prof/aper/aper%20data/2-2/09-Soonghee%20Han.pdf> Accessed: 25 May, 2004.

Critical Enabling Skills Training (CREST) – gives individuals generic competencies considered vital for individuals meeting the changing needs in the workplace; and,

Modular Skills Training (MOST) – is offered by the Institute for Technical Education to working adults to help them up-date and up-grade their technical knowledge and skills on a part-time basis.

### **Thailand**

Non-formal education programmes are run by government departments, state and private enterprises, NGOs and schools target students who have no secondary education. Pre-employment courses include basic skills training in electrical, automotive and construction technology. Enterprises face increasing pressure from investors to improve performance and quality, particularly among car manufacturers. A government intermediary institution specializing in technology transfer and training, the Metal Industries Development Institute (MIDI), assists small firms in metalworking and associated sectors in upgrading their technology, training and production processes. MIDI has helped establish sectoral entrepreneurial associations which transmit to MIDI and other institutions their needs for training and other services.<sup>22</sup>

### **Korea**

An employment insurance program is in place that provides not only for unemployment income but also for upskilling within or outside of the workplace, outplacement assistance and incentives to employers to hire older workers and long-term unemployed.

### **Indonesia**

The Indonesian Government is actively pursuing the development of a trained workforce to displace current foreign workers. This move has seen a number of opportunities for Australian VET providers to provide training and management of training.

### **United States**

#### **Federal**

Workforce Investment Act (WIA)<sup>23</sup> by the US Congress in 1998 represented a federal attempt to address the persistent challenge of a large segment of the American workforce not having the skills needed to fulfil the advanced technical requirements of jobs in the new economy. The goal of the Workforce Investment Act is to provide workforce investment activities that increase the employment, retention and earnings of participants, and increase occupational skill attainment by participants. This is designed to improve the quality of the workforce, reduce welfare dependency, and enhance the productivity and competitiveness of the U.S. economy. The main emphasis is on assisting displaced workers or workers-at-risk rather than building general workforce capacity.

These activities of the WIA are provided through the use of “intermediaries” who are two-thirds more likely to be non-profit or public entities, such as religious organisations (termed faith-based organisations), community groups, community colleges, public school districts, and vocational schools. The remaining one-third are for-profit organisations. Each

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<sup>22</sup> ILO. (2001). *Learning and Training for Work in the Knowledge Society*. Geneva: Author. Available: [http://www.ilo.org/public/english/employment/skills/recomm/report/ch\\_int.htm](http://www.ilo.org/public/english/employment/skills/recomm/report/ch_int.htm) Accessed: 24 May, 2004.

<sup>23</sup> Workforce Investment Act of 1998. U.S. Department of Labor, Employment & Training Administration. Available: <http://www.doleta.gov/programs/factsht/wialaw.cfm> Accessed: 18 May 2004.

organisation provides information to a “One-stop shop” to assist those who are seeking training so that they need to visit only one location.<sup>24</sup>

This policy direction has been evidenced through one of the U.S. Department of Education Office of Vocational and Adult Education’s (OVAE) programs named “Work-based Learning” which is one of many initiatives.<sup>25</sup> This program focuses on literacy and basic skills training that workers need to gain new employment, retain present jobs, advance in their careers, or increase productivity. Others have commented that much of the available student aid and state support for postsecondary education does not address the demands of both workers and firms. Additionally, there are recommendations that there be a broadening the focus of public workforce development to provide all workers with the skills-training needed to stay competitive and advance in their careers.<sup>26</sup>

The OVAE also has a program aimed at the development of partnerships between enterprise and training providers named “High Skills for High Growth Careers”. This project seeks to capture information on the emerging models being developed through collaborative relationships that often include business, industry, trade organizations, and institutions of higher education.<sup>27</sup>

### **State**

Issues relating to an aging workforce and the projected demand for skilled labour have been recognised by the National Governor’s Association (NGA) through its report into the 21<sup>st</sup> century workforce. This report recommends that workforce development should be focused on economic needs, individuals need assistance in managing their careers and retention by employers. Overall, the NGA recommends partnerships with industry and training providers.<sup>28</sup> There are 54 states and territories in the United States and 49 of these have some program in operation that deals with workplace learning as a result (to a certain extent) of the WIA. These states and territories are reported to vary significantly in the extent to which they have implemented WIA provisions as policymakers and program administrators have considerable discretion concerning the intensity with which they embrace WIA policies and practices.

### **Summary**

The positions taken by the range of organisations and governments in relation to lifelong learning are diverse and, of course, depend upon the local conditions and the history of VET within the political boundaries. As a result of these idiosyncrasies, there is no one approach that can be said as being preferred. For the purposes of this report, an inspection of culturally appropriate policies and initiatives would be advantageous.

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<sup>24</sup> Berkeley Policy Associates (2003). Creating Partnerships for Workforce Investment: How Services Are Provided Under WIA. Washington, DC: U.S. Department of Labor. Available: [http://wdr.doleta.gov/owsdr/papers/merged\\_final\\_report.pdf](http://wdr.doleta.gov/owsdr/papers/merged_final_report.pdf) Accessed: 18 May, 2004

<sup>25</sup> Office of Vocational and Adult Education. (2004). Programs and Initiatives. U.S. Department of Education. Available: <http://www.ed.gov/about/offices/list/ovae/pi/proginit.html?exp=0> Accessed: 12 May, 2004.

<sup>26</sup> 102<sup>nd</sup> American Assembly. (2003). The report of the 102nd American Assembly: Keeping America in Business: Advancing Workers, Businesses and Economic Growth. Columbia University. Available: <http://www.opportunitiesatwork.org/forum.htm> Accessed: 15 May, 2004.

<sup>27</sup> Office of Vocational and Adult Education. (2004). High Skills for High Growth Careers. Available: <http://www.ed.gov/about/offices/list/ovae/pi/hs/facts/hghs.html> Accessed: 15 May, 2004

<sup>28</sup> National Governor’s Association. (2000). A Governor’s Guide to Creating a 21st-Century Workforce. Washington, DC: Author. Available: [http://www.nga.org/center/divisions/1,1188,C\\_ISSUE\\_BRIEF^D\\_4062,00.html](http://www.nga.org/center/divisions/1,1188,C_ISSUE_BRIEF^D_4062,00.html) Accessed: 18 May 2004.

### ***Provisional list of relevant stakeholders***

The organisations identified below represent a sample of those associations that are likely to be able to contribute to the content of the final report. This list is not exhaustive and other organisations will be added as the research process continues.

#### **Training system and government agencies**

- Australian National Training Authority (ANTA)
- Department of Education Science and Training (DEST)
- Department of Employment and Workplace Relations (DEWR)
- State Training Authorities
- Training Institutions
  - TAFE Directors Australia (TDA)
  - Australian Council of Private Education and Training (ACPET)
- Skills Councils
- Australian Centre for Industrial Relations Research and Training (ACIRRT)
- National Centre for Vocational Education Research (NCVER)
- Fellow researchers and practitioners

#### **Enterprise representatives**

- Employer Associations
  - Australian Chamber of Commerce and Industry (ACCI)
  - Business Council of Australia (BCA)
  - Australian Industry Group (Ai Group)
  - National Electrical and Communications Association
  - Australian Electrical and Electronics Manufacturer's Association (AEEMA)
  - IT Skills Hub
  - National Farmers Federation

#### **Employee representatives**

- Unions
  - Australian Council of Trade Unions (ACTU)
  - Communications, Electrical and Plumbing Union (CEPU)

#### **Community representatives**

- Business, Work and Aging (BWA)

## **Methodology**

The project will use a qualitative data gathering approach which may include (although not limited to) the use of questionnaires, semi-structured interviews, focus groups or case studies. Some primary quantitative data may be required but a reliance on secondary data is planned through stakeholder resources. Themes will be developed from this data and compared with other similar studies.

Documents containing information related to the project will be developed prior to the main research process and as the project develops. These documents will include an overview of the parts of the project and will be written for specific target audiences. Dissemination of information related to the project will be through stakeholder existing communication systems as well as through the website for this project.

## **Data collection**

Ideally a representative sample of organisations based upon population densities will be sought throughout Australia however as participation in this study is voluntary, the research will have to rely upon those who willingly contribute to the interviews and case studies. Data of other research projects will also be used where appropriate. Therefore the sampling will be purposive (rather than a stratified random sampling method) and use a process of referrals for other opportunities to gather data. Participants to be sought for this project are (but not limited to) those outlined below.

<b>Workplace and individuals</b>	<b>VET providers</b>
Individuals	College Directors
Supervisors	Organisational Development managers
HR specialists	Program Managers
Project managers	Lecturers

Ancillary to the above list will be the stakeholders as identified. The development of questionnaires and specific interview questions will be prepared prior to the first steering committee meeting and will incorporate findings from other research projects. It is envisioned that the Steering Group for this project may introduce other contextual issues that will need to be included in final drafts.

## **Research process**

An emphasis on both face-to-face data collection and quantitative methods is preferred. In this scenario, the research will utilise the collection of information from individuals through a focus group or individual interview process. This will require travel by the researcher to participating states and territories. The numbers of interviews based upon a demographic representation and cooperation of employers and training organisations.

## **Validation process**

Presentations of the outcome of the project are made in the major geographic areas through cost-effective venues. Commercially printed materials are available to those attending and are sent via post to other stakeholders and individuals who have participated in the research process. Notification of the presentations is made through established networks.

### ***Time table***

The time available for this project is limited to the last half of the calendar year of 2004. Data collection for this project is of primary importance and will occupy the first three months (July – September). Analysis of the data and the preparation of validation material will be undertaken during October with validation meetings planned for early November. Additional data will be accepted until mid-November. The initial draft report will be prepared for review by the Steering Committee for release in mid-December.

Due to the traditional holiday period between mid-December and mid-January, the final report date of 31 December makes review by the Steering Committee somewhat problematic. An extension of the final report to ANTA for end-January 2005 provides for a more reasonable time-frame for the Steering Committee. Therefore a final report in a form suitable for commercial printing is suggested to be due for 31 January, 2005.