



CELEBRATING
OUR CENTENARY

Australian engineering vacancies report

Trends from September 2018 to September 2019

October 2019



Australian engineering vacancies report

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Key points

- The last 12 months have seen the downward trend for Australian engineering vacancies nationally.
- On a state and territory basis, the downward trend is mirrored except in WA, where engineering vacancies have enjoyed an upward trend over the last year to September 2019.
- NSW continues to advertise the highest number of engineering vacancies in Australia, but vacancies have experienced a downward trend over the last 12 months.
- Victoria, Queensland and Western Australia also continue to record higher numbers of engineering vacancies than SA, Tasmania and the territories.
- Civil engineering vacancies continue to dominate the Australian engineering employment landscape.

Introduction

This report investigates trends in engineering employment in Australia through analysis of engineering vacancies data over the last year from September 2018 to September 2019. The original data is produced by the Department of Employment, Skills, Small and Family Business (the Department) and was released on 23 October 2019.

The Department produces a monthly Internet Vacancy Index (IVI) through the Labour Market Information Portal (LMIP) based on new advertisements on CareerOne, Seek and JobSearch. Duplicate advertisements are removed, and data has been indexed to 100 from September 2018 in order to analyse trends over the last 12 months.

Job vacancies provide a valuable gauge of the Australian labour market. The Beveridge Curve¹ provides the theoretical underpinning for analysis of the relationship between unemployment and vacancy levels.

This report should not be read as a report on specific job numbers but rather as a valuable analysis of vacancy trends which provides a broad indication of the direction of the engineering labour market.

This report will include Australian, state and territory trends as well as trends in a range of specific engineering occupations.

This report will include trends in the following engineering occupations:

- Civil engineering professionals (unit group 2332). This includes civil engineers, geotechnical engineers, quantity surveyors, structural engineers and transport engineers.
- Chemical and materials engineers (unit group 2331). This includes chemical engineers and materials engineers.
- Electrical engineers (unit group 2333). This includes electrical engineers only.
- Electronics engineers (unit group 2334). This includes electronics engineers only.
- Engineering managers (unit group 1332). This includes engineering managers only.
- ICT support and test engineers (unit group 2632). This includes ICT quality assurance engineers, ICT support engineers and ICT systems test engineers. It must be noted that for this occupation it can be hard to gauge how many of these occupations are engineering specific, so some caution should be taken with numbers for this occupation.
- Industrial, mechanical and production engineers (unit group 2335). This includes industrial engineers, mechanical engineers and production or plant engineers.
- Mining engineers (unit group 2336). This includes mining engineers and petroleum engineers.

¹ The Beveridge Curve depicts the relationship between the unemployment and job vacancy rates. See <https://www.abs.gov.au/Ausstats/abs@.nsf/7d12b0f6763c78caca257061001cc588/f30e7cb8e821cccca2583b90076c5fa!OpenDocument> for further information.

- Other engineering professionals (unit group 2339). This includes aeronautical engineers, agricultural engineers, biomedical engineers, engineering technologists, environmental engineers, naval architects and engineering professionals not elsewhere classified.
- Telecommunications engineers (unit group 2633). This includes telecommunications engineers and telecommunications network engineers.

Some occupations, where the numbers are too small to provide meaningful analysis, may be excluded.

Australia

The last 12 months have seen a steady decline in advertised vacancies across the board. After an upwards trend in the final quarter of 2018, advertised vacancies across Australia have trended down over the course of 2019.

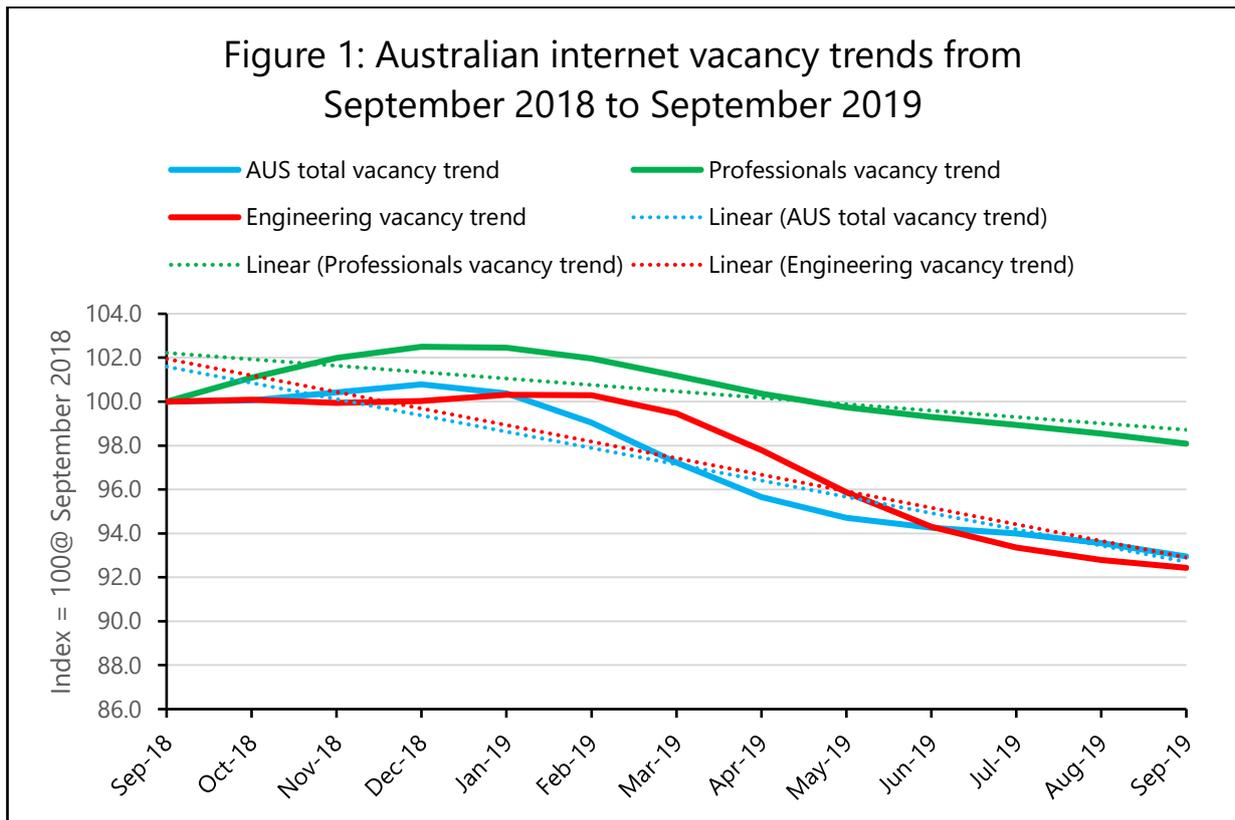
Engineering vacancy trends were relatively steady until February this year when a downward trend became apparent, eventually trending below total vacancies across Australia from June onwards. Whilst advertised professional vacancies have also declined, the decline has been less severe than for total vacancies and for engineering vacancies across Australia.

Engineering vacancies comprised 2.4% of all Australian vacancies advertised between September 2018 and September 2019. On average, 4,560 engineering jobs were advertised nationally in each month in that time.

The lowest number of engineering vacancies over that period was in September 2019 with 3,992 internet advertisements for engineers published. The highest number of published vacancies for engineers was in January 2019, with 4,333 jobs advertised.

Since September 2018, average annual growth for engineering vacancies in Australia has contracted by just over 7% compared with vacancies overall which have dropped by over 6%. Over the last three months, engineering vacancies have fared slightly worse than Australian vacancies overall. Total vacancy growth retreated by 1% compared with a contraction of 1.7% for engineering vacancies.

Figure 1 shows trends in the Australian labour force, through analysis of internet vacancy index data, comparing trends for all Australian vacancies, with trends for professional vacancies and trends for engineering vacancies from September 2018 to September 2019.



Australian engineering vacancies by occupation

Civil engineering vacancies have consistently dominated the Australian engineering employment landscape since IVI data records began and the last year is no exception. However, the number of advertised vacancies for civil engineering positions have decreased in the last 12 months.

Between September 2018 and September 2019, an average of 4,560 engineering jobs were advertised each month in Australia.

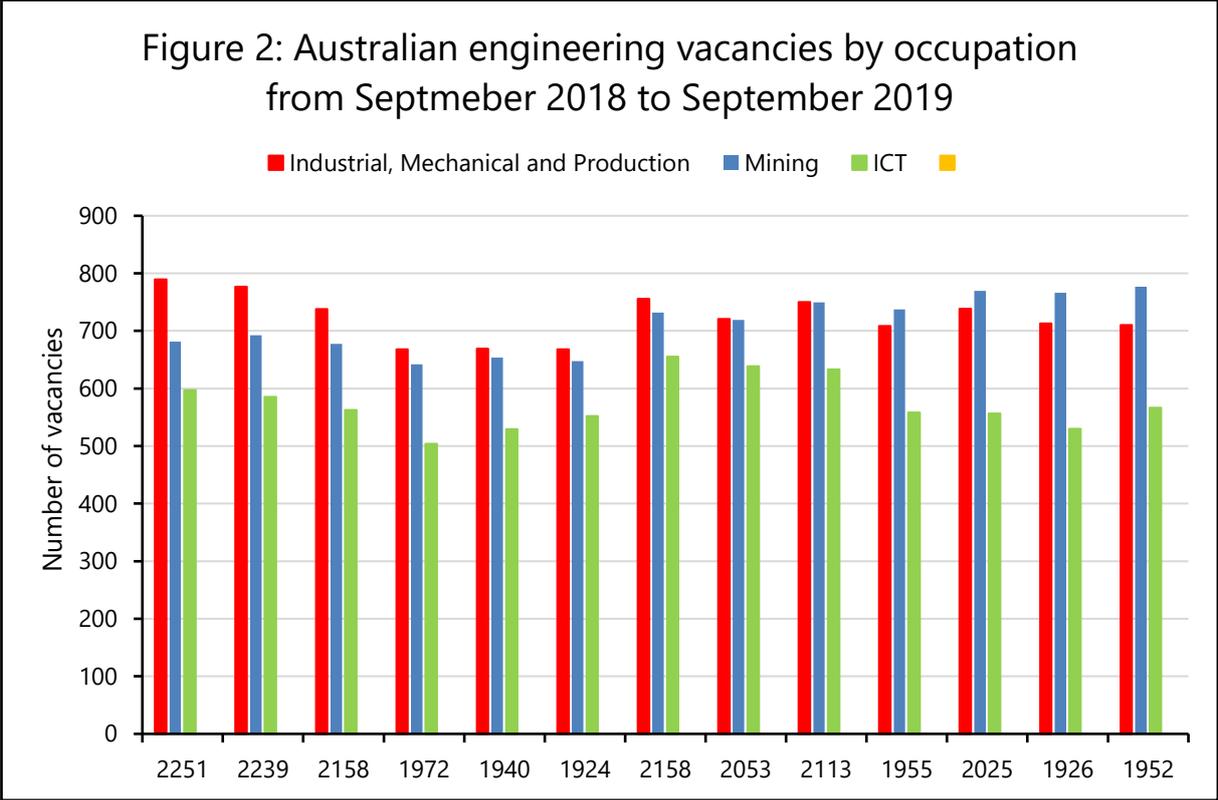
On average, just over 2,200 civil engineering jobs are advertised in Australia each month over the last 12 months. However, a downward trend in civil engineering roles is evident over the last year in Australia.

Industrial/Mechanical/Production engineering vacancies as well as Mining and ICT engineering vacancies have consistently advertised between 500–800 positions per month nationwide.

Industrial/Mechanical/Production engineering vacancies have been steady

Chemical, Electrical, Electronics, Engineering Managers, ICT, telecommunications and other engineering occupations have repeatedly advertised under 500 positions per month across Australian states and territories over the last year.

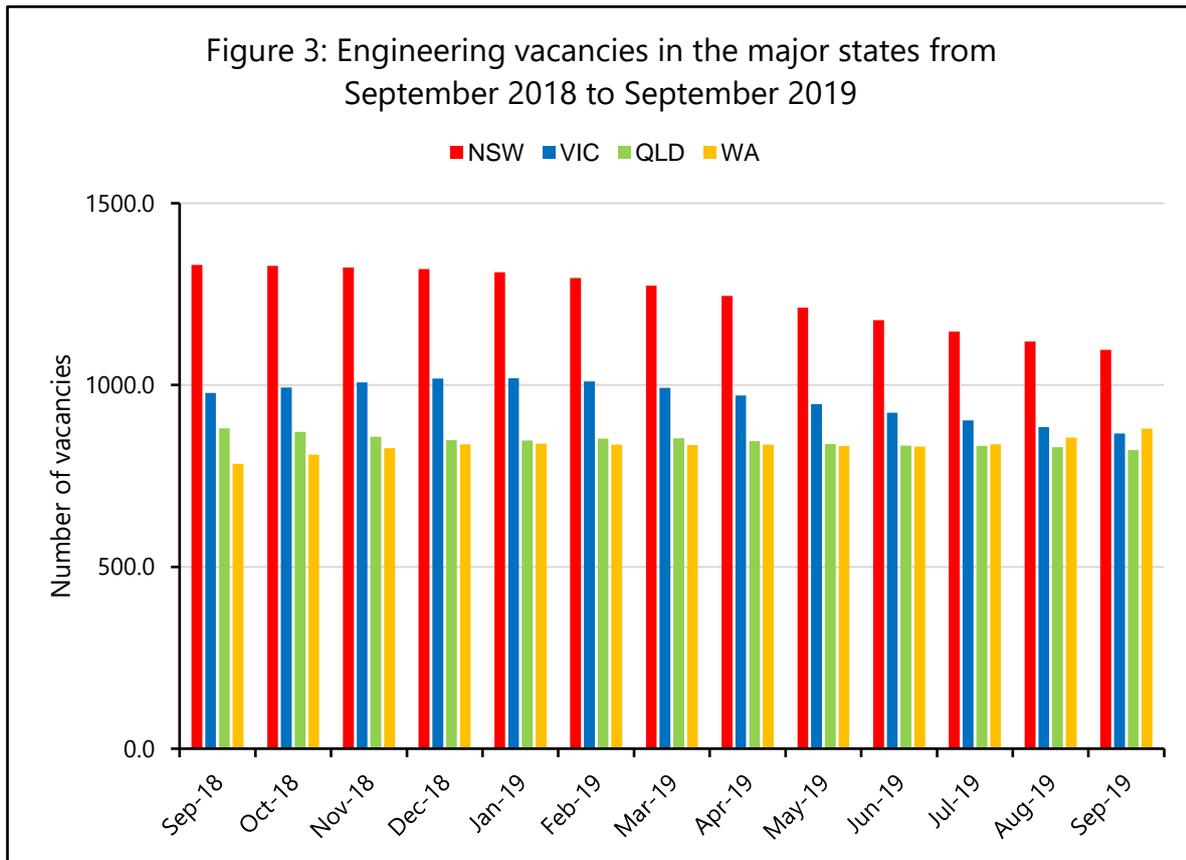
Figure 2 shows the number of Australian engineering vacancies for the four Australia New Zealand Standard Classification of Occupations (ANZSCO) for which the LMIP recorded more than 500 vacancies in any given month since September 2018. Occupations for which there were consistently less than 500 vacancies recorded per month for the period have been excluded.



The major states

Across Australia, all internet vacancy advertisements have contracted by 6.7%, with engineering vacancies falling slightly more than that, declining by 7.3% in the last 12 months.

Figure 3 shows that the status quo remains in terms of distribution of engineering vacancies across Australia's major states, with NSW consistently maintaining the highest number of engineering vacancies. Victoria, Queensland and Western Australia also continue to record higher numbers of engineering vacancies than South Australia, Tasmania and the territories. States recording less than 10,000 engineering vacancies in the period from September 2018 have been excluded.



New South Wales

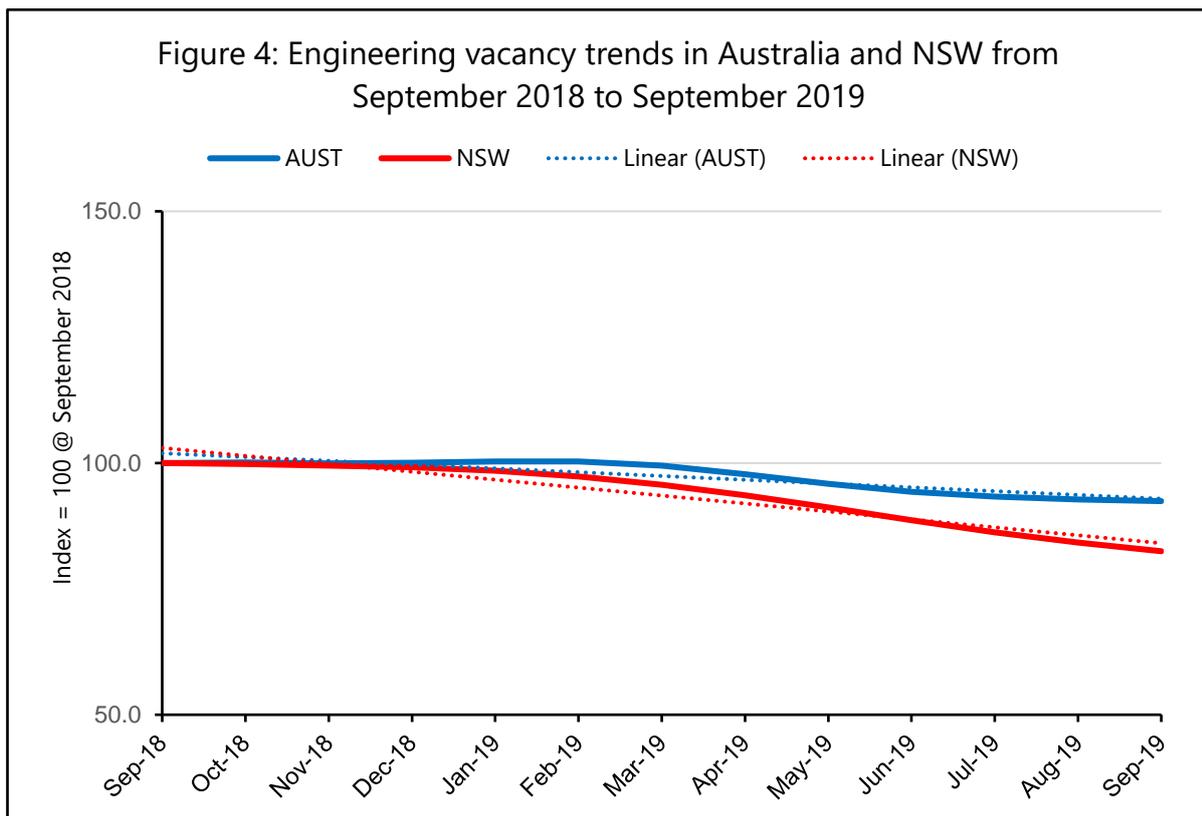
NSW has consistently recorded the highest number of engineering vacancies in Australia. Just over 29% of all engineering jobs advertised in Australia for the period from September 2018 – September 2019 were recorded for NSW. An average of 1,348 engineering jobs were advertised in NSW every month during that time.

Total vacancies across NSW over the last 12 months contracted by just over 14%. Engineering vacancies fared slightly worse across NSW, with the growth rate contracting by just under 19% from September 2018 to September 2019 and by 5.7% over the last 3 months to September 2019.

In the last 12 months, the vast majority of engineering vacancies in NSW have been advertised for civil engineers, followed by ICT support and test engineers, mechanical and production engineers and electrical engineers.

As with other states and territories, the fewest engineering vacancies were advertised for chemical and materials engineers, electronics engineers and telecommunications engineering professionals.

Figure 4 shows engineering vacancy trends across Australia compared with engineering vacancy trends in NSW from September 2018 to September 2019.



Victoria

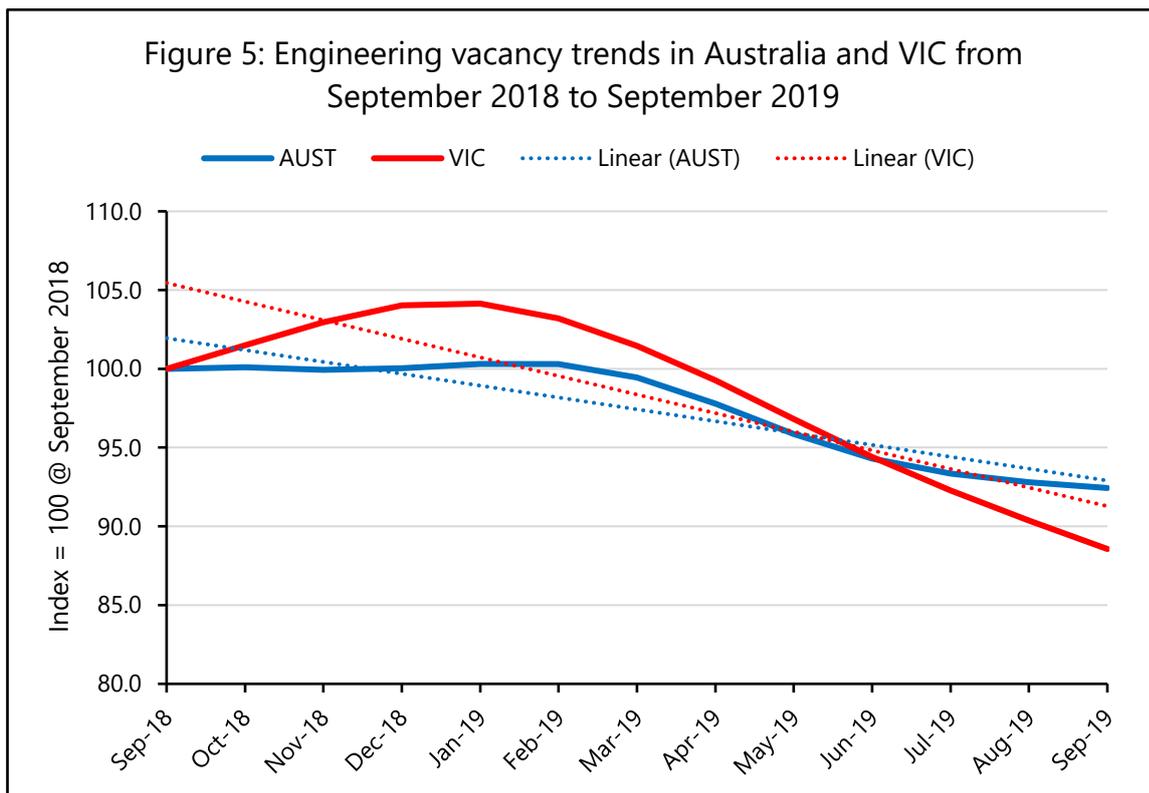
Victoria continues to advertise the second largest number of engineering vacancies. Nearly 23% of all Australian engineering vacancies in the last 12 months were advertised in Victoria.

Growth rate calculations show a similar story to that of NSW, with total vacancies advertised across Victoria contracting by 7.7% and advertised engineering vacancies slowing by just over 10% in the last year. In the last 3 months to September 2019, the growth rate for engineering vacancies slowed by 5%.

Nearly 23% of engineering vacancies in Australia, were advertised in Victoria in the last year to September 2019, with an average of 1,043 engineering roles advertised for positions in Victoria per month.

The vast majority of engineering vacancies advertised for Victoria based roles were for civil engineers, followed by industrial, mechanical and production engineers and ICT support and test engineers. The fewest roles were advertised for chemical and materials engineers, electronics engineers and telecommunications engineering professionals.

Figure 5 displays engineering vacancy trends across Australia compared with engineering vacancy trends in Victoria over the last 12 months to September 2019.



Queensland

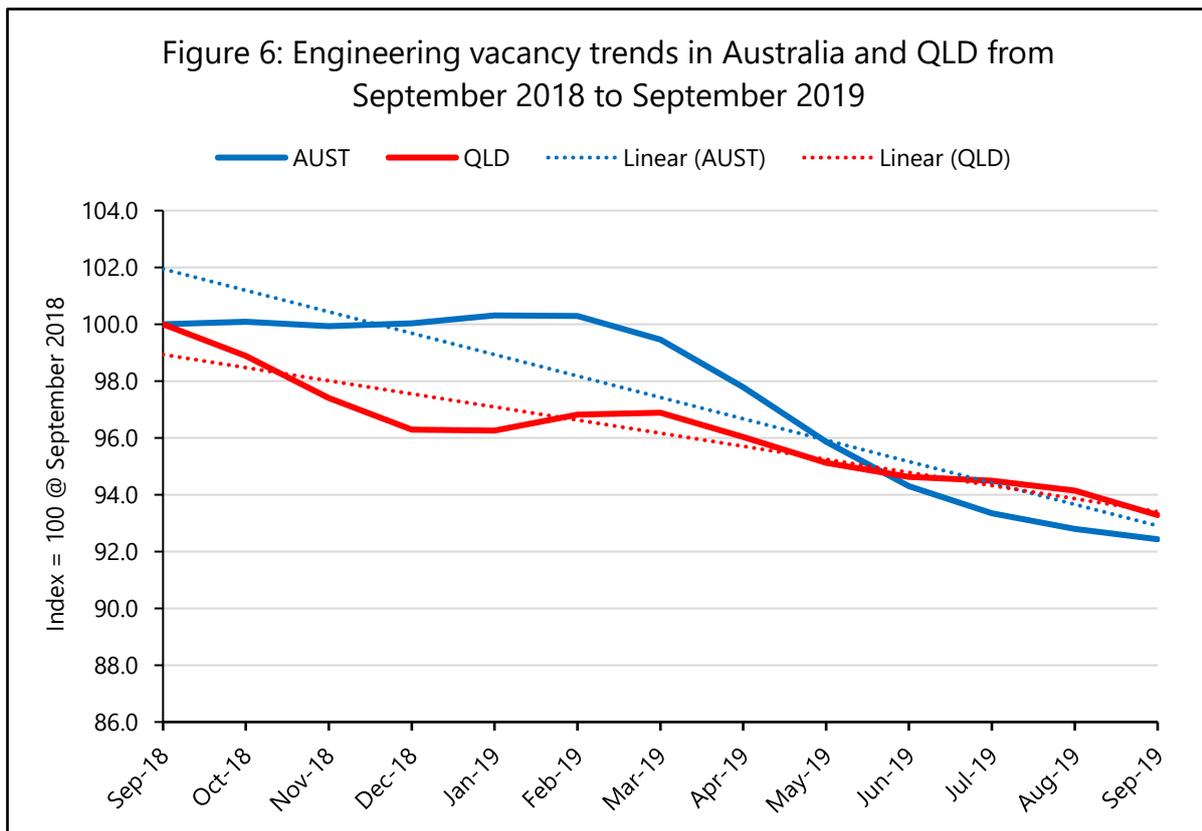
After an extended period where growth in engineering vacancies was below other vacancies, engineering vacancies are trending slightly higher than vacancies overall for Queensland in the period from September 2018 to September 2019.

The average growth rate of engineering vacancies in Queensland narrowed by just over 6% in the last 12 months but the last 3 months have seen an improvement, contracting by less than 1%.

Over 20% of engineering vacancies in Australia, were advertised in Queensland during the period, with an average of 917 engineering roles advertised for positions in Queensland per month.

Most engineering vacancies advertised across Queensland were for civil engineers, followed by mining, industrial, mechanical and production engineers and ICT support and test engineers. The fewest jobs were advertised for electronics engineers, chemical and materials engineers and telecommunications engineering professionals.

Figure 6 shows engineering vacancy trends across Australia compared with engineering vacancy trends in Queensland from September 2018 to September 2019.



Western Australia

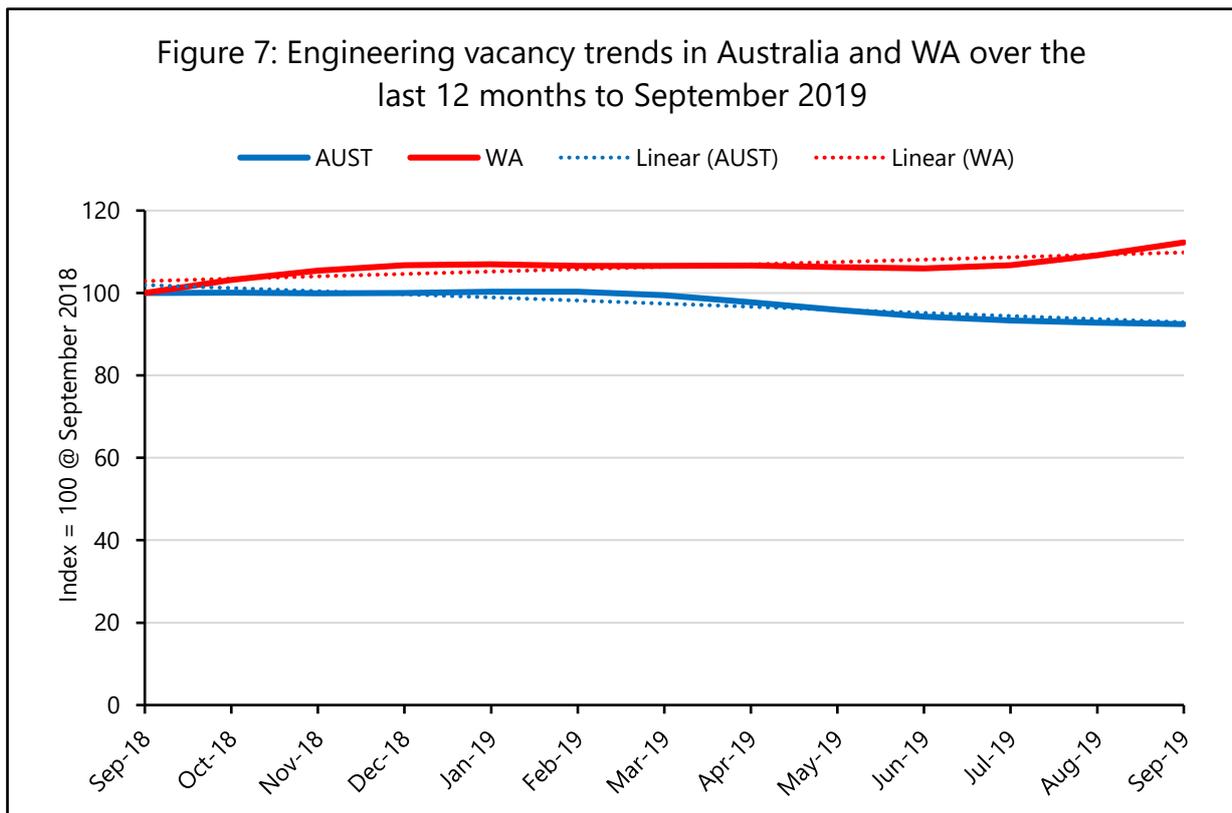
Engineering vacancy growth in Western Australia strengthened by over 9% in the last year, outperforming the annual growth rate of internet vacancies overall, which enjoyed a slight increase of 1.4%.

The average growth rate for engineering vacancies in WA was up 1.4% in the last 12 months and 4% in the last 3.

On average, over the last year, 903 engineering vacancies are advertised for positions in WA each month. Just over 19% of all Australian engineering vacancies in the last year, have been advertised in WA.

In WA most engineering vacancies were advertised for mining engineers, followed by civil engineers, industrial, mechanical and production engineers, electrical engineers and ICT support and test engineers. As with other states and territories, the fewest advertisements were for chemical and materials engineers, electronics engineers, and telecommunications engineering professionals.

Figure 7 demonstrates engineering vacancy trends across Australia compared with engineering vacancy trends in WA from September 2018 to September 2019.



South Australia

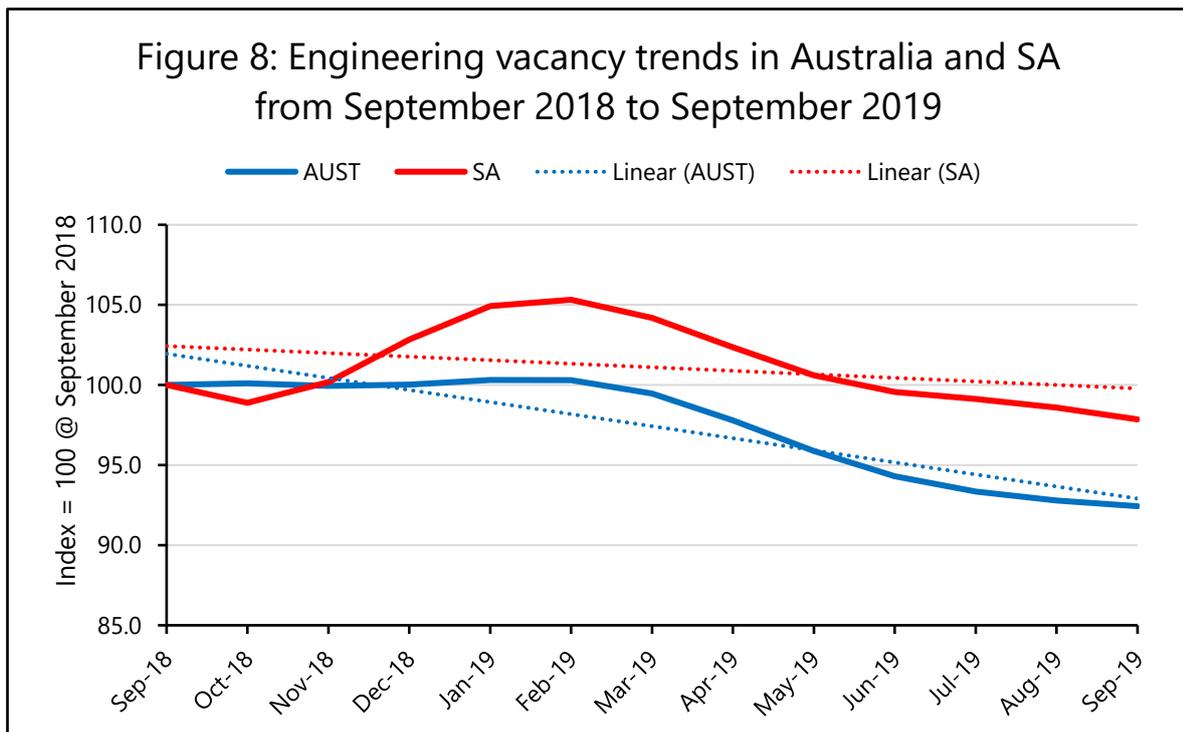
Over the last 12 months, engineering vacancies are trending downwards in South Australia. As shown in the graph below, the downward trend is less acute than it has been for engineering vacancies across Australia.

On average, 188 engineering jobs are listed per month in South Australia, and 4% of engineering jobs advertised in Australia from September 2018 to September 2019 were for positions in South Australia.

Growth rate calculations for the last 12 months to September 2019, show a slight contraction of 1.3% and 1.1% for the last 3 months.

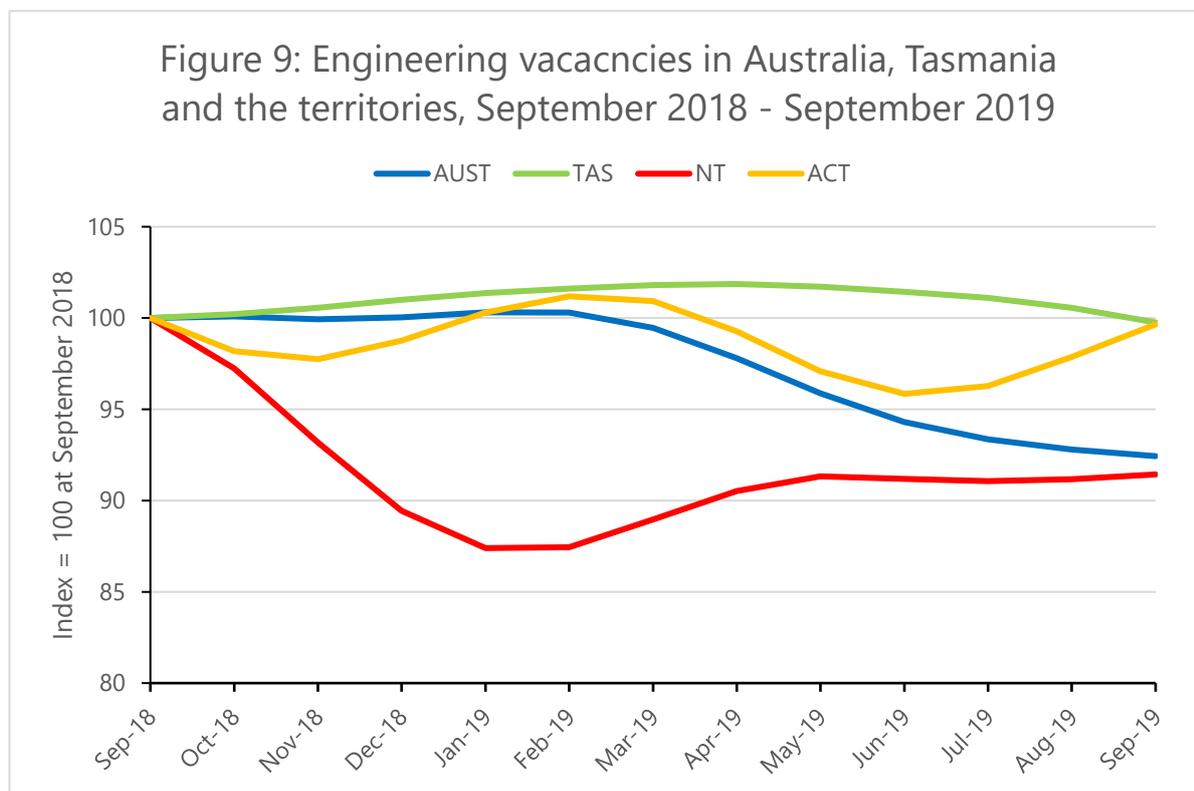
Most engineering vacancies were advertised seeking civil engineering professionals, followed by industrial, mechanical and production engineers, mining engineers, ICT support and test engineers and electrical engineers. The fewest roles were advertised for chemical and materials engineers, telecommunications engineering professionals and electronics engineers.

Figure 8 shows engineering vacancy trends across Australia compared with engineering vacancy trends in SA from September 2018 to September 2019.



Tasmania and the territories

The following analysis of vacancy trends in Tasmania, the Northern Territory and the Australian Capital Territory, when expressed in trend terms, may fluctuate more than other states because the numbers are much smaller.



Tasmania

In linear trend terms, Tasmania has experienced a slight upturn in engineering vacancies from September 2018 – September 2019.

Over the last year, 472 engineering vacancies were advertised for Tasmania based roles. On average, 39.3 engineering vacancies were advertised in Tasmania during that time. That is less than 1% of engineering vacancies Australia wide.

As with other states, most engineering vacancies in Tasmania advertised in the last year were for civil engineers, followed by mining engineers, industrial, mechanical and production engineers and electrical engineers. The fewest engineering jobs were advertised for chemical and materials engineers, telecommunications engineering professionals and electronics engineers.

Northern Territory

There has been a slight downward trend in engineering vacancies advertised for the Northern Territory.

From September 2018 to September 2019 approximately 558 engineering vacancies were advertised in the NT representing just over 1% of engineering vacancies advertised Australia wide. On average, 46 jobs are advertised per month for engineering roles in Tasmania.

Engineering vacancies by occupation in the NT mirror Tasmania, with most engineering vacancies in Tasmania advertised in the last year for civil engineers, followed by mining engineers, industrial, mechanical and production engineers and electrical engineers. The fewest engineering jobs were advertised chemical and materials engineers, electronics engineers and telecommunications engineering professionals.

Australian Capital Territory

In linear trend terms, engineering vacancies advertised in the ACT over the last 12 months have remained steady.

From September 2018 to September 2019, 994 engineering vacancies were advertised for ACT based roles. On average, that is about 83 engineering job advertisements per month, representing close to 2% of all engineering vacancies advertised nationally.

Unlike other states and territories, most engineering vacancies advertised in the ACT were for ICT Support and Test engineers, followed by civil engineers, industrial, mechanical and production engineers and other engineering professionals (engineering professionals not elsewhere classified). The fewest number of engineering vacancies advertised were for chemical and materials engineers, as well as mining, electronics and telecommunications engineers.

