



Australian Government

A large, 3D-style green arrow that curves from the top left towards the bottom right, pointing upwards and to the right. It has a gradient from dark green to light green.

# 2009 ICT Statistical Bulletin

## Introduction

The 2009 ICT Statistical Bulletin provides an overview of Australia's ICT workforce as at August 2009. It includes an overview of the Australian Public Service (APS) ICT workforce—including staff employed under the *Public Service Act 1999*, *Financial Management and Accountability Act 1997* (FMA agencies), and *Commonwealth Authorities and Companies Act 1997* (CAC agencies) — referred to throughout this document as APS employees.

The Bulletin is divided into four sections covering the following topics:

- *The ICT workforce*: details current staff numbers and capabilities within the APS ICT workforce;
- *Right time - planning for the future*: identifies trends and forecasts in ICT labour market supply and demand; and
- *Right place – creating an agile and mobile ICT workforce*: indicates the required shift in ICT employee numbers and capabilities to help agencies effectively deliver the Government's priorities.
- *Right skills – building capacity and capability*: identifies critical job roles and potential capability shortages identified by APS agencies, for the next three years.

## The ICT capability framework

The ICT capability framework underpins the workforce plan, providing a defined set of core ICT capabilities. It helps to identify capacity strengths and gaps in the existing ICT workforce, and make it possible to find, grow and deploy skilled professionals in ICT roles across the APS. This will be possible through the introduction of consistent and common definitions across job roles, descriptions and contribution areas.

The framework represents an anchor point for people management processes within agencies and for the career planning of ICT professionals. It has a two-level structure and comprises:

1. **Contribution Domains (6):** groups together functions that make a similar contribution.
2. **Contribution Areas (19):** groups together capabilities identified as being core or essential to an area. Each contribution area is defined by a set of competencies.

## Workforce planning resources

The Bulletin draws on four key data sources:

1. *Australian labour market for ICT workers—report prepared for the Department of Finance and Deregulation*, Shan C, Monash University, July 2009—referred to as the 2009 environmental scan.
2. *ICT Workforce Capability and Assessment Survey analysis*, ORIMA Research, November 2009 – referred to as the 2009 agency survey. The survey was conducted online between 24 August 2009 and 13 October 2009.
3. *ICT Workforce Capability and Assessment – Report of Employee Survey Findings*, ORIMA Research, October 2009 – referred to as the 2009 employee survey. The survey was conducted online. At the start of the fieldwork period, all nominated ICT employees in the APS were sent an invitation email containing the survey link and a unique password.  
The fieldwork period commenced on 7 July 2009 and concluded on 18 August 2009.
4. *Australian Public Service (APS) Employment Database—employment data of all current and former APS employees*. APSED is maintained by the Australian Public Service Commission and the data is drawn from the APS agency HR systems.

Supporting data sources include:

1. Department of Education, Employment and Workplace Relations (DEEWR), *SkillsInfo—ICT skills*, <http://www.skillsinfo.gov.au/skills/SkillsIssues/ICTSkills#Employment%20Overview>— The Department conducts labour market research for ICT professionals on a yearly basis, with particular reference to the supply of, and demand for ICT skills, including the existence of possible shortages.
2. *State of the Service Report*, State of the Service Series 2008-09, Australian Public Service Commission, Canberra 2009
3. *ICT Workforce Capability Plan for Government Employees*, Version 1, Department of Public Works, Queensland government, March 2006, [http://www.qgcio.qld.gov.au/SiteCollectionDocuments/ict\\_workforce\\_capability\\_plan.pdf](http://www.qgcio.qld.gov.au/SiteCollectionDocuments/ict_workforce_capability_plan.pdf)
4. Centre for Innovative Industry Research Inc. (August 2008), *The ICT skills forecasting project*. First report: Quantifying current and forecast ICT employment (Executive summary and contents), <http://www.acs.org.au/attachments/ICTSkillsForecastingReportExecSummaryAug08.pdf>
5. The Australian Computer Society (ACS), *Employment Survey Report*, August 2009, <http://www.acs.org.au/attachments/09employmentsurvey.pdf>— The 2009 ACS Survey is the sixth in the series providing detailed information on the employment outlook for ICT professionals in Australia.
6. Heinrich Roth, *Staff Turnover Facts*, February 1, 2008 <http://www.lifeworksolutions.com.au/news/staff-turnover-facts/>

7. Maggie McPhillips-Jacka and Paul Quinn, *Staff Turnover Costs*,  
<http://www.exitinterviews.com.au/staff-turnover.htm>

Note. Both the 2009 environmental scan and DEEWR 2009 surveys were conducted after the onset of the global financial crisis and reflect the resulting decline in ICT vacancies (going from 60 per cent to 104.9 per cent over the year to April 2009).

## The ICT workforce

Understanding the current and projected external labour market is an integral feature of managing the Australian Public Service (APS) ICT workforce. The Centre for the Economics of Education and Training at Monash University environmental scan identifies the past trends in the Australian ICT workforce and the likely future demand for, and supply of, labour for this workforce.

Other sources of labour market information include the Department of Education, Employment and Workplace Relations' (DEEWR) ICT Labour Market Assessment Reports, the 2009 APS agency and employee surveys, and the APS Commission's APS Employment Database (APSED). Collectively these provide an overview of selected labour market characteristics for the Australian and APS ICT workforces including:

- size of the ICT workforce
- location
- employment status
- gender
- age
- current stage of ICT career
- educational qualifications
- APS specific data is also provided for the following five characteristics:
  - workforce profile
  - separations
  - classification profile
  - ongoing/non-ongoing profile
  - sourcing arrangements

## Key findings

- The Australian ICT workforce is predominantly male, working full-time.
- The Australian ICT workforce is younger than the rest of the Australian workforce—about two-thirds are aged 25–44 years compared to 47 per cent of the non-ICT workforce.
- In 2008, the highest proportion of ICT personnel (about 25 per cent) were employed in software engineering.
- About two-thirds of Australia's ICT workforce is employed in NSW and Victoria compared to 58 per cent of the total employed—the ACT employs four per cent of the ICT workforce.
- In the APS, the roles with the highest age profile are strategic leadership and databases.
- For all APS agencies, the role with the highest proportion of contractors is in development and programming with 31-32 per cent, most likely to be partially or fully outsourced.
- Only 16 per cent of small APS agencies do not outsource any of their *networks & telecommunications* to other government departments.

## Size of the ICT workforce

In May 2008, 295,000 people were employed in the Australian ICT workforce—11 per cent more than in 2001.

- The highest proportion of ICT personnel were employed in *software engineering* (25 per cent).
- Employment increased, on average, 9.6 per cent per year in *quality assurance/testing*, the highest rate of growth for any occupation group.

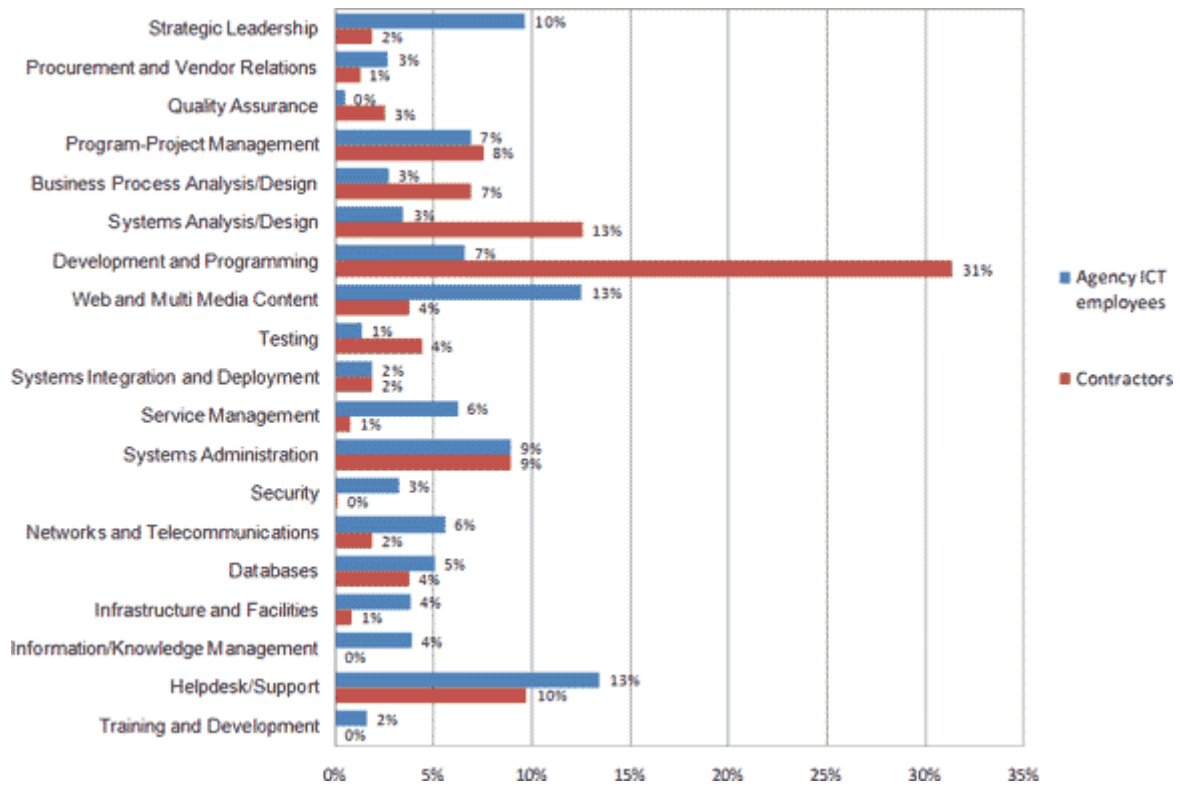
**Table 1—Persons employed by ICT occupation group, Australia, 2001–08 ('000)**

Occupation group	2001	2002	2003	2004	2005	2006	2007	2008	Average year-on-year change 2001–08 (per cent)
<b>ICT</b>	<b>265.4</b>	<b>265.5</b>	<b>283.7</b>	<b>280.2</b>	<b>273.7</b>	<b>299.0</b>	<b>309.8</b>	<b>295.3</b>	<b>1.6</b>
Sys & infrastructure	14.6	15.2	16.4	15.9	14.2	16.1	16.5	21.0	5.9
Data networks	21.5	22.5	24.3	23.5	20.7	23.4	23.8	24.4	2.1
Telecommunications	33.7	27.8	31.1	30.7	31.1	31.6	29.5	33.8	0.6
Software engineering	78.2	82.7	89.6	86.2	74.2	82.7	88.4	76.3	0.1
Digital content del/pub	12.9	14.4	14.3	16.5	16.8	16.4	16.1	22.1	8.7
Client supp/edu/security	36.8	37.2	37.6	37.1	46.5	44.9	53.5	53.5	6.0
Systems analysis	25.9	27.3	29.6	28.5	24.7	27.6	28.9	23.8	-0.7
Procurement/management	32.4	28.8	30.6	31.9	36.0	46.0	42.1	26.2	-0.9
Quality assurance/testing	2.6	2.6	2.6	2.6	2.9	2.9	3.3	4.6	9.6
Database sys/info man	6.8	7.0	7.6	7.4	6.6	7.5	7.7	9.8	5.9
<b>Non-ICT</b>	<b>8661.6</b>	<b>8800.3</b>	<b>8997.6</b>	<b>9111.5</b>	<b>9433.1</b>	<b>9547.7</b>	<b>9811.1</b>	<b>10041.8</b>	<b>2.1</b>
<b>All</b>	<b>8927.0</b>	<b>9065.8</b>	<b>9281.3</b>	<b>9391.7</b>	<b>9706.7</b>	<b>9846.8</b>	<b>10121.0</b>	<b>10337.1</b>	<b>2.1</b>

Source: The Centre for the Economics of Education and Training at Monash University environmental scan, 2009.

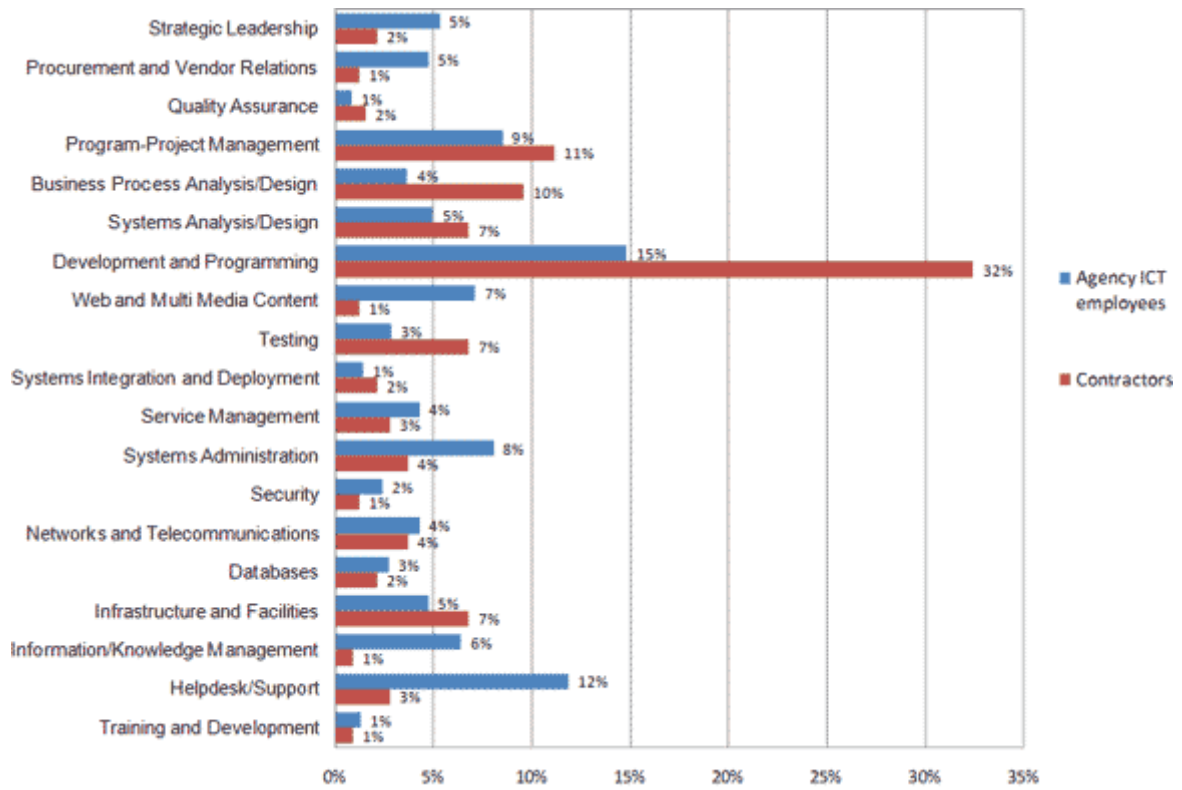
Across all APS agencies, 17 per cent of ICT employees stated that their the primary job role was *development & programming*. Around 10–11 per cent of ICT employees had primary job roles within *program-project management*, *business process analysis/design*, and *helpdesk/support*.

**Figure 1: Job role profile of ICT employees & contractors – small agencies**



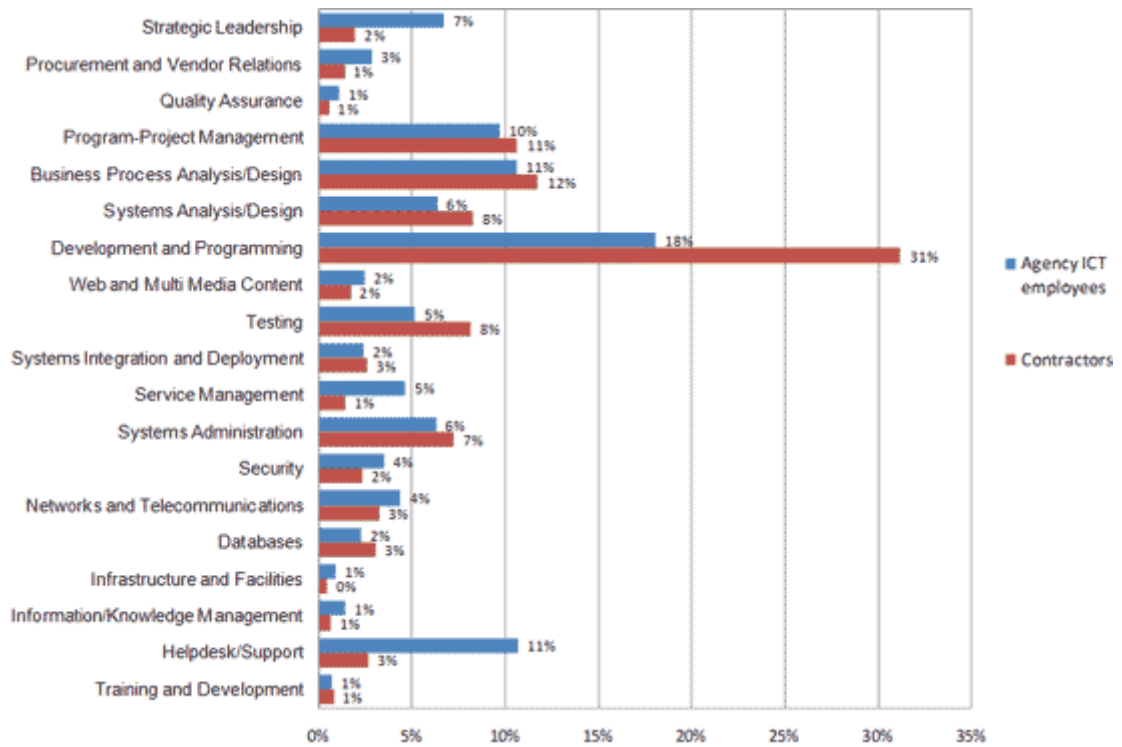
Source: Results of the ICT Workforce Capability and Assessment Agency Survey, ORIMA Research, November 2009

Figure 2: Job role profile of ICT employees & contractors – medium agencies



Source: Results of the ICT Workforce Capability and Assessment Agency Survey, ORIMA Research, November 2009

**Figure 3: Job role profile of ICT employees & contractors – large agencies**

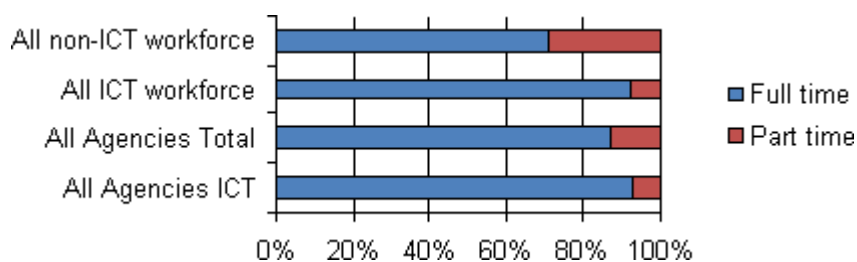


Source: Results of the ICT Workforce Capability and Assessment Agency Survey, ORIMA Research, November 2009

## Employment status— APS and Australian ICT labour market full-, and part-time profile

APS ICT employees are more likely than other APS employees to work on a full-time basis. Just over 93 per cent of ICT employees work on a full-time basis compared to 87 per cent of all APS employees.

**Figure 4: APS ICT employment status profile (Fulltime / Part time)**



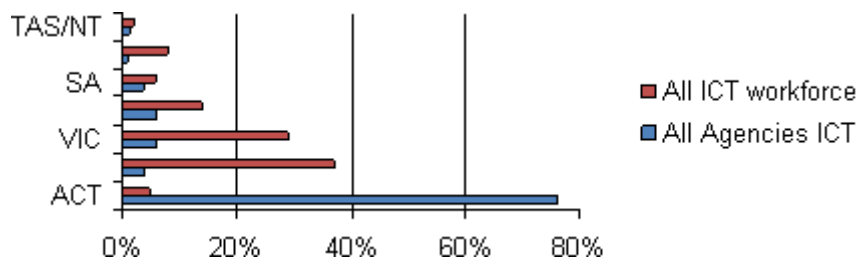
Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009, The Centre for the Economics of Education and Training at Monash University environmental scan, 2009.

## Location

Almost two-thirds of Australia's ICT workforce is employed in NSW and Victoria. These states have relatively higher shares of employment than the other states and territories in all ICT occupations, except telecommunications and client support/education/security.

The ACT employs 4 per cent of the ICT sector—twice its share of total employment: 76 per cent of APS ICT employees are located in the ACT.

**Figure 5: ICT workforce by state and territory**



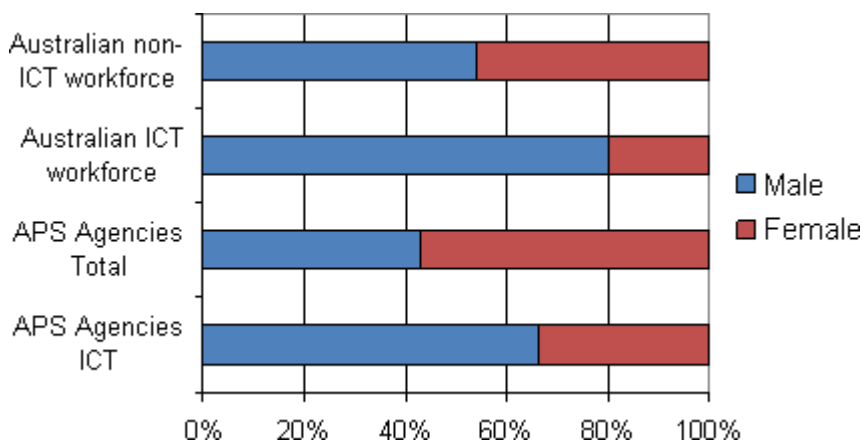
Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009, The Centre for the Economics of Education and Training at Monash University environmental scan, 2009.

## Gender profile

The APS ICT workforce is predominantly male—66 per cent male, compared to 34 per cent female, although this reflects a higher gender balance when compared with the wider ICT workforce—80 per cent male and 20 per cent female. The overall APS workforce has a higher female representation at 58 per cent.

The APS State of the Service Report 2008/09 showed the total number of women in the workforce increased by 1.8 per cent. Despite growing levels of female employment across the APS, there is still considerable variation between the percentage of men and women in ICT roles.

**Figure 6: ICT workforce by gender**

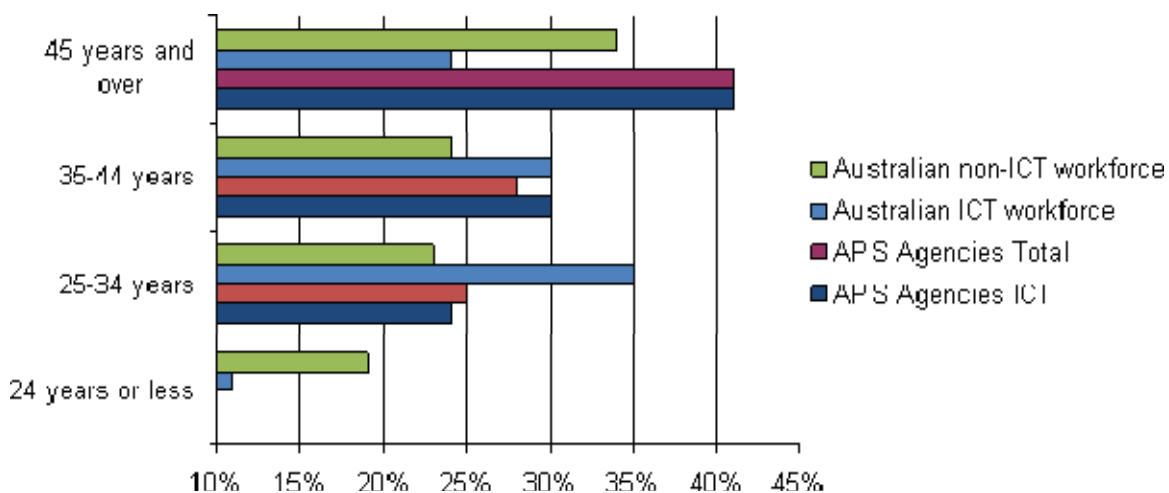


Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009, *The Centre for the Economics of Education and Training at Monash University environmental scan*, 2009.

## Age profile

The age profile of the Australian ICT workforce is similar to that of the APS. Almost one-third of the APS ICT workforce is aged 45–54 years and 30 per cent are aged 35–44 years, compared to the Australian ICT workforce where two-thirds are aged 25–44 years.

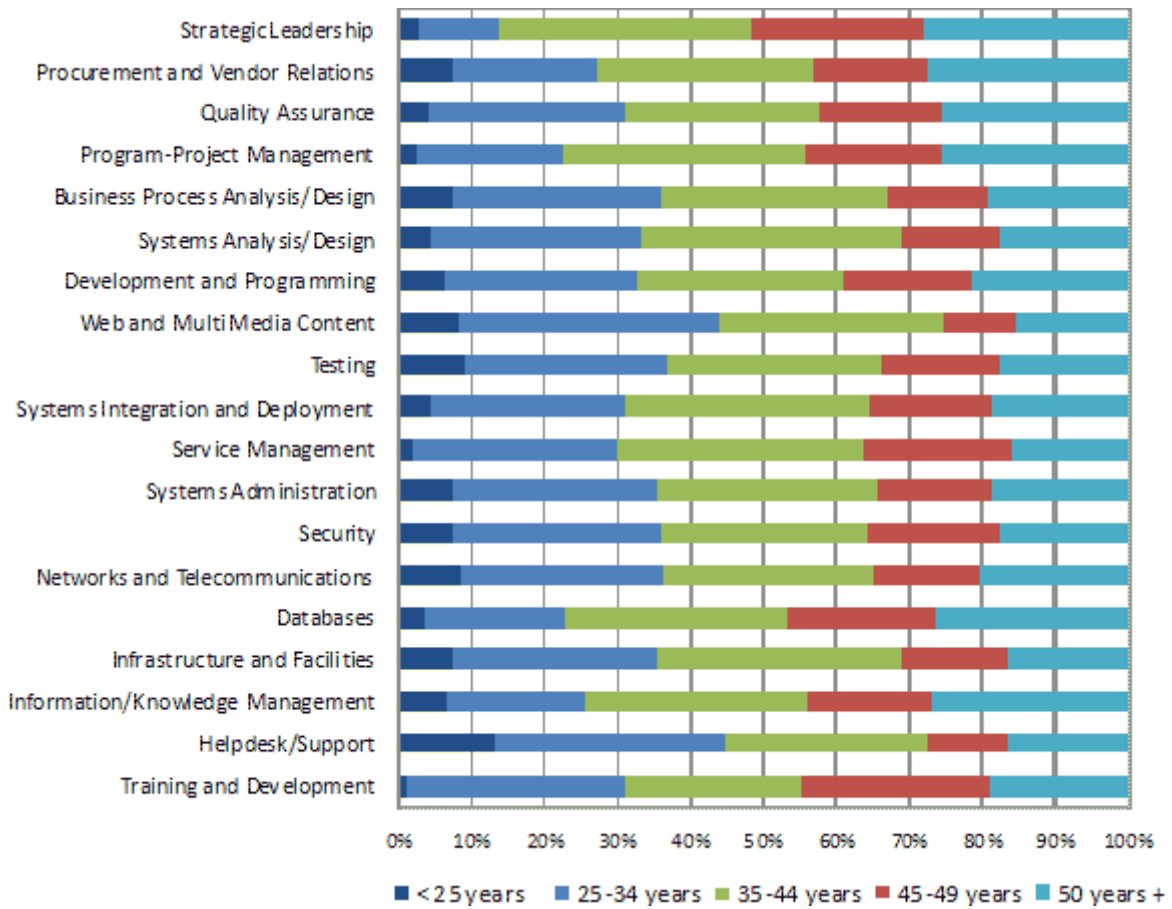
**Figure 7: ICT workforce age profile**



Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009, *The Centre for the Economics of Education and Training at Monash University environmental scan*, 2009.

At least 30 per cent of the APS ICT workforce filling most job roles are aged under 35. Some job roles have about 20 per cent of their workforce aged 50 or more. For *strategic leadership*, *databases* and *information/knowledge management*, the proportion of the workforce aged 50 or more is approaching 30 per cent.

Figure 8: Age profile of APS ICT workforce by job role

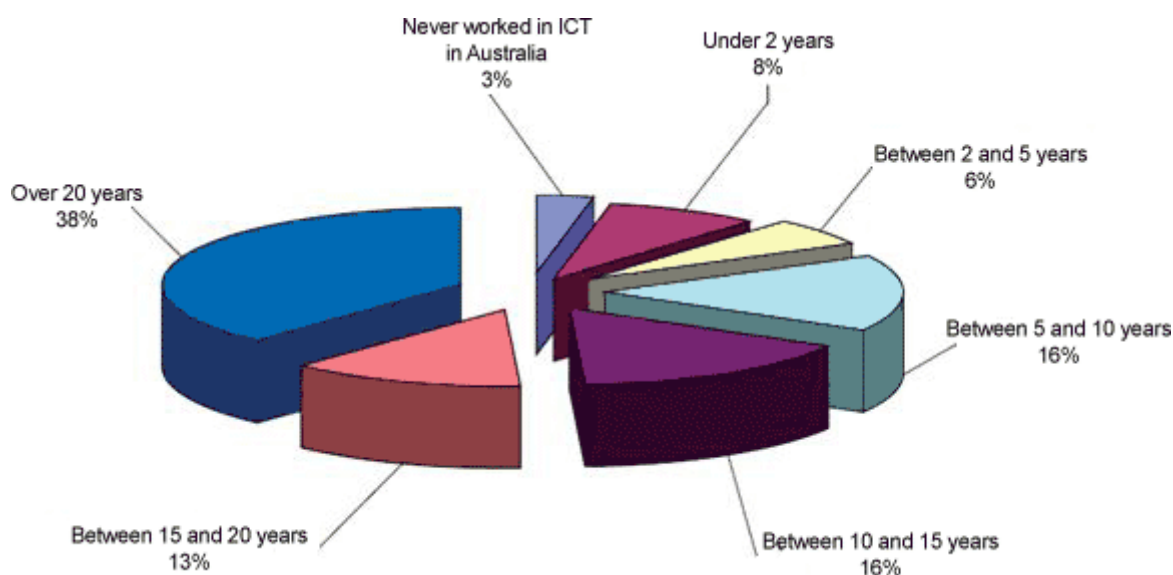


Source: ICT Workforce Capability and Assessment, Report of Employee Survey Findings, Orima Research, November 2009

## Current stage of ICT career

In August 2009, the Australian Computer Society released their *Employment Survey Report*, the sixth in a series providing detailed information about the employment outlook for ICT professionals in Australia, which is based upon survey responses of ICT professionals. When asked about the current stage in their career, over half of respondents indicated they have worked for more than ten years in the ICT industry in Australia.

**Figure 9: Australian ICT workforce—Duration of employment**



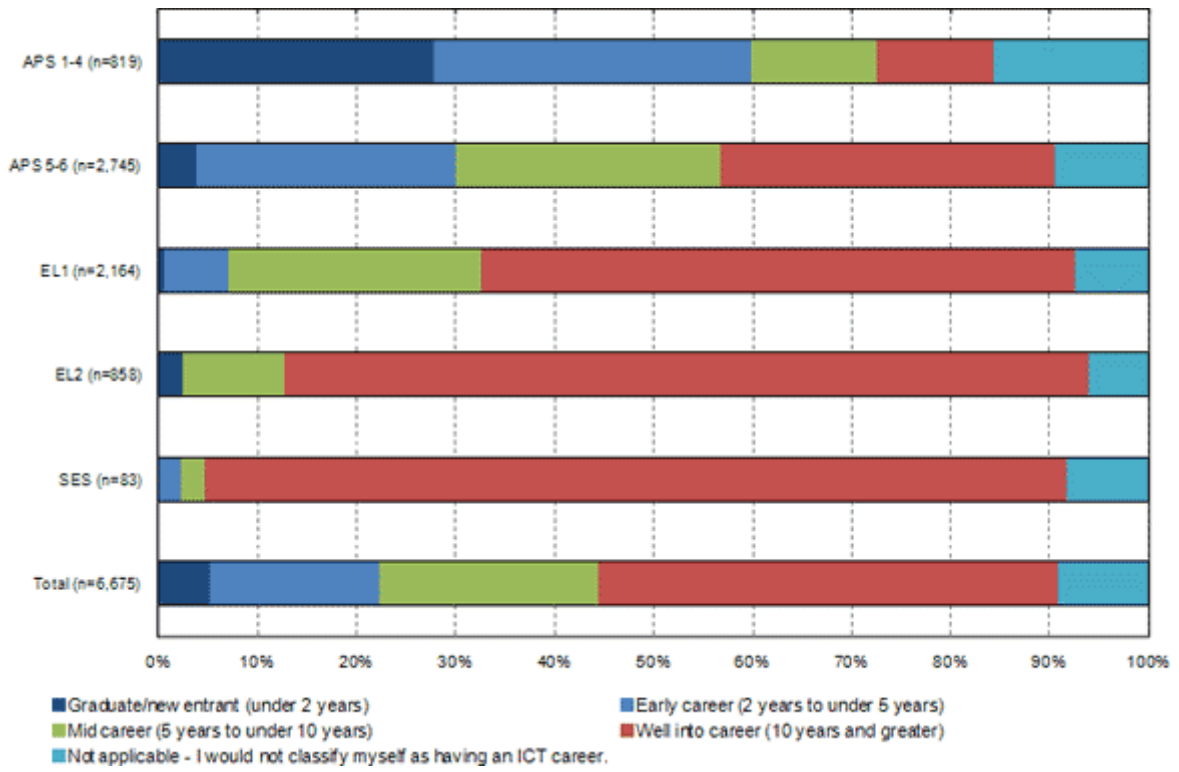
Source: *ACS Employment Survey Report*, Centre for Innovative Industries Economic Research Inc for the Australian Computer Society, September 2009

This is supported and reinforced by the findings of the 2009 APS employee survey, which showed that over half of respondents indicated they were well into their ICT career (10 years or more) with the likelihood that this increased with an increase in their classification level.

APS 5–6 and EL employees were most likely to indicate that they were mid-way through their ICT career.

Almost one in ten ICT employees indicated they would not classify themselves as having an ICT career, with 15 per cent of APS 1–4 employees feeling this way.

Figure 10: APS ICT workforce—Current stage of ICT career



Source: *ICT Workforce Capability and Assessment*, Report of Employee Survey Findings, Orima Research, November 2009

## Educational profile

The ICT workforce is generally better qualified than the rest of the workforce—77 per cent have qualifications compared to 55 per cent among the non-ICT workforce. More than 50 per cent of the ICT workforce has higher educational qualifications. However, there is some variation in the profile of qualifications across ICT occupations with *telecommunications*, *client support/education/security*, and *quality assurance/testing* having relatively high proportions of staff without qualifications.

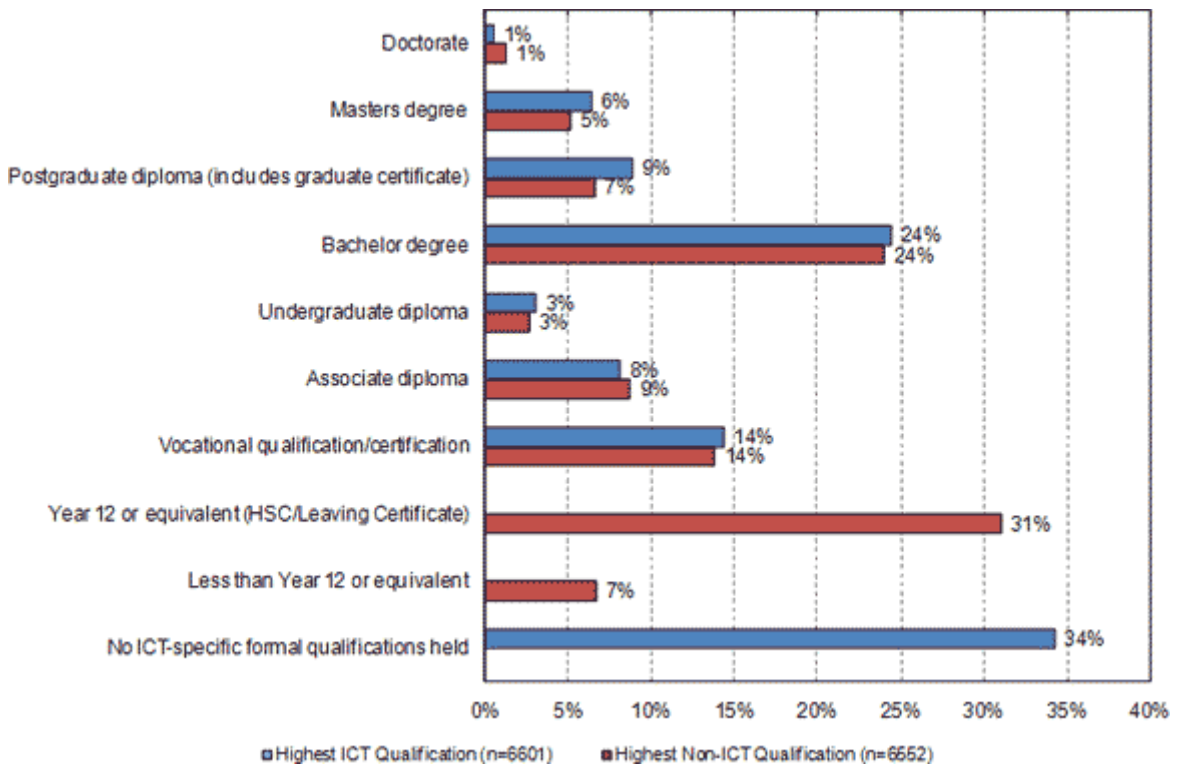
**Table 2—ICT workforce educational profile**

Occupation group	Level of highest non-school qualification						
	Postgrad	Grad dip/cert	Bachelor	Adv dip/dip	Cert III/IV	Cert I/II	None
<b>ICT</b>	<b>9</b>	<b>5</b>	<b>38</b>	<b>12</b>	<b>9</b>	<b>4</b>	<b>23</b>
Sys & infrastructure	10	5	42	13	6	2	22
Data networks	10	5	43	12	6	3	21
Telecommunications	3	3	16	12	28	7	31
Software engineering	12	5	47	11	4	2	18
Digital content del/pub	5	4	38	18	8	3	24
Client supp/edu/security	5	4	29	15	12	5	30
Systems analysis	11	6	44	11	6	3	20
Procurement/management	11	7	38	11	9	3	21
Quality assurance/testing	7	9	30	13	6	6	30
Database sys/info man	10	5	42	13	6	2	22
<b>Non-ICT</b>	<b>3</b>	<b>3</b>	<b>16</b>	<b>9</b>	<b>18</b>	<b>6</b>	<b>46</b>
<b>All</b>	<b>4</b>	<b>3</b>	<b>16</b>	<b>9</b>	<b>18</b>	<b>6</b>	<b>45</b>

Source: *The Centre for the Economics of Education and Training at Monash University environmental scan, 2009.*

Similar proportions of APS ICT employees hold graduate qualifications in ICT and non-ICT areas. About two-thirds of APS ICT employees indicated that they held an ICT qualification, with approximately 40 per cent holding a bachelor-level qualification or higher.[1]

**Figure 11—APS ICT workforce educational profile—highest ICT and non-ICT educational qualification**



Source: *ICT Workforce Capability and Assessment*, Report of Employee Survey Findings, Orima Research, November 2009

## APS specific ICT workforce data

Across all participating APS agencies, the total size of the identified ICT workforce as at 30 June 2009 was 11,895. This comprises 7.2 per cent of the total workforce of 165,912.

- For small agencies (those with an ICT workforce of less than 20), there was a total of 334 ICT workers, or 3.8 per cent of the total workforce of 8,755.
- For medium agencies (those with an ICT workforce of between 20 and 99), there was a total of 862 ICT employees, or 3.5 per cent of the total workforce of 24,491.
- For large agencies (those with an ICT workforce of 100 or more), there was a total of 10,699 ICT employees, or 8.1 per cent of the total workforce of 132,666.

**Table 3: ICT and total workforce– small agencies (< 20 ICT employees)**

<b>Small agencies (&lt; 20 ICT employees)</b>	<b>Total ICT workforce (headcount)</b>
Cancer Australia	0
Aboriginal Hostels Limited	1
Future Fund Management Agency	1
National Capital Authority	1
Private Health Insurance Ombudsman	1
Australian Organ and Tissue Donation and Transportation Authority	1
National Water Commission	1
Office of the Australian Building and Construction Commissioner	2
Australian Centre for International Agricultural Research	2
Australian Institute of Aboriginal and Torres Strait Islander Studies	2
Australian Office of Financial Management	2
Australian Sports Anti-Doping Authority	2
AUSTRAC	2
Export Wheat Commission	2
Professional Services Review	2
Office of the Australian Accounting Standards Board	3
Australian National Maritime Museum	3
Office of the Official Secretary to the Governor-General	3
National Blood Authority	3
Office of Parliamentary Counsel	3
Old Parliament House	3
Office of the Privacy Commissioner	3
Australian National Audit Office	4

**Table 3: ICT and total workforce– small agencies (< 20 ICT employees)**

<b>Small agencies (&lt; 20 ICT employees)</b>	<b>Total ICT workforce (headcount)</b>
Food Standards Australia New Zealand	4
National Museum of Australia	4
National Offshore Petroleum Safety Authority	4
Social Security Appeals Tribunal	4
Torres Strait Regional Authority	4
Commonwealth Grants Commission	5
Administrative Appeals Tribunal	6
Department of the House of Representatives	6
Department of Climate Change	6
Human Rights and Equal Opportunity Commission	6
Office of National Assessments	6
Department of the Senate	6
Productivity Commission	7
Australian Pesticides and Veterinary Medicines Authority	8
Office of the Commonwealth Ombudsman	8
Screen Australia	8
Australian Public Service Commission	9
Australian Radiation Protection and Nuclear Safety Agency	9
Insolvency and Trustee Service Australia	9
Murray Darling Basin Authority	10
Australian Institute of Family Studies	11
Australian Research Council	11
Australian War Memorial	12
Great Barrier Reef Marine Park Authority	12

**Table 3: ICT and total workforce– small agencies (< 20 ICT employees)**

<b>Small agencies (&lt; 20 ICT employees)</b>	<b>Total ICT workforce (headcount)</b>
National Film and Sound Archive	12
National Health and Medical Research Council	12
Royal Australian Mint	13
Department of the Prime Minister and Cabinet	13
Australian Institute of Health and Welfare	14
Federal Court of Australia	14
Fair Work Australia	15
Migration Review Tribunal and Refugee Review Tribunal	19
<b>All small agencies</b>	<b>334</b>

Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009

**Table 4—ICT and total workforce – medium agencies (20–99 ICT employees)**

<b>MEDIUM AGENCIES (20 – 99 ICT employees)</b>	<b>Total ICT workforce (headcount)</b>
Department of Broadband, Communications and the Digital Economy	20
Office of the Commonwealth Director of Public Prosecutions	20
National Native Title Tribunal	21
Australian Fisheries Management Authority	24
Therapeutic Goods Administration	24
Department of Infrastructure, Transport, Regional Development and Local Government	26
Australian Communications and Media Authority	27
Australian Electoral Commission	27
Workplace Authority	27
Comcare	29

**Table 4—ICT and total workforce – medium agencies (20–99 ICT employees)**

<b>MEDIUM AGENCIES (20 – 99 ICT employees)</b>	<b>Total ICT workforce (headcount)</b>
AusAID	33
Australian Competition and Consumer Commission	35
National Archives of Australia	35
Family Court of Australia	40
CRS Australia	42
Australian Trade Commission	46
Defence Housing Australia	46
National Library of Australia	48
Australian Crime Commission	58
Department of Agriculture, Fisheries and Forestry	66
Department of Health and Ageing	78
The Treasury	90
<b>All medium agencies</b>	<b>862</b>

Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009

**Table 5: ICT and total workforce – large agencies (100+ ICT employees)**

<b>LARGE AGENCIES (100 + ICT employees)</b>	<b>Total ICT workforce (headcount)</b>
CrimTrac	102
Department of Foreign Affairs and Trade	110
Department of the Environment, Water, Heritage and the Arts	117
Department of Parliamentary Services	124
Department of Veteran's Affairs	124
Geoscience Australia	125
ComSuper	125
Attorney-General's Department	130
Australian Customs & Border Protection Service	142
IP Australia	142
Department of Finance and Deregulation	158
Department of Human Services	169
Department of Innovation, Industry, Science and Research	187
Attorney-General's Department 2	192
Department of Families, Housing, Community Services and Indigenous Affairs	231
Australian Federal Police	232
Australian Bureau of Meteorology	243
Australian Bureau of Statistics	378
Medicare Australia	459
Department of Immigration and Citizenship	619
Department of Education, Employment & Workplace Relations	930
Department of Defence	1,559

**Table 5: ICT and total workforce – large agencies (100+ ICT employees)**

<b>LARGE AGENCIES (100 + ICT employees)</b>	<b>Total ICT workforce (headcount)</b>
Australian Taxation Office	1,981
Centrelink	2,120
<b>All large agencies</b>	<b>10,699</b>

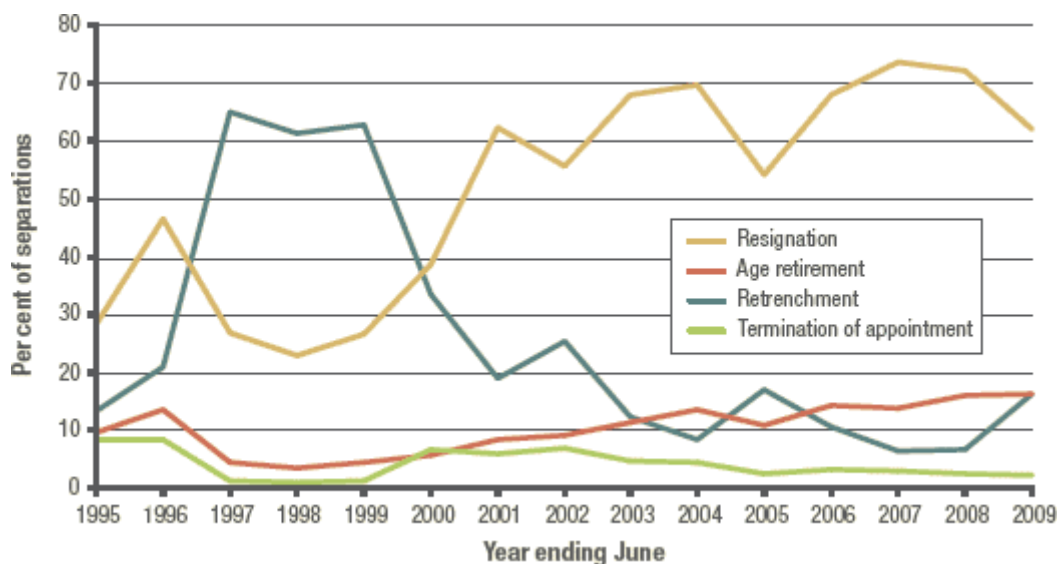
Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009

## Separation

The 2009 APS employee survey provided the opportunity to identify the APS ICT workforce for the first time. This will allow us, in the future, to compare the separation rate of the ICT workforce with the whole of the APS.

For this report, the overall separation rate for the APS has been used, for the period 2008–09. At 7 per cent, the separation rate has been relatively steady over the past decade. Table 15 shows that resignations accounted for more than 60 per cent of all ongoing separations during 2008–09.

**Figure 12—Separations of ongoing employees, 1994–95 to 2008–09**



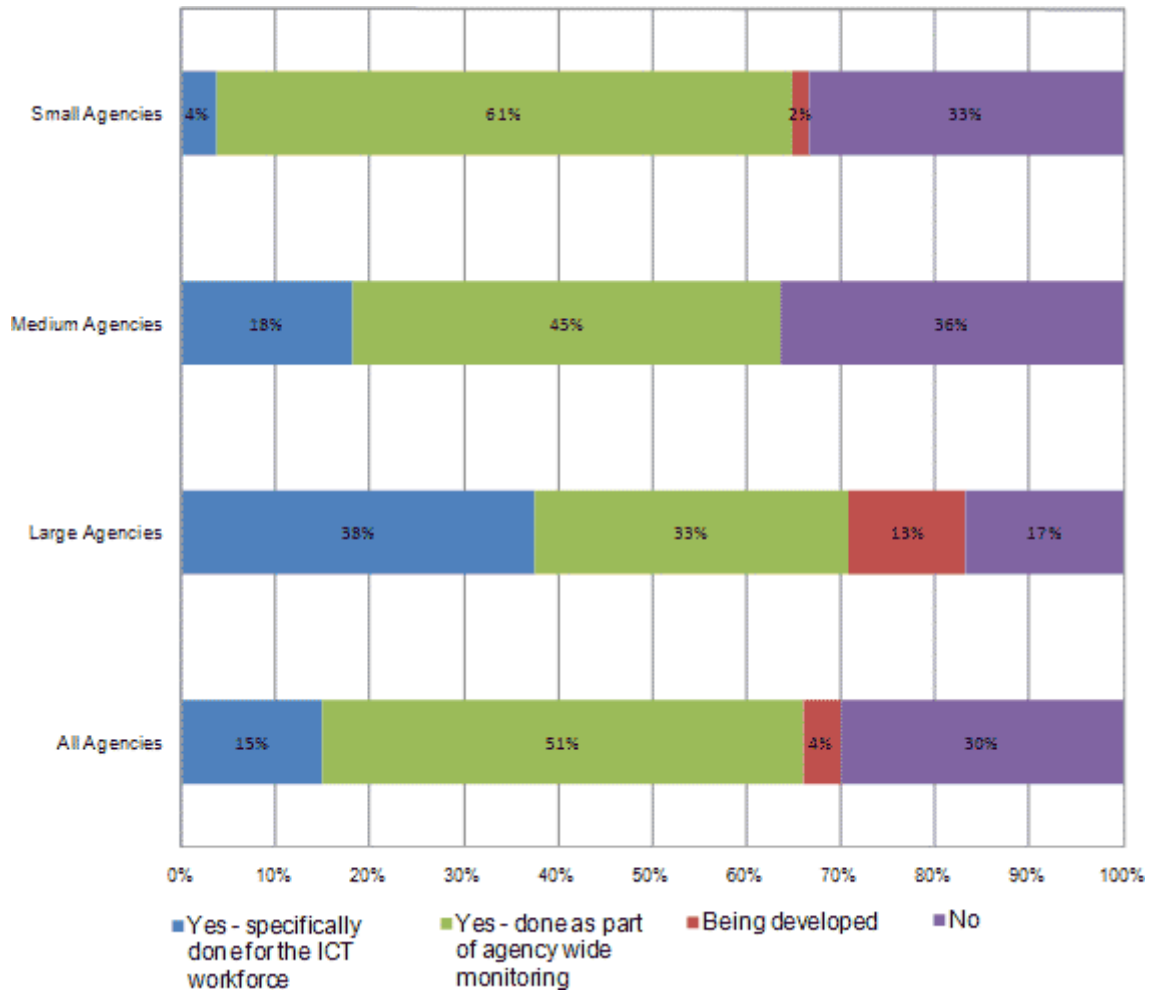
Source: 2008/09 State of the Service Report. Measuring the workforce.

The majority of APS agencies reported that they monitored ICT employee turnover, either specifically for the ICT workforce or as part of agency-wide monitoring.

Specifically, the methods used for monitoring turnover of the APS ICT workforce included:

- ICT Balanced Scorecard results provided to the ICT Committee;
- Monthly reports to ICT executives; and
- Exit interviews with ICT staff.

Figure 13—Percentage of agencies monitoring turnover

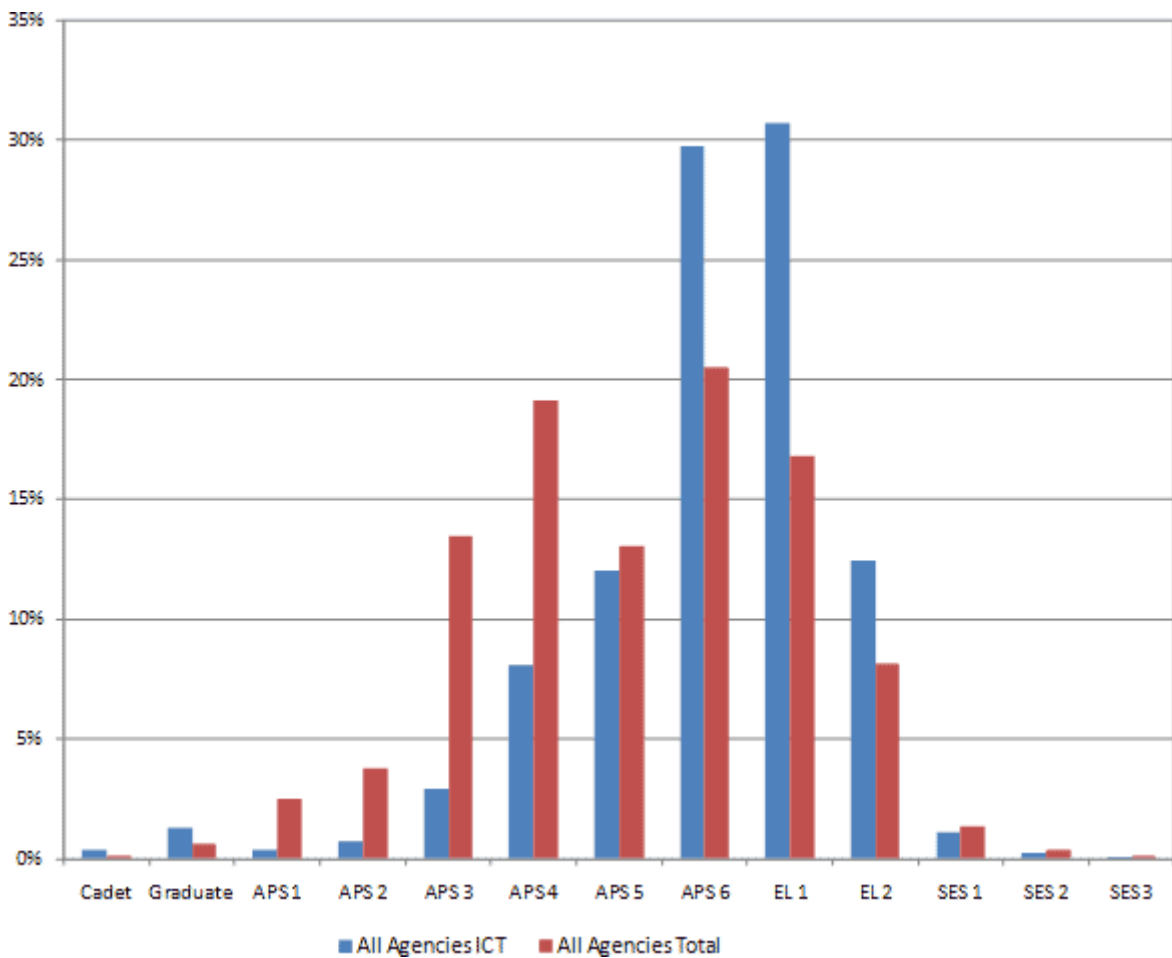


Source: Results of the ICT Workforce Capability and Assessment Agency Survey, ORIMA Research, November 2009

## Classification profile

The APS ICT workforce has a higher classification profile than the APS as a whole. Just under two-thirds of the APS ICT workforce was employed at the EL 1 or APS 6 classification levels.

**Figure 14—APS ICT classification profile**

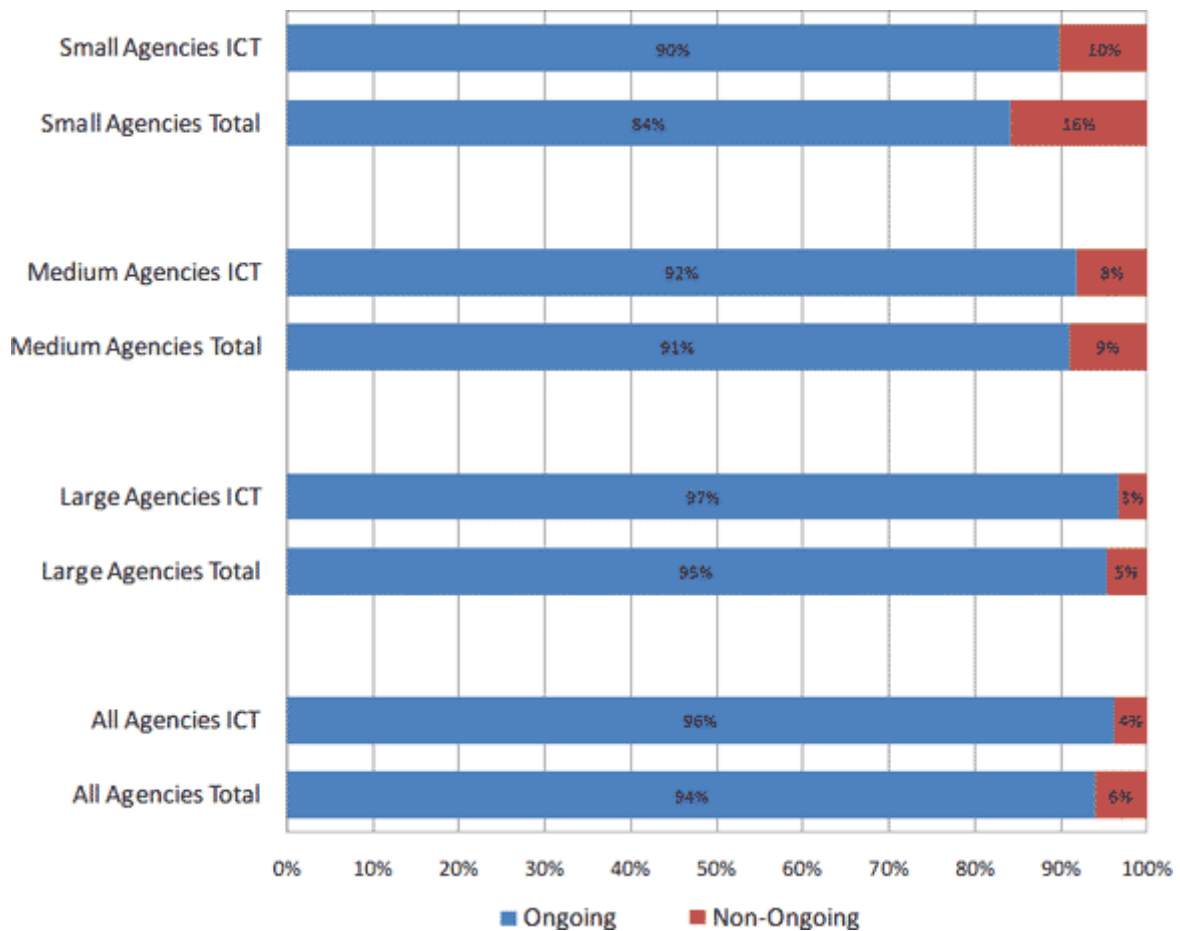


Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009

## Ongoing/non-ongoing profile

For all APS agencies, similar proportions of the ICT workforce and total APS employees are ongoing (96 and 94 per cent respectively). For small agencies, a smaller proportion of both ICT employees (90 per cent) and the total workforce (84 per cent) are ongoing.

Figure 15—Ongoing/non-ongoing profile of ICT and total APS employees



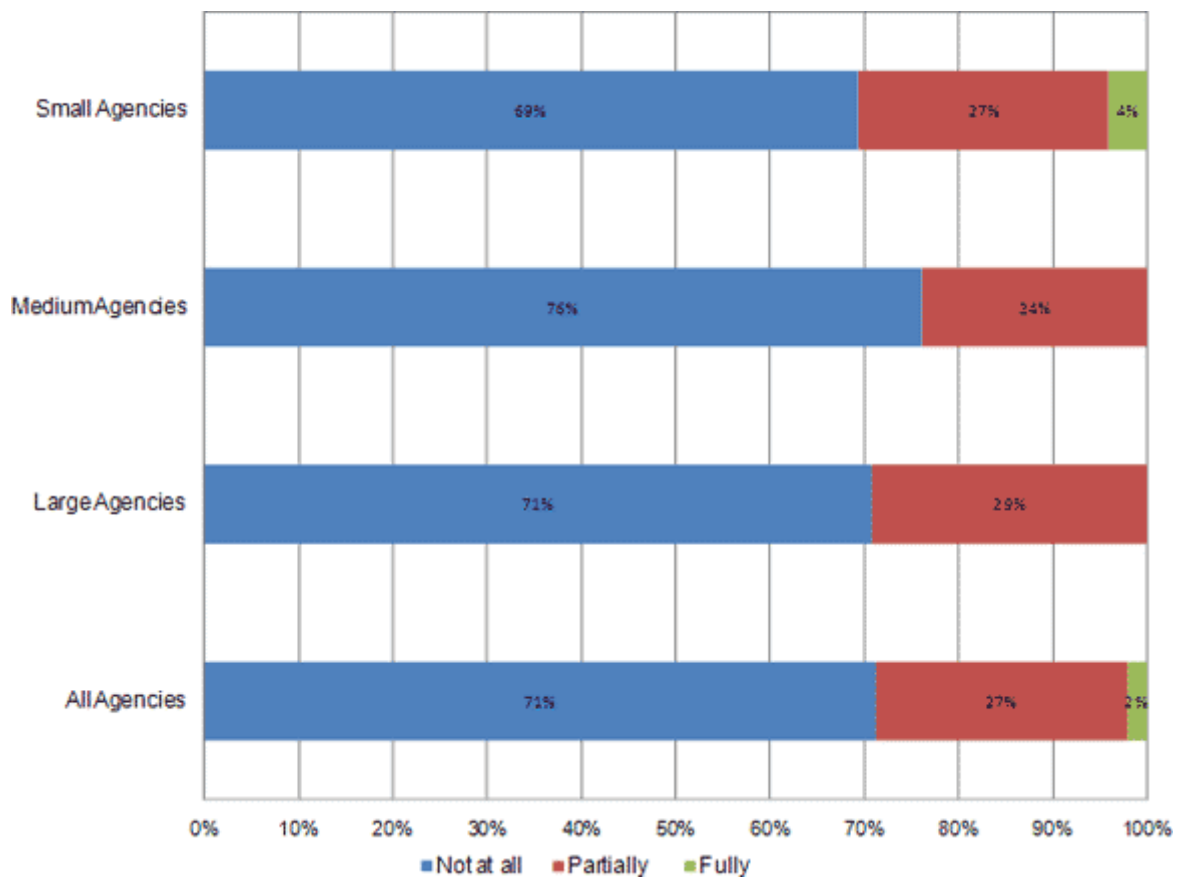
Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009

## Outsourcing

### Outsourcing of ICT job roles to other government agencies

Around one-quarter of all agencies partially outsource ICT job roles to other government agencies.

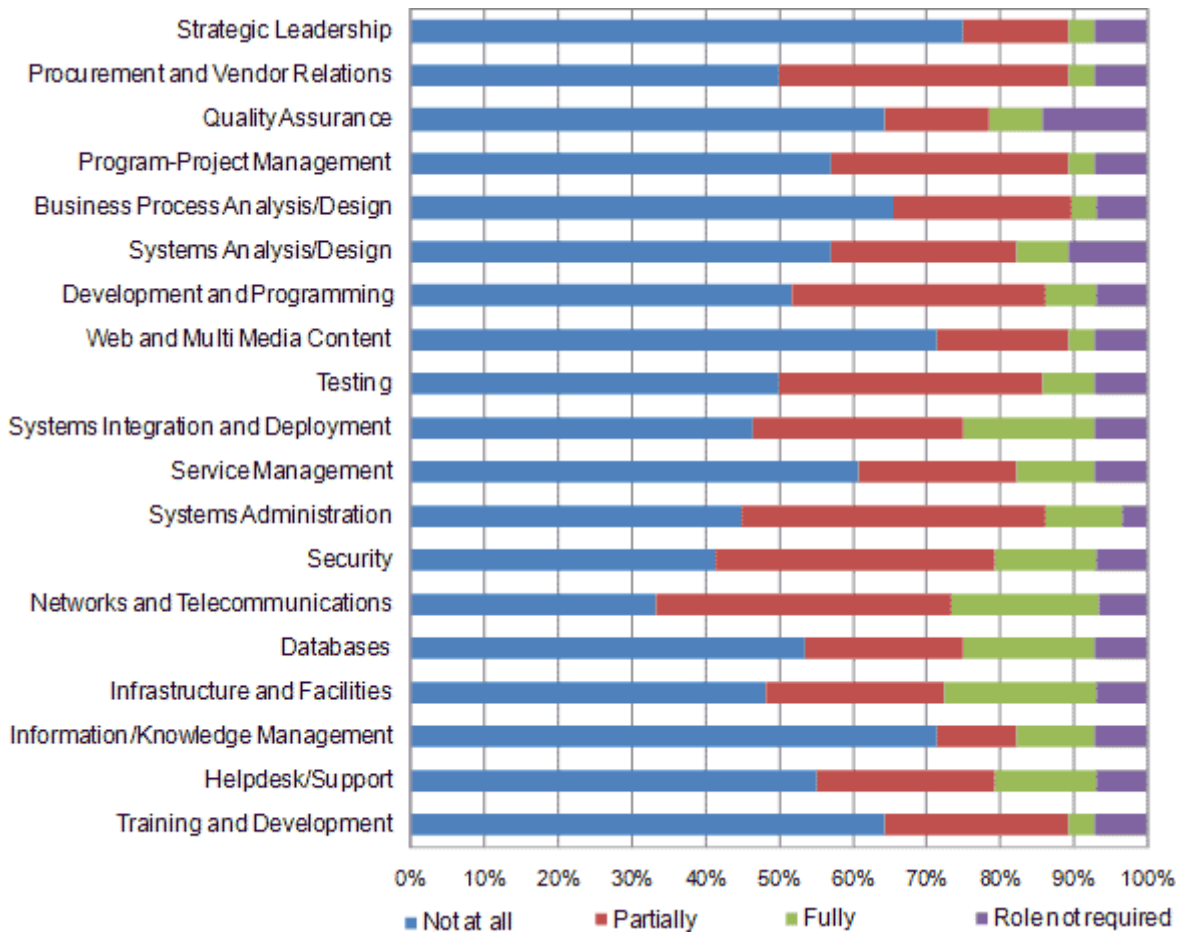
Figure 16— Extent to which ICT job roles are outsourced to other government agencies



Source: *Results of the ICT Workforce Capability and Assessment Agency Survey*, ORIMA Research, November 2009

Across all agencies, the job roles most likely to be partially or fully outsourced to other government agencies are *networks & telecommunications* (40 per cent partially, and 20 per cent fully) and *security* (38 per cent partially and 14 per cent fully).

**Figure 17—Extent to which ICT job roles are outsourced to other government agencies – all agencies**

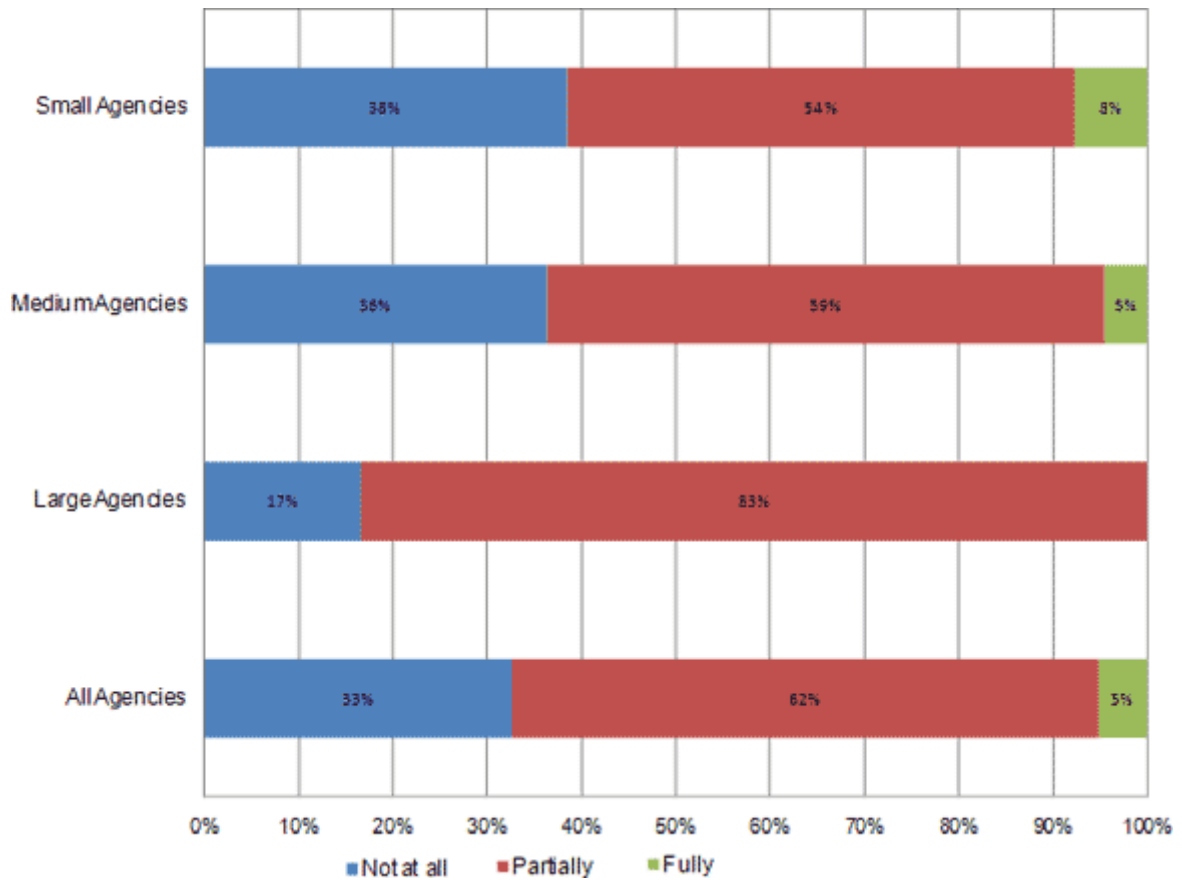


Source: Results of the ICT Workforce Capability and Assessment Agency Survey, ORIMA Research, November 2009

### Outsourcing of ICT job roles to non-government organisations

Outsourcing to non-government organisations occurs more often than outsourcing to other government agencies: 62 per cent of all agencies partially outsource their ICT roles to non-government organisations, and 5 per cent fully outsource their ICT roles.

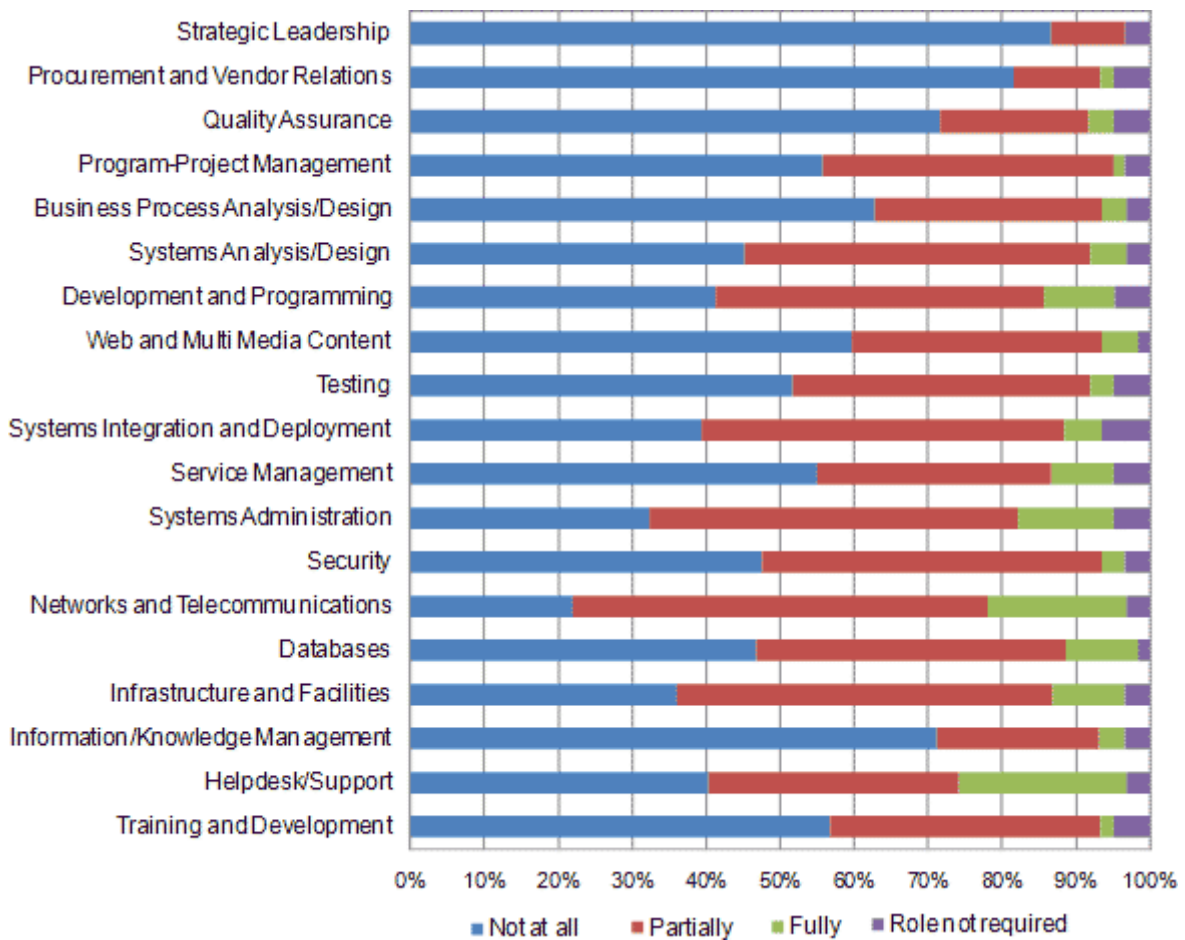
Figure 18—Extent to which ICT job roles are outsourced to non-government organisations



Source: Results of the ICT Workforce Capability and Assessment Agency Survey, ORIMA Research, November 2009

Across all agencies, the job roles most likely to be partially or fully outsourced to non-government agencies are *networks & telecommunications* (56 per cent partially, and 19 per cent fully), *systems administration* (50 per cent partially, and 13 per cent fully) and *infrastructure & facilities* (51 per cent partially, and 10 per cent fully).

Figure 19—Extent to which ICT job roles are outsourced to non-government organisations – all agencies



Source: Results of the ICT Workforce Capability and Assessment Agency Survey, ORIMA Research, November 2009

[1] The options 'Year 12 or equivalent' and 'Less than Year 12 or equivalent' were only available for the question examining the highest level of non-ICT qualification.