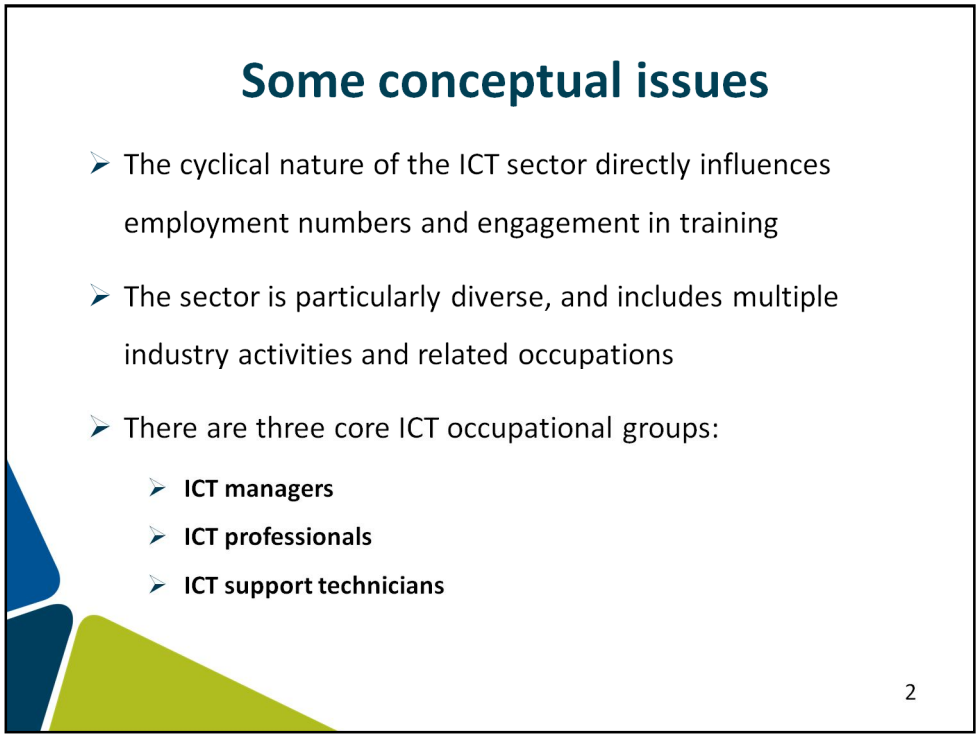
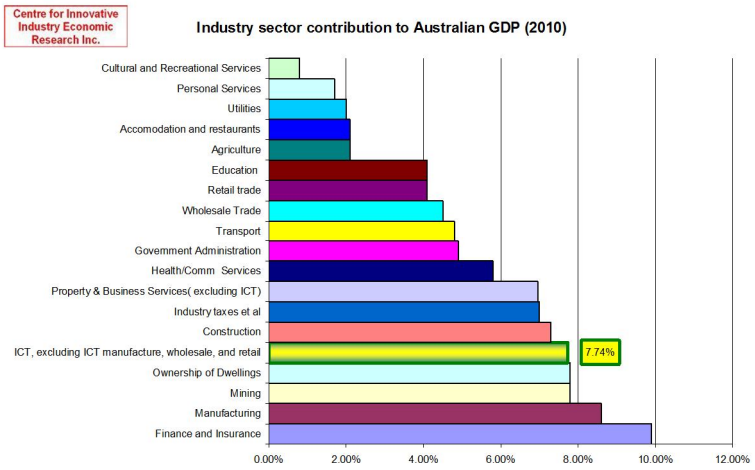

Australian Workforce
and Productivity Agency
ICT Skills in the Workplace Forum
Parliament House
Overview of ICT workforce
21 November 2012



- Peaks and troughs in ICT activity have a marked impact on employment numbers, and on the numbers of students engaging in ICT courses. Following the dotcom crash in 2000, ICT courses became less attractive for domestic students, and overseas workers filled some of the gaps. We can also identify a slight dip during the GFC.
- Second, it is clear that ICT workers are important to every sector of the economy. There are ICT workers employed in each of the 19 industry divisions identified by the Australian Bureau of Statistics. The majority of these workers (56 per cent) are classified in the Professional, Scientific and Technical Services industry division.
- The employment picture is also complex. The ABS identifies 18 different ICT occupations in the Australian and New Zealand Standard Classification of Occupations.
- We can identify three core ICT "occupational strata" across these occupations. ICT professionals are clearly the biggest of these occupational strata, representing around 70 per cent of total ICT employment.
  - **ICT managers** (employed 49 400 in August 2011)
  - **ICT professionals** (employed 226 900 in August 2011) and
  - **ICT support technicians** (employed 50 700 in August 2011).

The contribution of ICT to the economy



Source: Australian Computer Society (ACS), Australian ICT Statistical Compendium 2012

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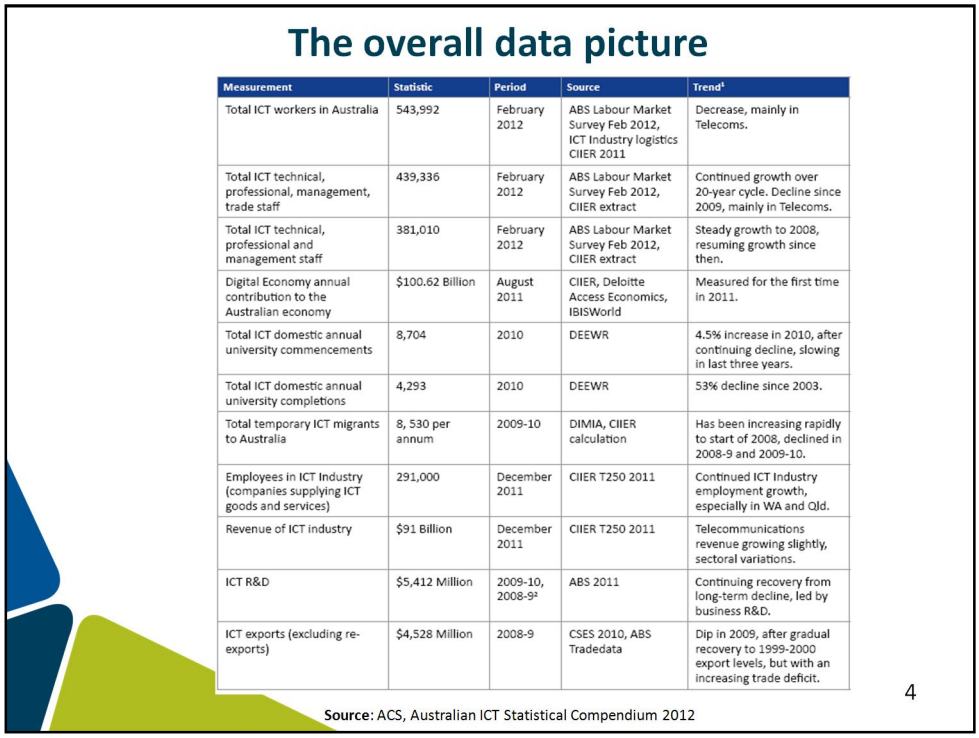
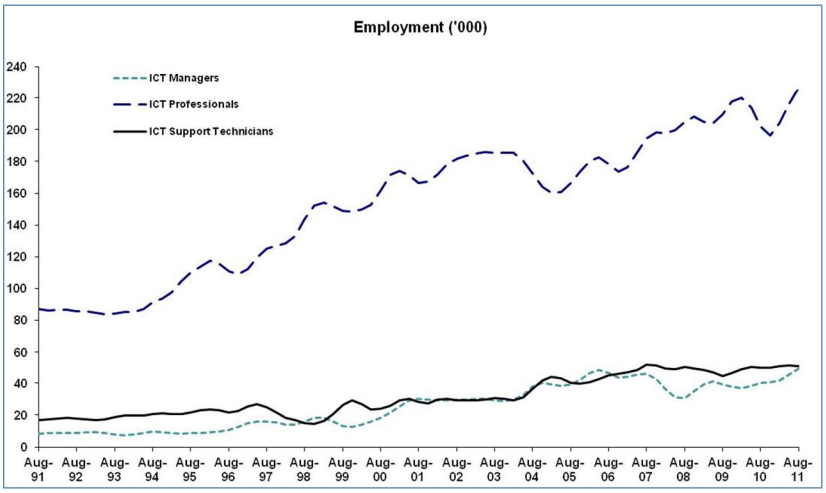
- This graph, which is drawn from the 2012 Australian ICT Statistical Compendium, demonstrates that the ICT industry sector is a key contributor to the Australian economy.



- This table, which is also drawn from the ACS Compendium, details the key data points for the ICT sector.

Skills demand

ICT Managers, Professionals & Technicians – employment trends (1990 to 2011)



Source: Department of Education, Employment and Workplace Relations (DEEWR) trend data based on the Australian Bureau of Statistics (ABS) Labour Force Survey

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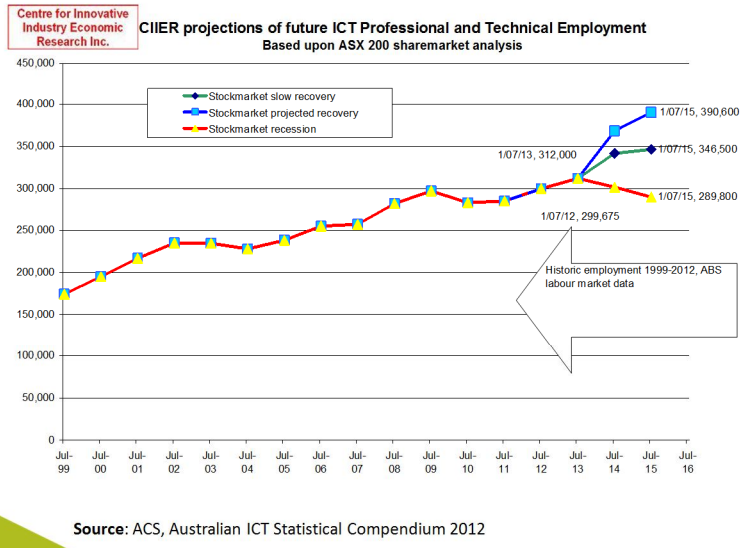
- This slide details the employment trends from 1990 to 2011 for the three key occupational strata – ICT Managers, Professionals and Support Technicians.
- The employment of ICT Professionals and Managers trended up strongly over the period from 1994 to 2004, and subsequently fell over 2004 and the first half of 2005, as a result of a downturn in the ICT industry. Since then, employment has recovered and has grown over most of the period from 2005 onward, with some fluctuations.
- While the economic downturn in 2008 and early 2009 resulted in a dramatic decline in the number of ICT *vacancies*, this did not have an immediate negative impact on *employment* for ICT Professionals. Employment for ICT Professionals remained fairly stable over 2009 and 2010.

ICT Managers, Professionals & Technicians – employment trends (1990 to 2011)



Source: ACS, Australian ICT Statistical Compendium 2012

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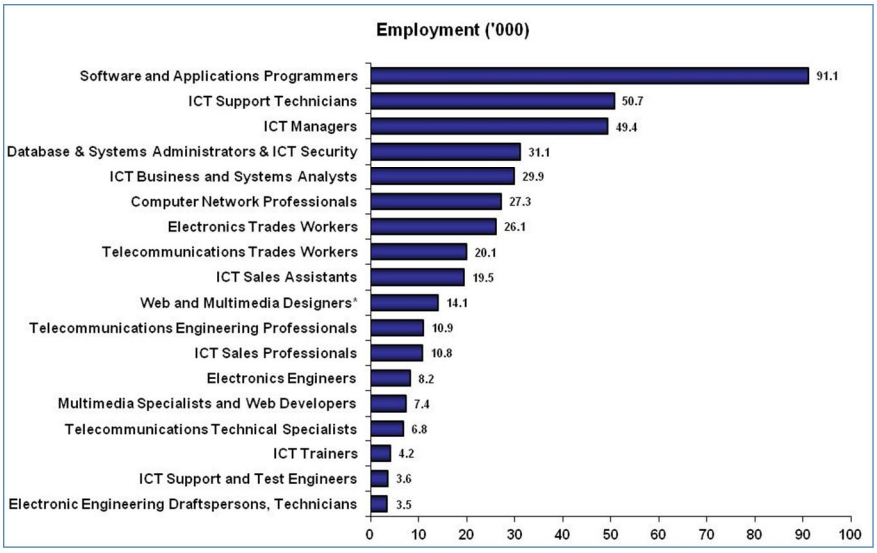
- Three scenarios published by ACS (based on stock performance) indicate that, unless Australia tips into a minimum two-year recession, net demand for ICT technical and professional staff will continue to grow.

Current ICT employment by occupation



Source: DEEWR trend data based on ABS Labour Force Survey

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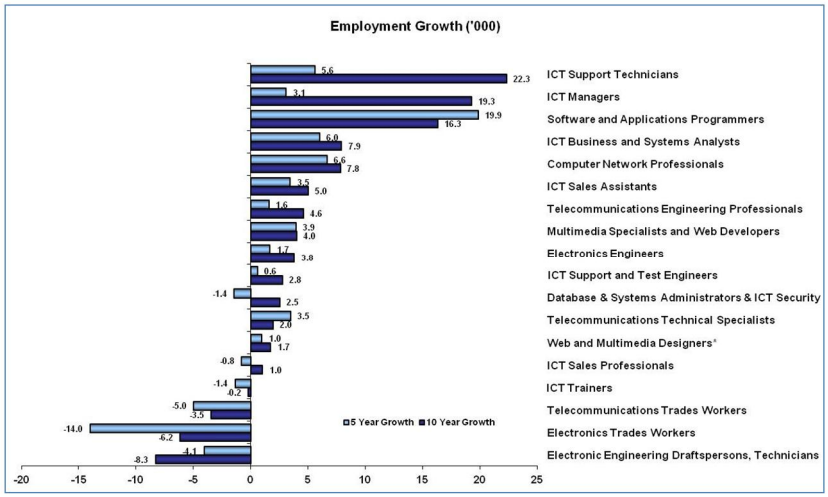
- This slide profiles the key ICT occupations as at August 2011.
- The occupational coverage shown on this slide bring together the core ICT occupations together with trades workers and technicians, trainers, sales people and designers working in telecommunications and other ICT-related occupations. In August 2011, 440 100 workers were identified as employed in ICT occupations in Australia.
- The key occupations in terms of total employment include
  - Software and Applications Programmers (91 100)
  - ICT Support Technicians (50 700)
  - ICT Managers (49 400)
  - System Administrators and Security (31 100)
  - ICT Business and Systems Analysts (29 900).

- It is important to note that ICT *user* skills have become an integral part of many occupations, and employment in these roles is not picked up in these employment data.

Employment trends across occupations



Source: DEEWR trend data based on ABS Labour Force Survey

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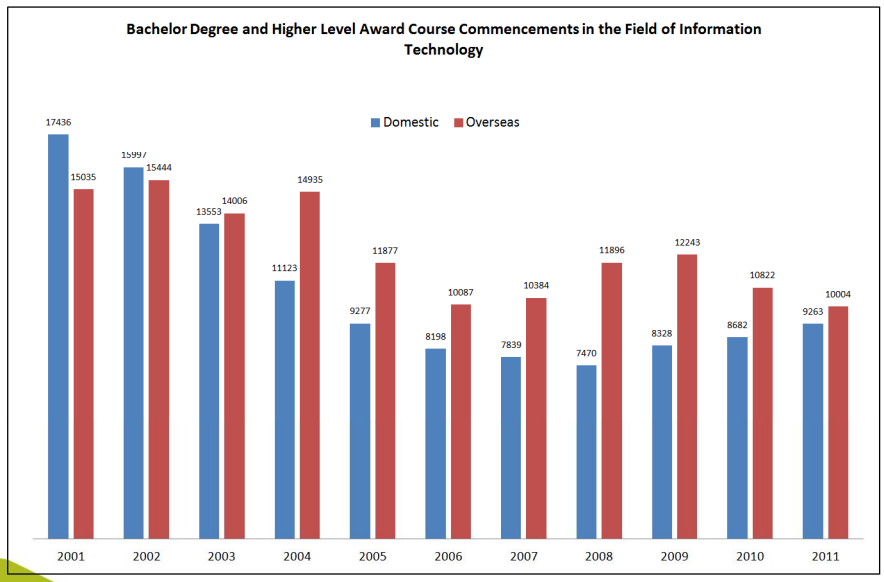
- This slide shows some trends over time in these occupations.
- Over the last 10 years, the occupational groupings of ICT Professional, ICT Manager and ICT Support Technician have steadily expanded in employment size, while employment size for traditional ICT trades (Telecommunications Trades Workers and Electronics Trades Workers) has declined over the same period.

Skills supply

Commencements in ICT courses



Source: DEEWR trend data based on Department of Industry, Innovation, Science, Research and Tertiary Education (DIISRTE) Higher Education Group, Selected Higher Education Statistics Publications

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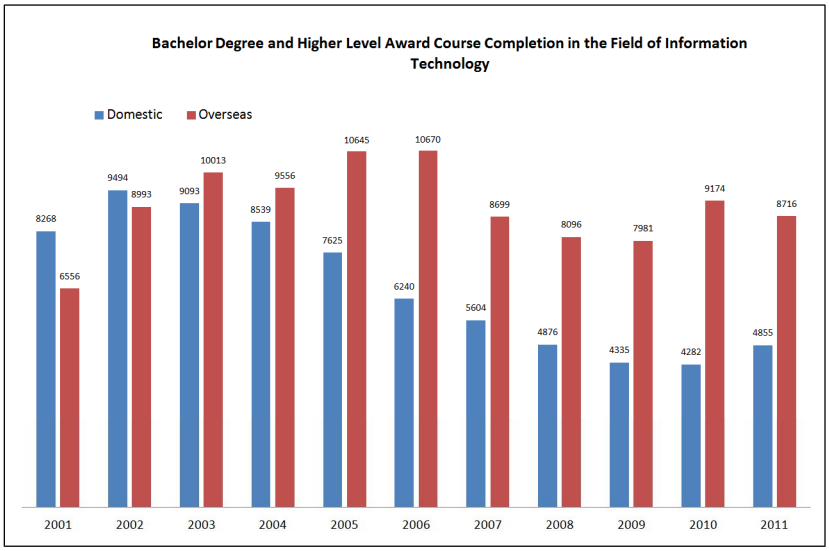
- This graph profiles commencements in ICT courses over the past ten years. The point to note here is that **commencements of <u>domestic</u> students** in Bachelor Degree and Higher Award Courses in Information Technology **declined every year** from 2001 to 2008. Domestic commencements decreased most rapidly over the 2001 to 2006 period, at an average rate of approximately 14 per cent per annum.
- Since 2008, we have seen some improvement in domestic commencements.
- As a result of this trend, in the short to medium term it seems likely that industry demand for recent ICT graduates will be met increasingly by overseas students, who have the potential to enter the Australian ICT labour market through the General Skilled Migration program.

Completions in ICT courses



Source: DEEWR trend data based on DIISRTE Higher Education Group, Selected Higher Education Statistics Publications

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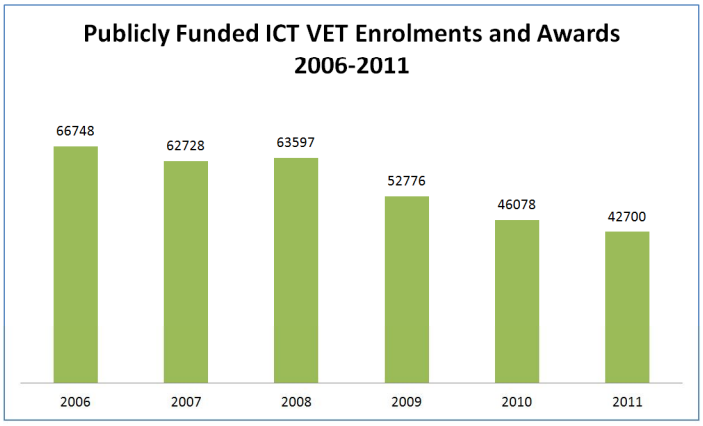
- This slide profiles completions in ICT Higher Education courses.
- The same pattern applies here as we saw with commencements. Domestic student completions declined at an average rate of approximately 8 per cent per annum over the 2003 to 2005 period. From 2005 to 2009, domestic student completions declined at a more rapid rate, approximately 14 per cent per annum. There have been some improvements over the past three years.
- Over recent years, we have seen a steady increase in domestic ICT commencements, and this should have positive implications in future years for completions in these courses.

Engagement in Vocational education and training (VET) courses for the ICT sector



Source: ACS, Australian ICT Statistical Compendium 2012

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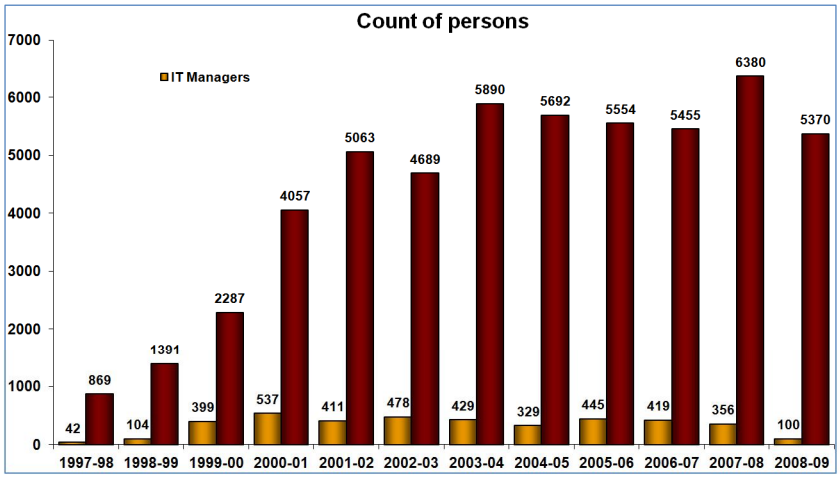
- This slide depicts enrolments and completions in publicly-funded ICT training. ICT qualifications are drawn from the two national training packages for ICT developed by the Innovation and Business Skills Australia (IBSA) industry skills council.
- A significant decline in enrolments in ICT training courses in recent years is evident here.
- In particular, ICT apprenticeships are not a well established pathway for entry to ICT careers. For example, only 8 per cent of ICT Support Technicians identify Certificate III or Certificate IV level qualifications as their highest level of educational attainment. By contrast, 40 per cent of ICT Support Technicians report a Bachelor Degree or Higher Level qualification as the their highest level of educational attainment.

ICT Managers & Professionals - net migration of skilled workers (1997-98 to 2008-09)



Source: DEEWR trend data based on Department of Immigration and Citizenship (DIAC) migration data

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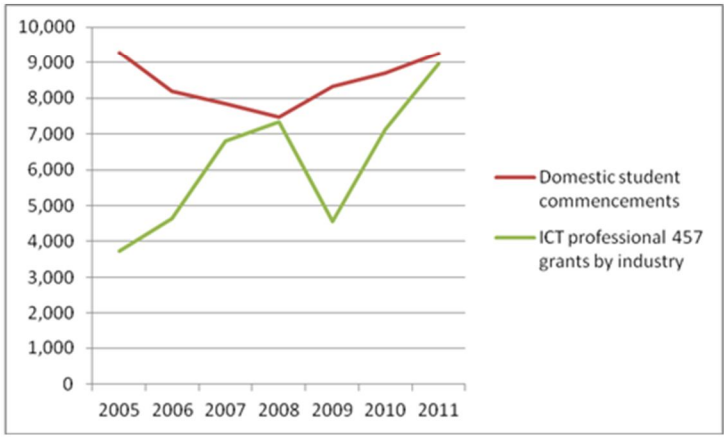
- Skilled migration is an increasingly significant source of skills supply for the ICT sector. This slide demonstrates the substantial increase in the net overseas migration of ICT Professionals and Managers over the past decade.
- We saw a big increase from 1997-98 to 2001-02, a slight decrease from 2003-04 to 2006-07, followed by a significant increase again in 2007-08.
- Employer-sponsored migration has been an increasingly important source of supply to the Australian labour market over recent years. Young Australian ICT graduates compete with young ICT graduates from other countries for ICT Professional jobs.

Comparison of domestic commencements and 457 visas for ICT Professionals

ICT domestic student commencements and 457 visas granted to ICT professionals



Source: AWPA 2012, based on DIISRTE Higher Education data and DIAC migration data.

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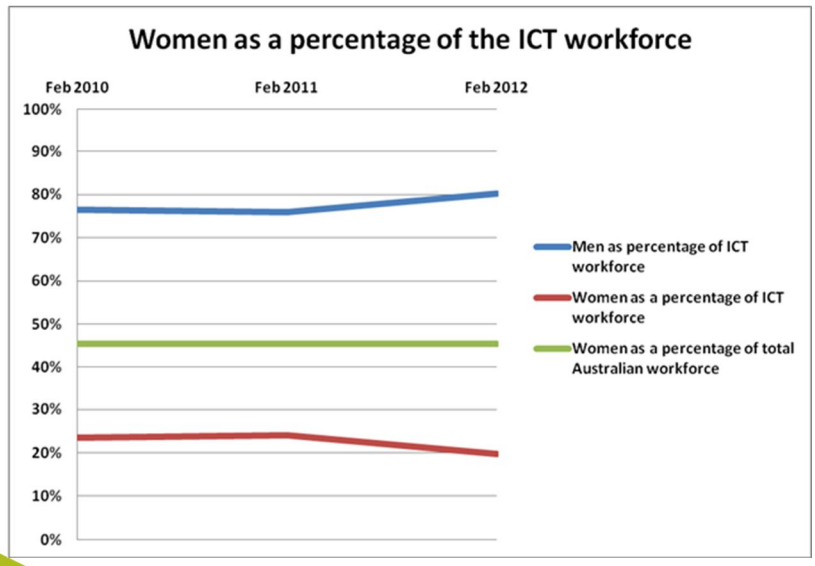
- This slide compares 457 visas for the ICT sector with domestic commencements in ICT Higher Education courses.
- 457 grants are now almost equivalent to domestic students commencements. It is fair to say, then, that domestic ICT graduates must increasingly compete with ICT graduates from other countries for ICT Professional jobs.

Female workforce in ICT



Source: ACS, Australian ICT Statistical Compendium 2012

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- Women as a percentage of the total Australian workforce has remained at about 45% for the period 2010-2012
- Women as a percentage of the ICT workforce has remained low and declined to less than 20% in February 2012 (based on ACS)

Appendix

The Australian Workforce and Productivity Agency

- Began as ***Skills Australia.*** Expert independent Board with expertise in industry, economics, education and academia
- Provides independent advice to the government on current, emerging and future skills needs and workforce development needs
- Remit expanded in March 2009 to look at full scope of labour market and give advice on HE & VET
- 2011 Budget announcement – extended role as Australian Workforce and Productivity Agency. Responsible for National Workforce Development Fund. Legislation passed June 2012.
- 1 July 2012 – became the Australian Workforce and Productivity Agency

***Back row (L to R)**: Dr John Edwards, Heather Ridout, Keith Spence*

***Middle row:** Prof. Gerald Burke, Peter Anderson, Ged Kearney*

***Front row:** Marie Persson, Philip Bullock (Chair), Dr Michael Keating AC*

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- On 19 July 2012, Senator the Hon Chris Evans, Minister for Tertiary Education, Skills, Science and Research launched the Australian Workforce and Productivity Agency (AWPA). The new Agency replaces Skills Australia. It has a broader role in workforce development, gives industry a stronger voice and ensures the Government's investment in training delivers the skills that industry and the economy need, in the right place at the right time.
- As part of our expanded role, the Agency will prepare sector-specific workforce development plans for priority industry sectors. As part of this work, the Agency is currently scoping a study on the ICT workforce.