



Australian Government



National Skills Commission

## Skills Priority List Findings

# ICT Professionals

## ANZSCO Sub-Major Group 26

### Occupations in Shortage

Across all ICT Professional occupations assessed for the 2021 Skills Priority List (SPL), 21% were found to be in shortage compared with 19% across all occupations (Table 1). Of the Minor Groups, Business and Systems Analysts, and Programmers had the greatest proportion of occupations in shortage (38%), followed by Database and Systems Administrators, and ICT Security Specialists (33%). No shortages were identified for ICT Network and Support Professionals.

**Table 1: Occupations in shortage, ICT Professionals Sub-Major Group and Minor Groups**

ANZSCO Group		No. reviewed	% of reviewed in shortage
261	Business and Systems Analysts, and Programmers	8	38%
262	Database and Systems Administrators, and ICT Security Specialists	3	33%
263	ICT Network and Support Professionals	8	0%
<b>26</b>	<b>ICT Professionals</b>	<b>19</b>	<b>21%</b>
	<b>All occupations</b>	<b>799</b>	<b>19%</b>

### Future Demand

The majority (89%) of ICT Professional occupations are projected to have strong future demand, compare with a third of all occupations (Table 2). All Database and Systems Administrators, and ICT Security Specialists, and ICT Network and Support Professionals occupations are projected to have strong future demand.

**Table 2: Future demand, ICT Professionals Sub-Major Group and Minor Groups**

ANZSCO Group		No. of occupations reviewed	Future demand ratings (% of reviewed occupations)		
			Strong	Moderate	Soft
261	Business and Systems Analysts, and Programmers	8	75%	25%	0%
262	Database and Systems Administrators, and ICT Security Specialists	3	100%	0%	0%
263	ICT Network and Support Professionals	8	100%	0%	0%
<b>26</b>	<b>ICT Professionals</b>	<b>19</b>	<b>89%</b>	<b>11%</b>	<b>0%</b>
	<b>All occupations</b>	<b>799</b>	<b>33%</b>	<b>60%</b>	<b>7%</b>

Of ICT Professional occupations, four were found to be in shortage with strong future demand:

- Multimedia Specialist
- Developer Programmer
- Software Engineer
- ICT Security Specialist.

## Results by State and Territory

Of the states and territories, New South Wales had the highest proportion of ICT Professionals occupations assessed in shortage (53%), followed by the Northern Territory (37%), while the remaining states and territories had around 20% of assessed occupations in shortage. It should be noted that the variation across the states and territories, at least in part, reflects differences in the stakeholder input received.

## Predicted Fill Rates

Incorporating many labour market indicators, including data from the NSC's Survey of Employers who have Recently Advertised (SERA) where available, the predicted fill rate has been formulated by the NSC to predict the percentage of vacancies filled by employers for a particular occupation over the 12 month research period.

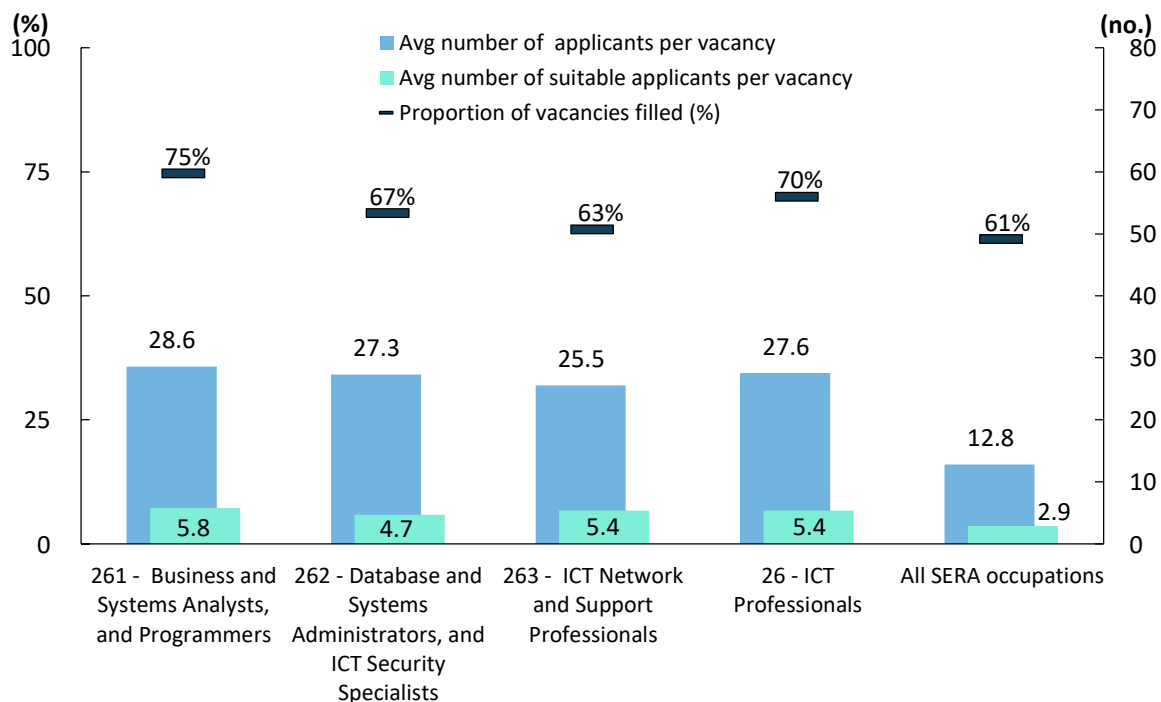
The fill rate for ICT Professional occupations is primarily in the 60%-69% range, with close to three quarters of all occupations in this group in this range. Business and Systems Analysis, and Programmers was the only Sub-Major Group to have any occupations in the higher predicted fill rate range of 80%-89%.

## Survey of Employers

The SERA is a key component of the SPL analysis. Between July 2020 and April 2021, the NSC contacted employers who had advertised vacancies across 10 ICT Professional occupations. Employers filled most of their vacancies overall, and, on average, received close to 30 applicants per vacancy.

Of the surveyed ICT Professional Sub-Major Groups, employers recruiting for Business and Systems Analysts, and Programmers filled the largest proportion of vacancies (75%), and considered close to six applicants per vacancy on average to be suitable (Figure 1). ICT Network and Support Professionals had the smallest proportion of vacancies filled (63%).

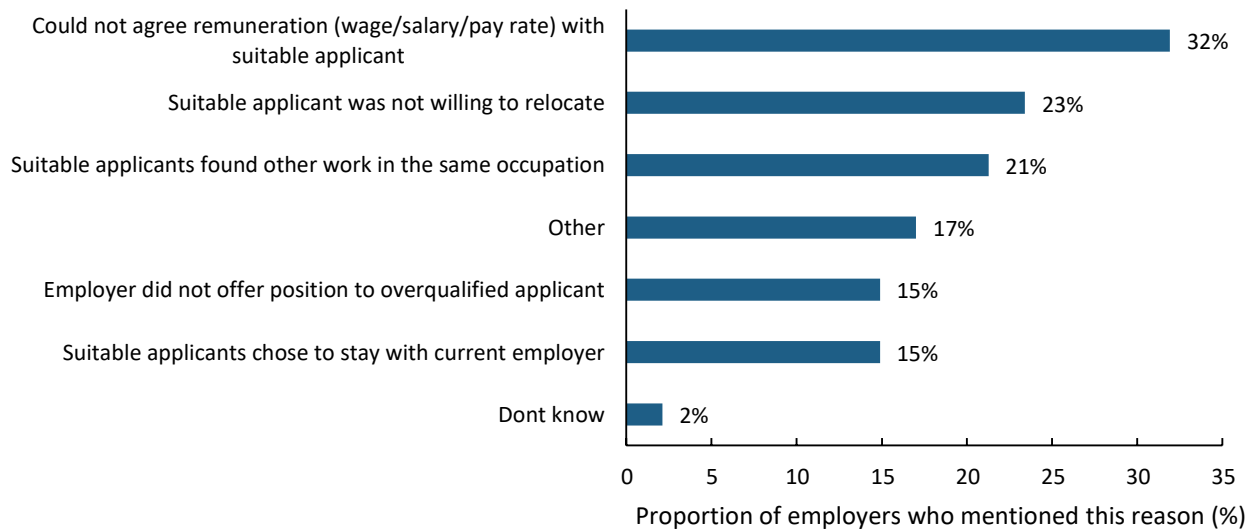
**Figure 1: Proportion of vacancies filled (%), average number of applicants and suitable applicants per vacancy (no.), ICT Professionals occupations and all surveyed occupations, Australia, July 2020 to April 2021**



The most common reason ICT Professionals were found unsuitable was due to a lack of either general or specialised experience in the occupation (both mentioned by around 60% of employers), followed by a poor application or poor performance throughout the recruitment process (mentioned by nearly 40% of employers). Employers of ICT Professionals valued experience over qualifications, with the vast majority (92%) of employers requiring applicants to be experienced in the occupation, compared with two thirds of employers who required applicants to have a qualification. On average, employers sought applicants with just over three years of experience.

Around two thirds of unfilled vacancies had suitable applicants. The most common reason suitable applicants did not fill these vacancies were the suitable applicant and employer could not agree on wages (32% of employers stated this as a reason), the suitable applicant was not willing to relocate (23%), or they found other work in the same occupation (21%) (Figure 2).

**Figure 2: ICT Professionals, reasons vacancies were unfilled despite having suitable applicants**

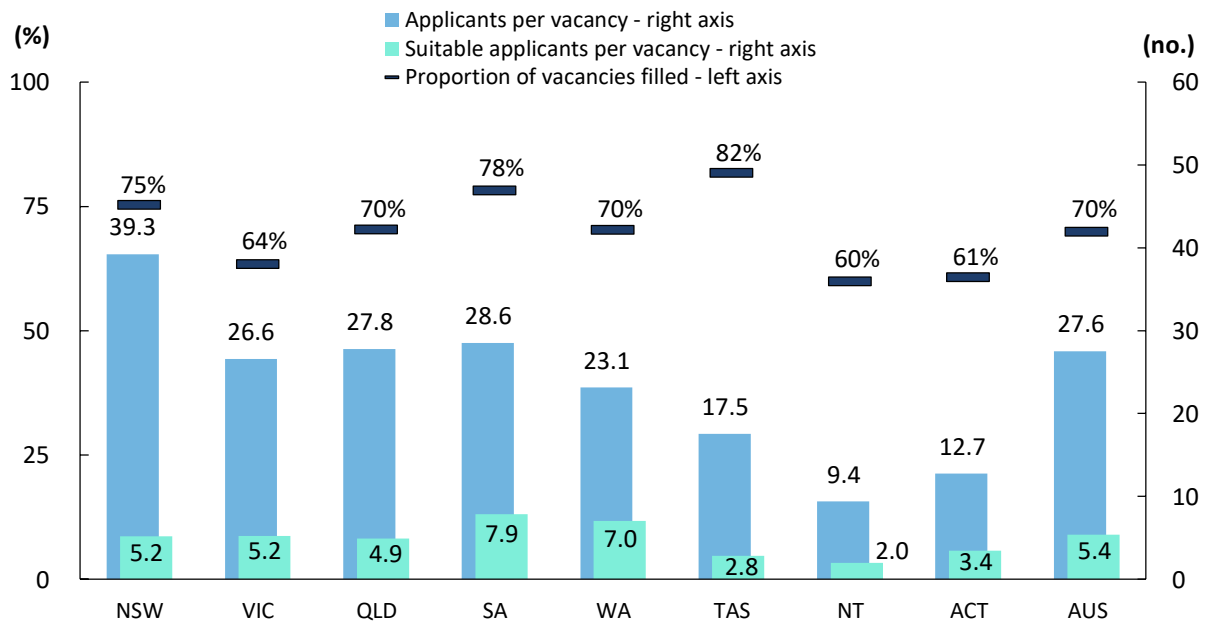


Only 8% of surveyed employers considered no applicants to be suitable for their advertised vacancies. Employers most commonly attributed this to the lack of skilled workers available (mentioned by 65% of employers) or the specialised nature of the role (50%).

Of the surveyed ICT Professional occupation groups, employers recruiting for Business and Systems Analysts, and Programmers filled the largest proportion of vacancies (75%), and considered close to six applicants per vacancy on average to be suitable (Figure 3). ICT Network and Support Professionals had the smallest proportion of vacancies filled (63%).

Of the states and territories, employers in Tasmania filled the greatest proportion of ICT Professionals vacancies (82%) (Figure 3), while employers in the Northern Territory filled the fewest (60%) and received only two suitable applicants per vacancy on average.

**Figure 3: Proportion of vacancies filled (%), average number of applicants and suitable applicants per vacancy (no.), surveyed ICT Professionals, by State and Territory, July 2020 - April 2021**



## Stakeholder Engagement

ICT Professional occupations were mentioned by a number of stakeholders through the engagement process which formed a key component of labour market assessments for these occupations. Input was received from various representative bodies through surveys, meetings with the NSC, or other submissions. The ICT Professional occupations most frequently reported to have recruitment difficulty were Software Engineer, Computer Network and Systems Engineer, Developer Programmer, ICT Business Analyst and Multimedia Specialist.

Most stakeholders stated that where there was recruitment difficulty, this was experienced nationally, and that particular difficulty was experienced recruiting for experienced positions. Reported recruitment difficulty was most often attributed to the lack of technical skills or qualification of applicants, a lack of suitable or experienced applicants, or the specialised nature of roles. The majority of stakeholders expect that recruitment difficulty will persist or worsen in the next 12 months. The most frequently mentioned challenge facing recruitment in these occupations in the future is the lack of a locally trained workforce. Many stakeholders expressed that they had increased wages or contributed to a training initiative, including training internally, to address difficulty recruiting.

## Demand and Supply

The demand for ICT Professionals is strong, with advertised vacancy numbers and employment rising over the past year. The number of advertised vacancies for these workers rose strongly over the year to June 2021, to its highest level in a decade.<sup>1</sup> Similarly, ICT Professional employment increased over the year to May 2021, and now sits at a near historical high.<sup>2</sup>

New supply to ICT Professional occupations is generally through higher education. The number of students completing higher education courses in Information Technology increased strongly over the five years to 2019, more than doubling over this period.<sup>3</sup>

Temporary skilled migration is also a source of supply for a range of Professional occupations, including ICT Professionals. The number of temporary skilled visa holders in Professional occupations has fallen since early 2020, down by more than a quarter, limiting supply to this labour market.<sup>4</sup>

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<sup>1</sup> National Skills Commission, Internet Vacancy Index, June 2021, trend

<sup>2</sup> ABS, Labour Force, May 2021, National Skills Commission trend

<sup>3</sup> Department of Education, Skills and Employment, Higher Education Statistics, 2001-2019, uCube

<sup>4</sup> Department of Home Affairs, Temporary resident (skilled) visa holders in Australia, June 2021 (subclasses 457 and 482)

## Appendix – SPL Findings for ICT Professional Occupations

Occupation		Current Labour Market Ratings and Future Demand Rating									
ANZSCO	Occupation	National Labour Market Rating	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	National Future Demand
261111	ICT Business Analyst	NS	S	NS	NS	NS	NS	NS	S	NS	Moderate
261112	Systems Analyst	NS	NS	NS	NS	NS	NS	NS	NS	NS	Moderate
261211	Multimedia Specialist	S	S	S	S	S	S	S	S	S	Strong
261212	Web Developer	NS	S	NS	NS	NS	NS	NS	NS	NS	Strong
261311	Analyst Programmer	NS	NS	NS	NS	NS	NS	NS	NS	NS	Strong
261312	Developer Programmer	S	S	S	S	S	S	S	S	S	Strong
261313	Software Engineer	S	S	S	S	S	S	S	S	S	Strong
261314	Software Tester	NS	NS	NS	NS	NS	NS	NS	NS	NS	Strong
262111	Database Administrator	NS	S	NS	NS	NS	NS	NS	NS	NS	Strong
262112	ICT Security Specialist	S	S	S	S	S	S	S	S	S	Strong
262113	Systems Administrator	NS	S	NS	NS	NS	NS	NS	NS	NS	Strong
263111	Computer Network and Systems Engineer	NS	NS	NS	NS	NS	NS	NS	S	NS	Strong
263112	Network Administrator	NS	S	NS	NS	NS	NS	NS	NS	NS	Strong
263113	Network Analyst	NS	NS	NS	NS	NS	NS	NS	NS	NS	Strong
263211	ICT Quality Assurance Engineer	NS	NS	NS	NS	NS	NS	NS	NS	NS	Strong
263212	ICT Support Engineer	NS	NS	NS	NS	NS	NS	NS	S	NS	Strong
263213	ICT Systems Test Engineer	NS	NS	NS	NS	NS	NS	NS	NS	NS	Strong
263311	Telecommunications Engineer	NS	NS	NS	NS	NS	NS	NS	NS	NS	Strong
263312	Telecommunications Network Engineer	NS	S	NS	NS	NS	NS	NS	NS	NS	Strong

*Ratings: S – Shortage; NS – No Shortage*