

<b>Electronic Engineering Associate Professionals</b>	<b>New South Wales (NSW)</b>
ASCO Code: 3124	June 2007
Labour market rating	No shortage
<b>Comment:</b> <i>Employers generally experienced few problems filling vacancies across most industry sectors including electronic equipment manufacturing, testing and servicing.</i>	

### Occupational demand

Labour Force Survey data for Australia indicate that employment of electronic engineering associates fell in the ten years to May 2007 and it is likely that the trend was similar in NSW. However, demand for electronic engineering associates over the past year has benefited from strong activity in the communications sector, increased defence capital expenditure and an improvement in manufacturing production. The gross value added in the telecommunications industry in Australia rose by 8.8 per cent in 2006 following growth of 4.7 per cent in 2005. The Australian Industry Group / Price-Waterhouse Coopers *Survey of Manufacturing* shows that manufacturing production in NSW increased in the June quarter 2007, which was the fourth consecutive quarterly increase in production following three quarters of decline from December 2005.

### Occupational supply

There are a number of diploma courses which would be an entry path to this occupation or, depending on the modules taken by the student, to the closely related occupation of electrical engineering associate. DEEWR estimates that completions in TAFE diplomas in electrical, electronics and telecommunications engineering were stable at about 350 persons a year from 2002 to 2006. This represents a training rate (course completions as a percentage of the employed workforce) of 4.7 per cent based on an estimated combined workforce of electrical engineering associates and electronics engineering associates of 7000. Net immigration of electronic engineering associates to NSW from overseas averaged 17 persons a year over the five years to 2005-06 which indicates that this is a minor supply source relative to diploma course completions.

### Employer and industry comments/current labour market

A DEEWR survey of employers who had recently advertised for electronic engineering associates was conducted for this report. Employers were able to fill vacancies with few problems across most industry sectors including electronic equipment manufacturing, testing and servicing. Advertisements generally attracted a large number of applicants and although most applicants did not have relevant qualifications or experience there was nevertheless an average of 2.5 suitable applicants per vacancy. Vacancies for newly-qualified or student electronic engineering associates were particularly easy to fill with advertisements often attracting scores of applicants. A small minority of vacancies remained unfilled at the time of the survey but these usually involved special factors such as an unfavourable business location or a requirement for experience in specialised areas such as biomedical electronics.

### Labour market outlook

Demand for electronic engineering associates is likely to remain firm over the short term. Defence capital expenditure is expected to remain high in 2007-08, while the June quarter 2007 *Survey of Manufacturing* found that manufacturing production was expected to increase in 2007-08. Although growth in telecommunications may slow from its recent high levels it is likely to remain solid. Nevertheless, supply levels should be adequate to meet demand in most industries over the short term and no general shortage is likely in 2007-08.

<b>Electronic Engineering Associate Professionals</b>		<b>Victoria</b>
<b>ASCO Code:</b> 3124	March 2007	
<b>Labour market rating</b>	No Shortage	
<b>Comment:</b>		

### **Occupational demand**

Demand for electronic engineering associate professionals in Victoria is determined by the level of activity in the economy and the degree of application of telecommunications technology. Victoria's economy had relatively strong growth of 2.9 per cent over the year to December 2006, and the Australian economy grew by 3.7 per cent. The most significant telecommunications technology currently in Victoria is broadband. According to the OECD, the total number of broadband subscribers per 100 inhabitants in Australia by technology in June 2006 was 17.4, an increase of approximately 26 per cent compared to 2005. DEEWR Skilled Vacancies Index data suggests demand for electronic engineering associate professionals had been declining since 2000, but showed a slight increase in 2006.

### **Occupational supply**

Australian Bureau of Statistics Education and Work figures suggest approximately 27 per cent of employed electronic engineering associates have advanced diploma and diploma qualifications. DEEWR estimates there have not been any graduates of the advanced diploma of electronics engineering between 2000 and 2004 within Victoria. However ABS figures also suggest 28 per cent of 20 to 34 year old electronic engineering associates have bachelor degrees. DEEWR estimates the number of persons who completed tertiary education in the field of electronic engineering in 2004 rose approximately 18 per cent compared to completions of 2003. Since 2000 completions have been an average of 76 per year. Supply to the profession from net immigration has decreased, down by almost 31 per cent from last year. Net immigration to Victoria during 2005-06 was approximately 18 electronic engineering associate professionals.

### **Employer and industry comments/current labour market**

The Survey of Employers who Recently Advertised (SERA) found two thirds of electronic engineering associate professional vacancies were filled. The average number of suitable applicants per vacancy was four and the average number of unsuitable applicants per vacancy was 18. Employers considered applicants unsuitable for specific roles due to a lack of relevant skills. In addition, some employers sought training/background in testing and calibration. The large majority of employers did not perceive any other factors that made vacant positions difficult to fill.

Most employers suggested there was a low turnover in the occupation of electronic engineering associate professionals, as people stay with the business to develop themselves, which in turn can lead to career progression within the business.

### **Labour market outlook**

The relatively balanced labour market for electronic engineering associate professionals in Victoria is expected to continue over the next six months.

<b>Electronic Engineering Associate Professionals</b>		<b>Queensland</b>
ASCO Code: 3124	March 2007	
Labour market rating	Shortage	
<b>Comment:</b>		

### **Occupational demand**

Electronic engineering associates and technicians perform tasks below the level of a tertiary qualified engineer and above that of a tradesperson in areas including telecommunications, hardware and systems design, electronics manufacturing and equipment maintenance. Recent years have seen large increases in consumer demand for mobile telephony and data communications infrastructure and services, which have added to demand for these occupations. As an indicator, recent data from the Australian Bureau of Statistics show that the proportion of households in Queensland with access to the internet grew from 15 per cent in 1998 to 61 per cent in 2006. These trends are expected to continue and, combined with the State's rapid population growth, should see increasing demand for electronic engineering associate professionals over coming years.

### **Occupational supply**

Electronic engineering associate professionals comprise both electronic engineering associates and electronic engineering technicians. Many workers in this field have upgraded their skills from a trade or similar background in the industry, which they may formalise with appropriate studies. The most common post-school qualifications held by associates in Queensland are at Diploma or Advanced Diploma level, while Certificate III or IV level qualifications are much more common among technicians. Approximately nine students are expected to graduate from Diploma or Advanced Diploma level courses offered by Queensland's public sector training providers in 2007. Associate degree courses are also available at two universities in Queensland. Overseas arrivals and departures data indicate that there was a net gain of six self-identified electronic engineering associate professionals to Queensland in 2005-06.

### **Employer and industry comments/current labour market**

Approximately 75 per cent of the vacancies included in this year's survey were filled within six weeks of advertising, and about one third of all applicants were regarded as suitable. Among the reasons applicants were considered unsuitable were both a lack of experience and too much specialised experience. Some vacancies required workers with a good level of general competence across a wide range of occupational skills, while some applicants for these positions were experienced in a more specialised environment and to a high standard. Employers felt that applicants of this kind would be unlikely to remain in the position for long, and preference was given to other suitable applicants, if available. Employer contacts indicated that the conditions and security offered by some public sector employers might make them 'employers of choice' for these occupations. One employer commented on a perceived lack of interest in careers in this area among younger people, and others said that some positions require a level of experience that is generally only found in older applicants. Several contacts remarked that the practical experience provided through apprenticeships, traineeships and cadetships is invaluable and that many recent graduates of higher level vocational courses do not have the practical skills required in many positions.

### **Labour market outlook**

With growing reliance on communications and information technology by households, businesses and governments, and the continuing development of communications infrastructure, demand is expected to increase for electronic engineering associate professionals. Supply to these occupations from local workplace-based and formal training, and from interstate and overseas migration, presently falls short of meeting demand in Queensland and this is unlikely to change over coming months. The present State-wide shortage is therefore expected to continue at least through 2007.

<b>Electronic Engineering Associates</b>		<b>South Australia</b>
<b>ASCO Code:</b> 3124	March 2007	
<b>Labour market rating</b>	Shortage	
<b>Comment</b>		

### **Occupational demand**

In South Australia, around 800 people are employed as electronic engineering associate professionals. ABS Census data show that 22 per cent were employed in the communication services industry in 2001. A further 21 per cent were employed in the manufacturing industry, 12 per cent in the government administration and defence industry and 10 per cent in retail trade. Employment growth in the telecommunication services industry peaked in 2005 and has since declined. However, there has been substantial employment growth in the electronic equipment manufacturing industry group over the past few years. This is partly due to increasing investment in defence-related projects in the State. A 2006 survey conducted by the Electronics Industry Association of South Australia indicated that total employment in the electronics industry was expected to grow by 7 per cent in the year to mid-2007. This was consistent with earlier studies which recorded an annual average growth rate of 6.8 per cent between 1998 and 2006. Approximately one third of respondents believed that skills shortages were causing difficulties or preventing firms from increasing their staffing levels. DEEWR's Skilled Vacancies Index data show that the number of newspaper vacancies for electronic engineering associates increased slightly in 2006 compared with the previous year.

### **Occupational supply**

The major source of supply into this occupation is through completion of TAFE training. According to the 2001 ABS Census, around 46 per cent of electronics engineering associates have Certificate III or IV as their highest qualification. In addition, around 30 per cent have completed the Diploma or Advanced Diploma in Electronics Engineering offered by TAFE. Although incomplete, TAFE data suggest there has been an increase in student completions over the past two years. There was a small net inflow from overseas migration in 2005-06.

### **Employer and industry comments/current labour market**

A survey of employers who had recently advertised for electronics engineering associate professionals indicated that 47 per cent of vacancies were filled within six weeks. On average, employers received around six applicants per vacancy. This relatively high proportion was due to some employers also advertising on the Internet as well as through the newspaper. However, only around seven per cent of all applicants were deemed suitable. The main reasons given by employers for rejecting unsuitable applicants were lack of relevant experience and good fault-finding skills. Some employers also noted that a growing number of applicants appear to lack enthusiasm for working with electronics. Businesses operating in the defence industry also required applicants to have security clearances. Employers cited growth in demand, particularly from the defence sector, as a major factor contributing to current recruitment difficulties.

### **Labour market outlook**

According to the Electronics Industry Association of South Australia, employment in the electronics industry is likely to continue to grow at around seven per cent per annum. Additionally, South Australia's defence industry is expected to grow over the next few years due to the Royal Australian Navy's \$6 billion Air Warfare Destroyers project and associated projects. This project will contribute to increased demand for skills in electronics systems and engineering. Consequently, unless there is a substantial increase in training completions, the current shortage of electronics engineering associates is anticipated to continue over the next 12 months.