

CELEBRATING  
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# Australian engineering vacancies report

Trends in 2019

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Australian engineering vacancies report

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## Key points

- The 12 months of 2019 have seen the downward trend for Australian engineering vacancies nationally.
- The downward trend is mirrored across vacancies generally and reflects a broad softening of the Australian economy overall.
- On a state and territory basis, the downward trend is mirrored except in Tasmania, where engineering vacancies have enjoyed an upward trend during 2019.
- NSW continues to advertise the highest number of engineering vacancies in Australia, but vacancies have experienced a downward trend over the 12 months of 2019.
- Victoria, Queensland and Western Australia also continue to record higher numbers of engineering vacancies than the smaller states of South Australia and 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 for 2019. The original data is produced by the Department of Employment, Skills, Small and Family Business (the Department) and was released on 22 January 2020.

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 January 2019 in order to analyse trends over the last 12 months.

Job vacancies provide a valuable gauge of the Australian labour market. The Beveridge Curve<sup>1</sup> 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 includes Australian, state and territory trends as well as trends in a range of specific engineering occupations.

This report includes 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.
- 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.

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<sup>1</sup> 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.

- 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

Advertised engineering vacancies across Australia experienced a downward trend over the course of 2019. However, a slight upward trend is evident towards the end of the year.

Whilst advertised vacancies for professionals in general have also declined, that decline has been less severe than for total workforce vacancies and for engineering vacancies across Australia.

The downward trend in advertised vacancies reflects broader economic downturn across the Australia, with reports in September of 2019 that our economy was at its most *sluggish pace since 2009, when the GFC slammed the brakes on GDP growth*.<sup>2</sup>

The Reserve Bank of Australia (RBA) has predicted that Australia has begun a gradual recovery since it's low point in 2019.<sup>3</sup> The RBA Statement on monetary policy 2019 attributes this gradual recovery to low interest rates, tax cuts, infrastructure spending, an upswing in housing process and progress in the resources sector.<sup>4</sup> Measures taken to support public spending on transport and energy infrastructure has seen in a rebound for infrastructure investment<sup>5</sup> and an increase in mining firm investment is also expected in 2020.<sup>6</sup> All these factors may point to a growth in employment opportunities for engineers working in these sectors throughout 2020.

Engineering vacancies comprised 2.4% of all Australian vacancies during 2019. On average, 4,092 engineering jobs were advertised nationally in each month in that time.

The lowest number of engineering vacancies over that period was in November 2019 with 3,918 internet advertisements seeking engineers. The highest number of published vacancies for engineers was in January 2019, with 4,333 jobs advertised.

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 throughout 2019.

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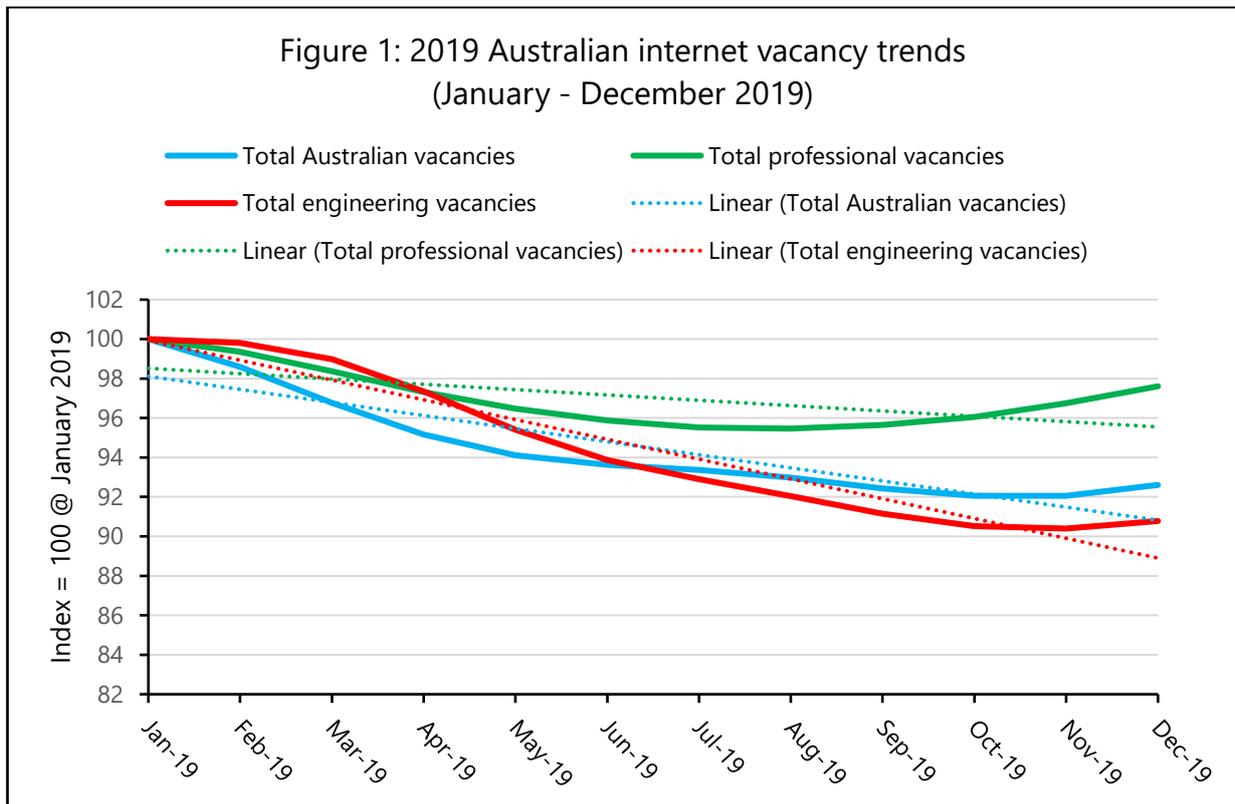
<sup>2</sup> Letts, Stephen, *Australia's economy has slowed to a decade low but the budget may already be back to surplus*, 4 September 2019, ABC News, <https://www.abc.net.au/news/2019-09-04/gdp-q2-2019/11474470>

<sup>3</sup> Reserve Bank of Australia, *Statement on Monetary Policy*, 7 November 2019, <https://www.rba.gov.au/publications/smp/2019/nov/pdf/statement-on-monetary-policy-2019-11.pdf> p1

<sup>4</sup> *Ibid.* p1

<sup>5</sup> *Ibid.* p7

<sup>6</sup> *Ibid.* p33



## Australian engineering vacancies by occupation

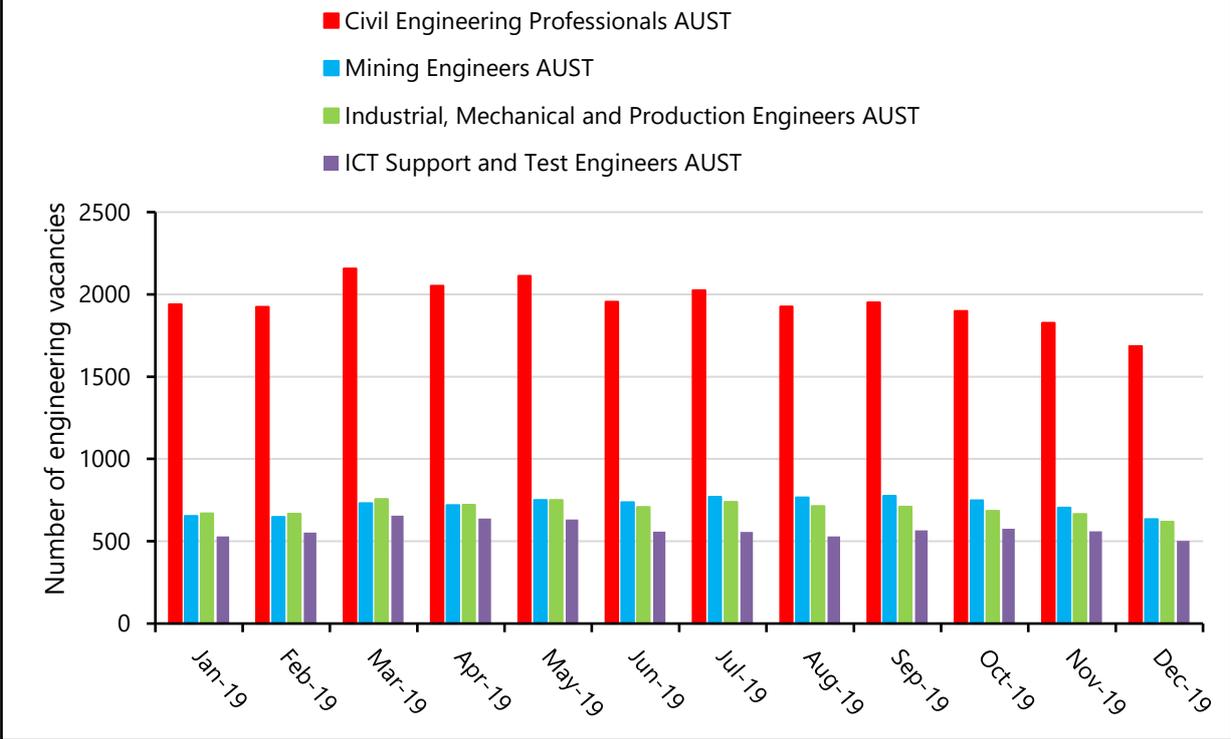
Civil engineering vacancies have consistently dominated the Australian engineering employment landscape since IVI data records began and the last year is no exception. The awarding of major civil infrastructure projects has generated business for associated industries boosting the demand for civil engineers.

The monthly averages for engineering vacancies advertised each month across Australia in 2019 are listed below:

- 1,955 civil engineering vacancies
- 720 mining engineering vacancies
- 700 industrial/mechanical/production engineering vacancies
- 571 ICT support and test engineering vacancies
- 367 electrical engineering vacancies
- 320 other engineering professional vacancies
- 198 engineering manager vacancies
- 84 telecommunications engineering vacancies
- 45 electronics engineering vacancies
- 33 chemical and materials engineering vacancies

Figure 2 shows the number of Australian engineering vacancies for the four Australia New Zealand Standard Classification of Occupations (ANZSCO) in engineering for which the LMIP recorded more than 500 vacancies in any given month during 2019. Occupations for which there were consistently less than 500 vacancies recorded per month for the period have been excluded.

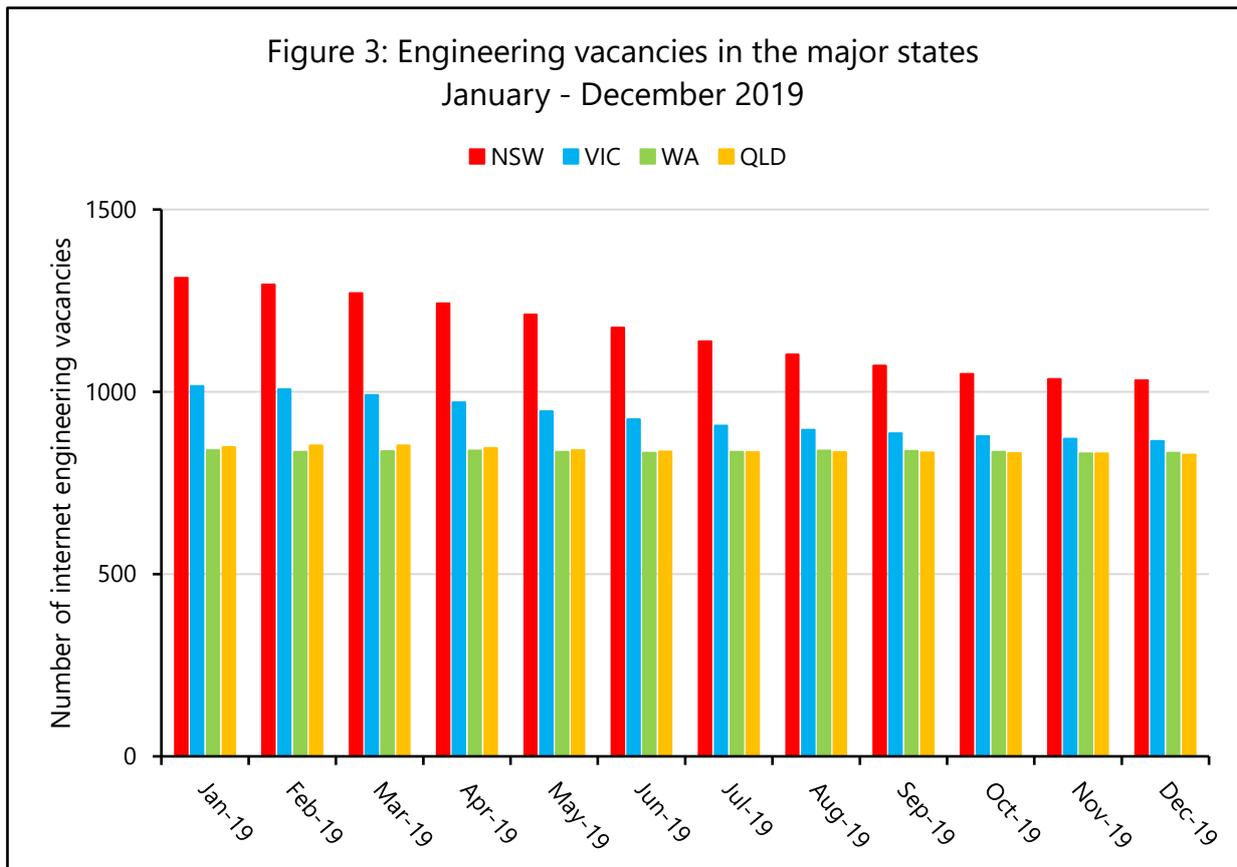
Figure 2: Australian engineering vacancies by occupation  
January - December 2019



# The major states

Across Australia, all internet vacancy advertisements have contracted by 7.4%, with engineering vacancies falling slightly more than that, declining by 9.2% in the 12 months of 2019.

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 throughout 2019 have been excluded.



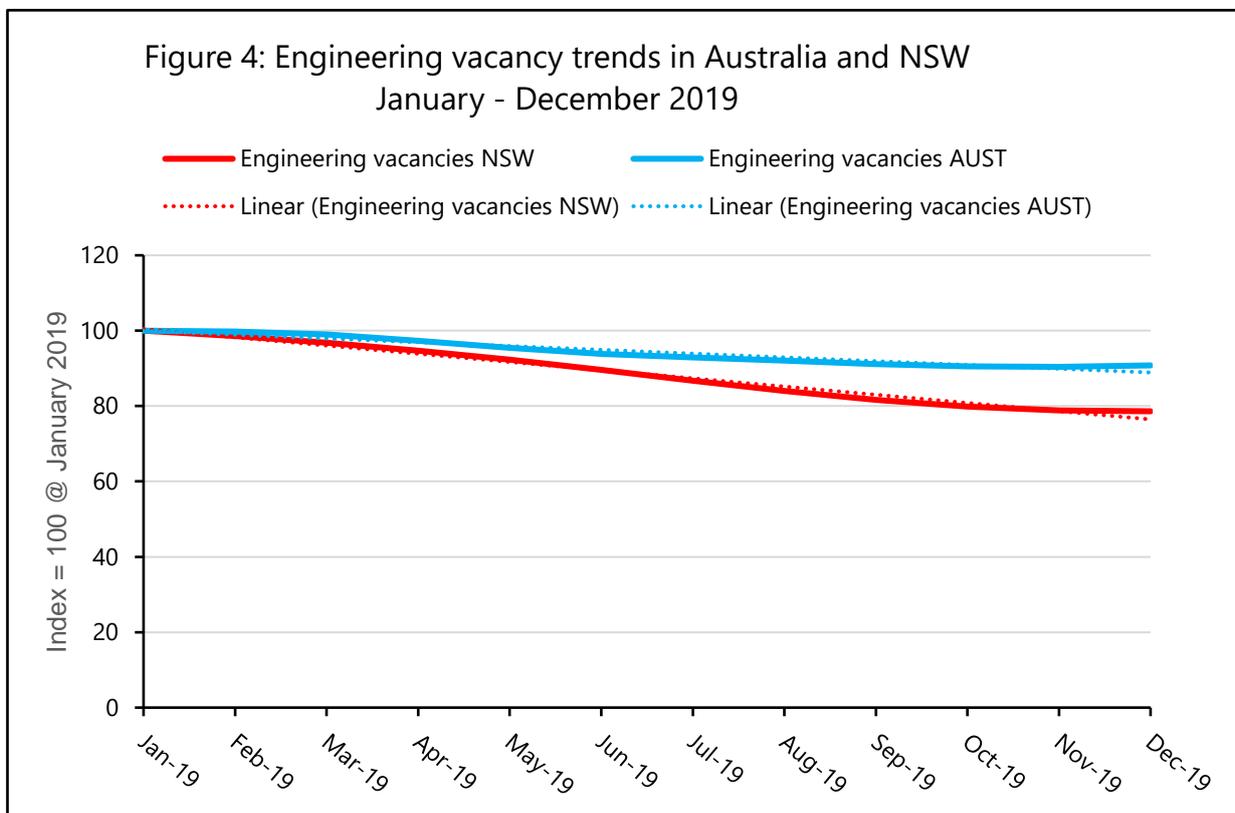
## New South Wales

NSW has consistently recorded the highest number of engineering vacancies in Australia. Just over 28% of all engineering jobs advertised in Australia during 2019 were recorded for NSW. An average of 1,161 engineering jobs were advertised in NSW every month during that time.

Total vacancies across NSW over the last 12 months contracted by just over 13%. Engineering vacancies fared slightly worse across NSW, with the growth rate contracting by just over 21% in the 12 months to December 2019 and by 1.6% over the last 3 months to December 2019.

In the 12 months of 2019, most engineering vacancies in NSW have been advertised for civil engineers, followed by ICT support and test engineers and industrial/mechanical/production engineers and electrical engineers. The fewest engineering vacancies in NSW 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 throughout 2019.



## Victoria

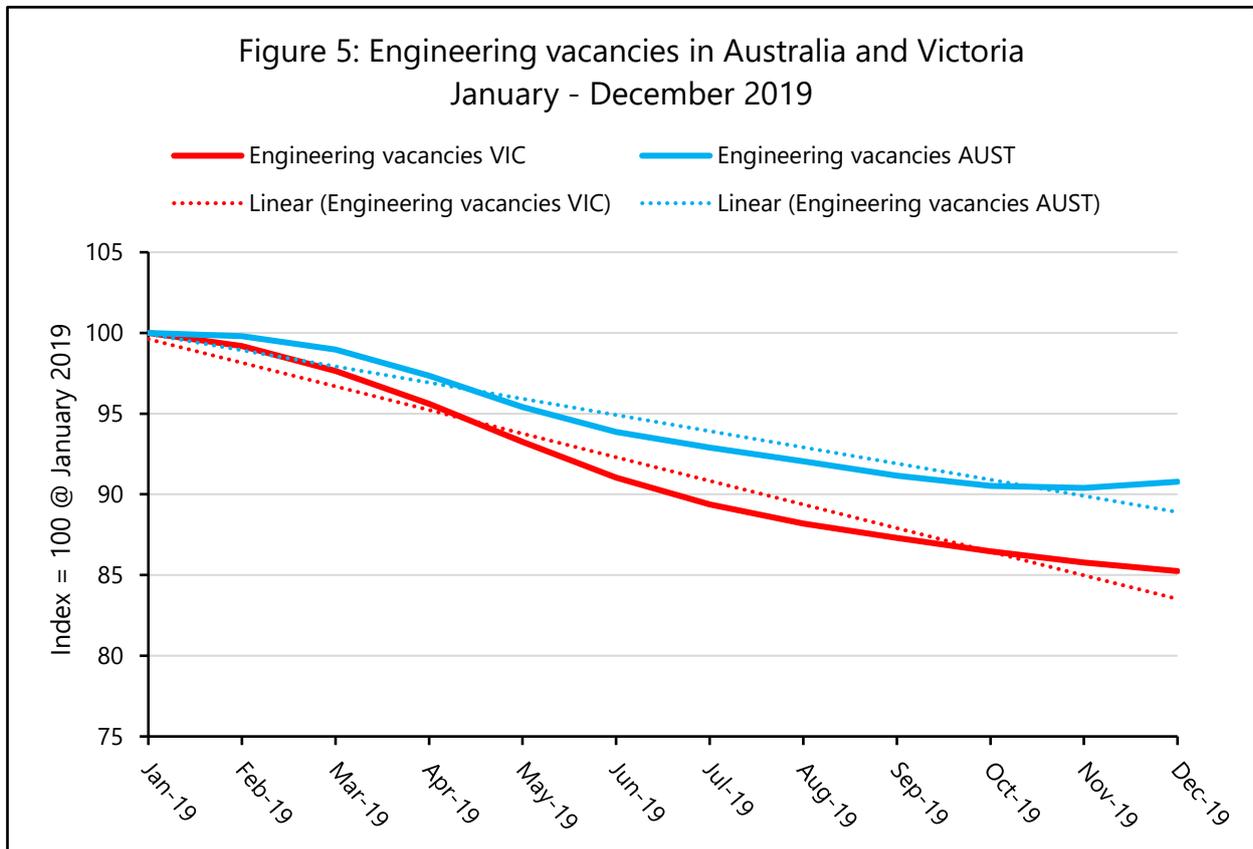
Victoria continues to advertise the second largest number of engineering vacancies in Australia. Nearly 23% of all Australian engineering vacancies in 2019 were advertised in Victoria.

Growth rate calculations show a similar story to that of NSW, with total vacancies advertised across Victoria contracting by 6.7% and advertised engineering vacancies slowing by 14.7% in the year. In the last 3 months to December 2019, the growth rate for engineering vacancies slowed by 1.4%.

An average of 930 engineering roles were advertised for positions in Victoria per month.

Most engineering vacancies advertised for Victoria based roles were for civil engineers, followed by industrial/mechanical/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 December 2019.



## Queensland

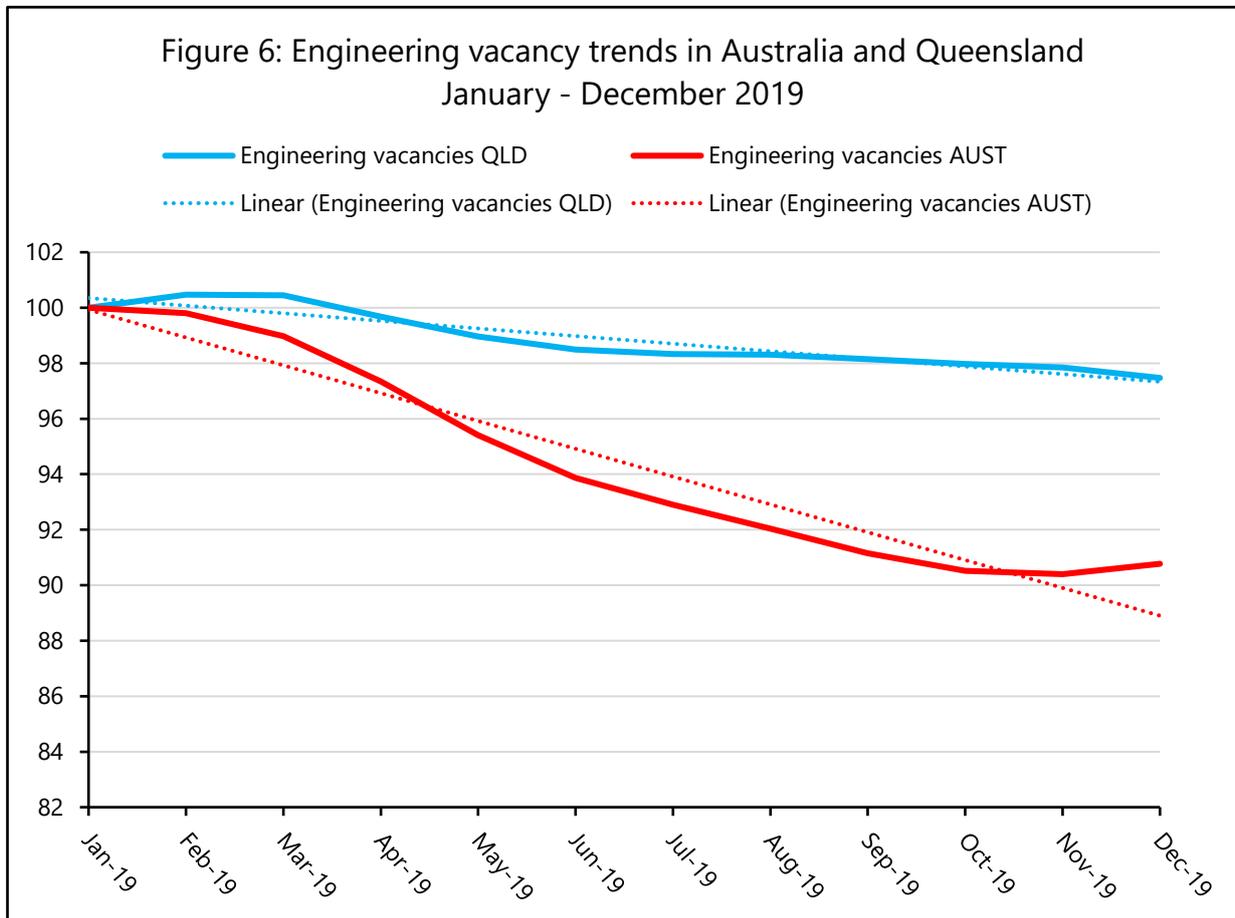
Trends in engineering vacancies in Queensland have been somewhat steadier than engineering vacancies across Australia throughout 2019.

The average growth rate of engineering vacancies in Queensland narrowed by 2.5% in 2019 but the last 3 months of that year saw an improvement, contracting by less than 1%.

More than 20% of engineering vacancies in Australia were advertised in Queensland during the period, with an average of 839 engineering roles advertised for positions in Queensland per month.

Most engineering vacancies advertised across Queensland were for civil engineers, followed by mining, industrial/mechanical/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 during 2019.



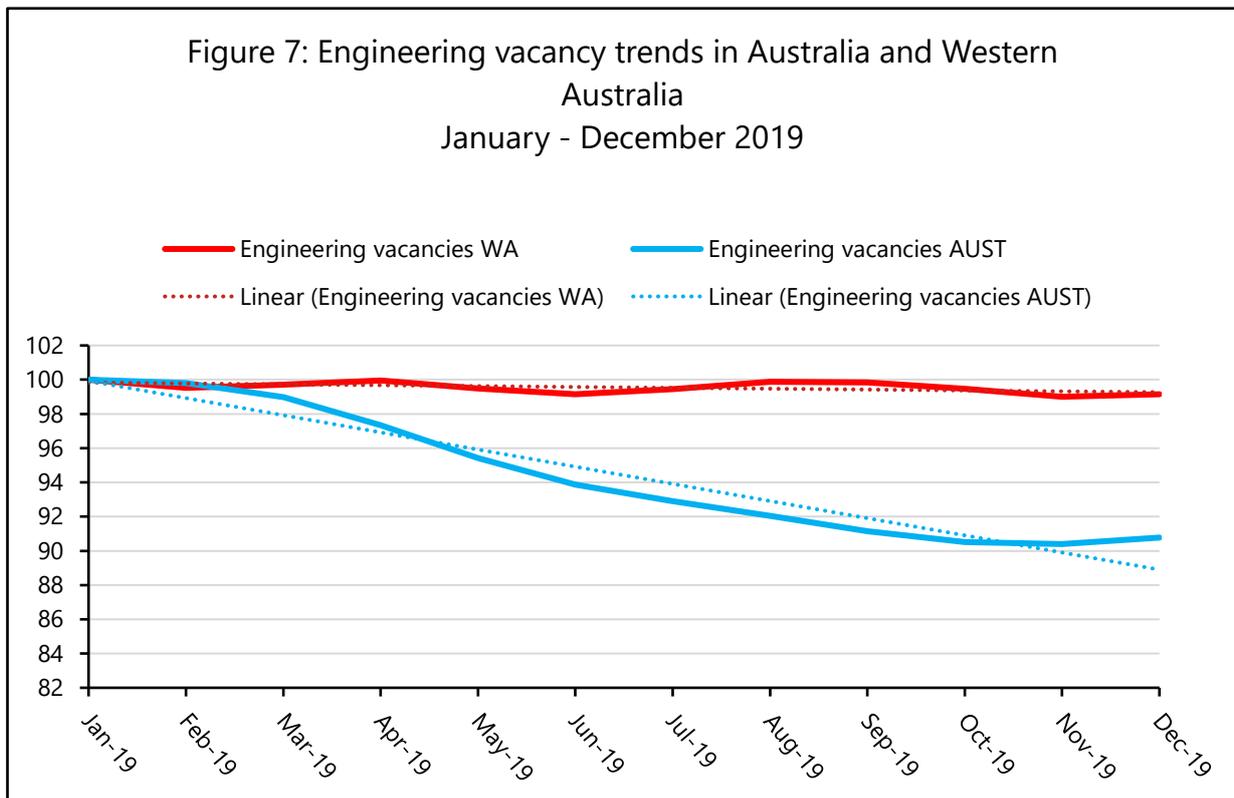
## Western Australia

Engineering vacancy growth in Western Australia weakened by less than 1% over the last year, outperforming the annual growth rate of Australian engineering internet vacancies overall, which decreased by 9% over the 12 months to December 2019. However, in the last 3 months of 2019, the trend reversed, with WA engineering vacancies growth experiencing a minor decline .3% and Australian engineering vacancies increasing ever so slightly by .3%.

On average, over the last year, 836 engineering vacancies are advertised for positions in WA each month. Just over 20% 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/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 January to December 2019.



## South Australia

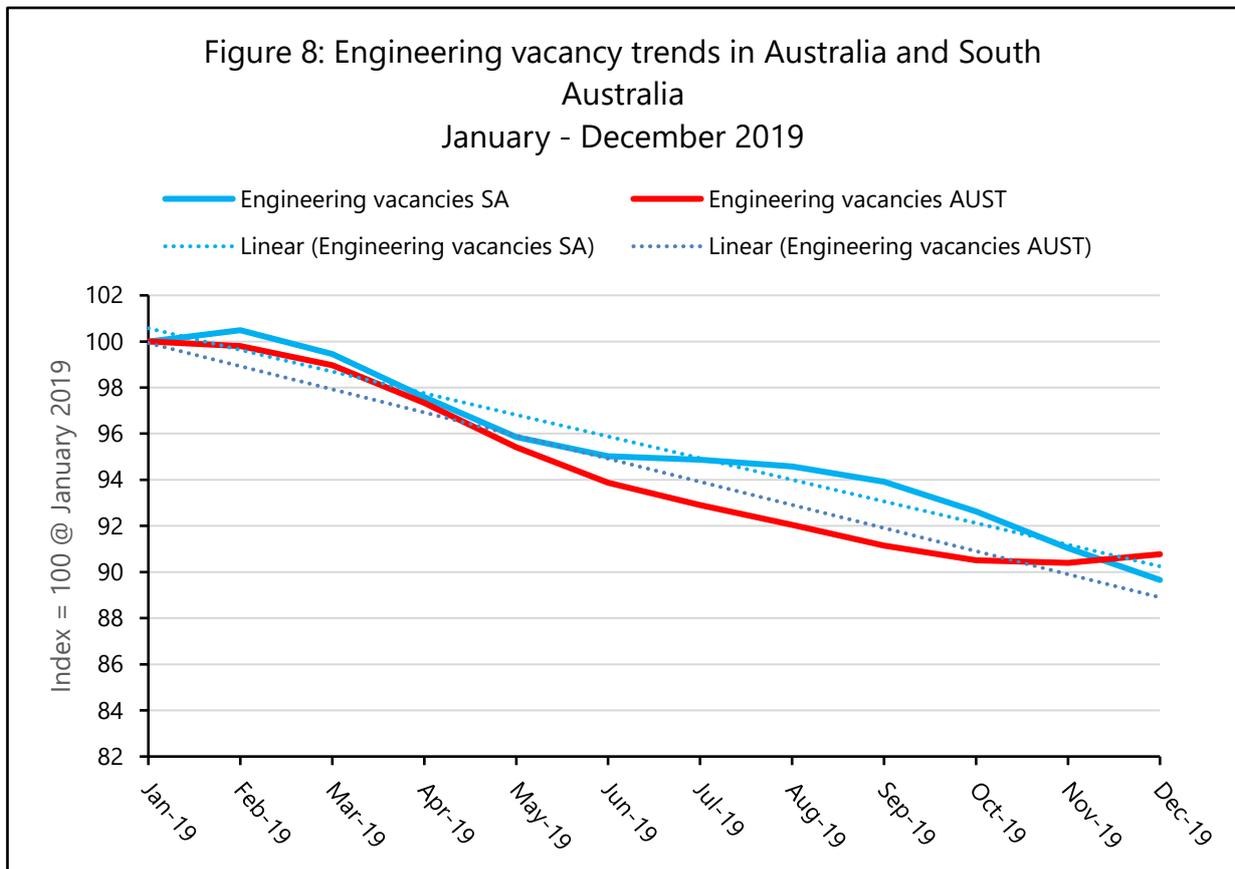
Over the 12 months of 2019, engineering vacancies trended downwards in South Australia. However, slight recovery in the last two months of 2019 is apparent.

On average, 172 engineering jobs were listed per month in South Australia, and just over 4% of engineering jobs advertised in Australia during 2019 were for positions in South Australia.

Growth rate calculations for 2019 show a contraction of 10.3%, and 3.2% from October to December.

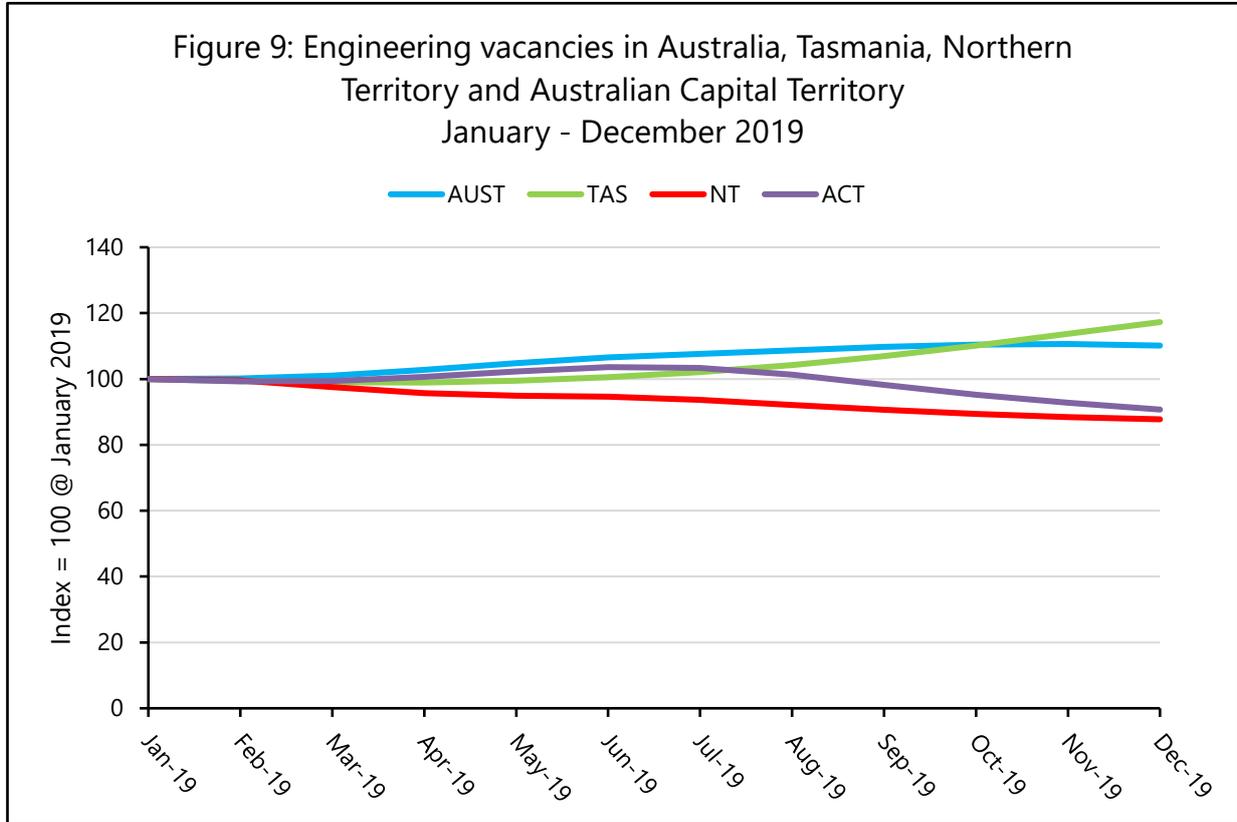
Most engineering vacancies were advertised seeking civil engineering professionals, followed by industrial/mechanical/production engineers, mining engineers, ICT support and test engineers and electrical engineers. The fewest roles were advertised for chemical and materials engineers, telecommunications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

Figure 8 shows engineering vacancy trends across Australia compared with engineering vacancy trends in SA throughout 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 experienced an upturn in engineering vacancies in 2019.

Over the last year, 424 engineering vacancies were advertised for engineering roles in Tasmania. On average, 35 engineering roles are advertised monthly in Tasmania. Less than 1% of engineering vacancies Australia wide were advertised for roles in Tasmania.

As with other states, most engineering vacancies in Tasmania advertised in the last year were for civil engineers, followed by mining engineers, industrial/mechanical/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.

Throughout 2019, 522 engineering vacancies were advertised in the NT representing just over 1% of engineering vacancies advertised Australia wide. On average, 44 jobs are advertised per month for engineering roles in the NT.

Most engineering vacancies in the NT in 2019 were advertised seeking civil engineers, followed by mining engineers, industrial/mechanical/production engineers and electrical engineers. The fewest engineering jobs were advertised for chemical and materials engineers, electronics engineers and telecommunications engineering professionals.

## Australian Capital Territory

Engineering vacancy trends show a downward trend for the ACT during 2019.

933 engineering vacancies were advertised for ACT based roles during 2019. On average, that is about 78 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 and industrial/mechanical/production engineers. The completion of light rail stage 1, fewer major infrastructure announcements than other major states and implementation of the ACT government digital strategy may be behind the prevalence of demand for ICT engineers ahead of civil engineers. The fewest number of engineering vacancies advertised in the ACT were for chemical and materials engineers, as well as mining, electronics and telecommunications engineers.

