

Department of State Development (DSD)

Drawing Economic Indicators from WorkCoverSA Data

2012-2013 State Consultancy Fund Project Report

*State and Territory Statistical Services
South Australia
Australian Bureau of Statistics*

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Executive Summary

The former Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE), now known as the Department of State Development (DSD), engaged the ABS to provide data on particular industry sectors to feed into South Australian Input-Output tables. The particular sectors of interest were Manufacturing, Knowledge Intensive Services and Services to the Mining and Energy sectors. These sectors were defined by groups of codes from the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006. A time-series was requested consisting of the 2011-12 financial year and two previous years, preferably 2007-08 and 2003-04.

The ABS negotiated a Memorandum of Understanding with WorkCoverSA to gain access to their unit record collection, which has geospatial, industry and remuneration information for the majority of businesses in South Australia. A correspondence of the South Australian WorkCoverSA Industrial Classification (SAWIC) to ANZSIC 2006 was developed for the three sectors of interest and provided to DMITRE on the 15th of April 2013. Confidentialised summary data has been extracted from the WorkCoverSA datasets conforming to DMITRE's specification as closely as possible. This data will be provided to DSD with this report. In addition, a publication was prepared and published to the ABS website: [Experimental Estimates of Workplace Counts and Remuneration, SA, 2009-10 to 2012-13](#) (cat. no. 8177.4.55.001).

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Introduction

The Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) sought access to better and more consistent time-series economic data for analytical and progress-reporting purposes. In particular they wished to use this data to inform performance measurement for three of the seven primary areas of focus for the South Australian Government. DMITRE was successful in their bid for 2012-2013 ABS Statistical Consultancy Funds for ABS staff to evaluate the WorkCoverSA dataset and its potential to provide economic data by industry and region for three sectors of particular interest to DMITRE: Manufacturing, Knowledge Intensive Services, and Services to the Mining and Energy sectors.

Project Objectives, Scope and Deliverables

This consultancy had the following objectives:

1. To evaluate whether the WorkCoverSA dataset can provide accurate and comprehensive data on remuneration, number, and size of employing organisations in South Australia. Consequently, the ability to create a correspondence between ANZSIC 2006 and SAWIC industry codes to enable the incorporation of data from ABS, WorkCoverSA, and other sources as applicable, needed to be determined.
2. Where possible, to extract summary data from the WorkCoverSA dataset and other sources to produce output, particularly a table of remuneration data by ANZSIC 2006 sector codes for the three priority areas and SA Government Regions for 2011-12, 2007-08 and 2003-04, conforming to ABS confidentiality policies.

The following scope restrictions applied:

1. The correspondence was restricted to 4 digit ANZSIC 2006 codes in the three priority sectors: Manufacturing, Knowledge Intensive Services, and Services to the Mining and Energy sectors (the latter two were defined by DMITRE).
2. The level of detail included in the output tables was dependent on the data, given the constraints of confidentiality and quality. The ABS was to investigate providing data on one of the known gaps in the WorkCoverSA data: several very large businesses that use the Comcare scheme instead of WorkCover. The inclusion of data from 2011-12 was dependent on the ABS successfully negotiating a Memorandum of Understanding with WorkCoverSA for ongoing access to their data for statistical purposes. The provision of data from 2003-04 and 2007-08 was dependent on satisfactory data being available for these years.

The following deliverables were agreed to:

1. An ANZSIC 2006 - SAWIC correspondence/correspondence table that includes all 4-digit ANZSIC codes in the three priority areas, aggregated as necessary.
2. A matrix (i.e. table) of remuneration data by ANZSIC 2006 sector codes for the three priority areas and SA Government Regions for 2011-12. The level of detail included will depend on the data, given the constraints of confidentiality and quality.
3. A similar matrix for each of the years 2003-04 and 2007-08 (if satisfactory data was available for these years).
4. A brief report summarising the process and the results.

Deliverable 1

Industry Classification Correspondence

The three sectors of interest were defined by groups of ANZSIC 2006 classes. For Manufacturing, this was everything in Division C of ANZSIC 2006. The Services to Mining and Energy Sectors was defined by DMITRE to be ANZSIC classes 1011, 1012 and 1090. DMITRE provided the 4 digit ANZSIC classes to be included for the Knowledge Intensive Services sector in a report; see Appendix 1 – KIS Sector Summaries for further details.

For each sector, the ANZSIC classes that defined that sector were used to compile an ANZSIC 2006 to SAWIC correspondence. Information from the published classifications was used to create this correspondence; the classifications are freely available on the ABS website ([cat. no. 1292.0](#)) and the WorkCoverSA website ([WorkCoverSAWIC](#)). This correspondence was quality-assured within the ABS, and DMITRE were consulted where there was uncertainty.

The correspondences were then reversed, i.e. SAWIC to ANZSIC, to allow for ANZSIC codes to be merged onto the WorkCoverSA datasets. This was needed to produce output from WorkCoverSA data using ANZSIC codes; the main purpose of the correspondence. There were many instances where one SAWIC code corresponded to more than one ANZSIC code. This was due to the primary activities of a SAWIC category generally not matching neatly to the primary activities of just one ANZSIC category. To overcome this situation a correspondence was produced by noting which activities for a particular SAWIC code should be coded to each ANZSIC category, and giving a corresponding proportion. This proportion can be used to allocate businesses to each ANZSIC category for output. It should be noted that the proportions are a guide only and are based on the proportions of businesses in each ANZSIC code in South Australia at the end of the 2010-11 Financial Year, according to ABS publication *Counts of Australian Businesses, including Entries and Exits (CABEE)* (cat. no.8165.0). This was used because while it's impossible to fully understand the true split of SAWIC codes between ANZSIC codes without dual coding the input data, it will provide more accurate information than equal allocation of data in a SAWIC code to corresponding ANZSIC codes. This method was used as CABEE and the WorkCoverSA dataset have similar scope. More information on how the correspondence was used in this project can be found in the section called [Implementation of the Correspondence](#).

While this process was undertaken with care and attention, the nature of the tasks means that there is some subjectivity in the process. This was particularly the case for the Knowledge Intensive Services Sector. For more information on the type of process used in this sector, please see the example in [Appendix 2](#).

The final correspondence was delivered to DMITRE in April 2013, and has been included in [Appendix 3](#).

Deliverables 2 and 3

Accessing WorkCoverSA Data

The ABS negotiated a Memorandum of Understanding (MOU) with WorkCoverSA for the ABS to have ongoing access to WorkCoverSA's datasets for statistical purposes, which was signed by both parties in mid-April 2013. DMITRE were interested in the financial years 2003-04, 2007-08 and 2011-12. After the MOU was signed, WorkCoverSA issued the ABS with data from the 2007-08 financial year to the 2011-12 financial year. The ABS and WorkCoverSA had a previous agreement for ABS to access WorkCoverSA data, and under the previous agreement the ABS already had access to a 2003-04 financial year dataset. Thus, the ABS had access to the three years of data of interest to DMITRE. In addition, WorkCoverSA data for the 2012-13 financial year was also obtained by the ABS and has been added to the tables requested by DMITRE.

Preparing Data

The data files given to the ABS by WorkCoverSA had the address for each of the businesses insured by WorkCoverSA. The ABS coded these addresses to the Australian Statistical Geography Classification using address coding software. Notably, this allowed businesses to be allocated to a State Government Region (SGR) by using the coded Statistical Local Area. While the allocation of businesses to Statistical Local Areas was quality assured, some of the businesses on the file were not able to be automatically geocoded by the ABS. These were looked at individually and allocated to the Adelaide metropolitan area (defined by the Northern, Southern, Eastern and Western Adelaide SGRs) or the rest of the state, where possible. There were some records that did not have enough information to be coded and these records have been aggregated into a category called 'Not geocoded' in the output tables. It should also be noted that while there is a high degree of confidence in the geocoding software the coding is not always 100% accurate. However, due to the relatively high level geographic areas used in output, the effect of this is considered negligible.

The other addition to the WorkCoverSA data was to use the correspondence of SAWIC to ANZSIC, (Deliverable 1) to allocate remuneration to 4 digit ANZSIC codes, using proportions where a SAWIC code corresponded to more than one ANZSIC code. For example, if a SAWIC code is included fully within one ANZSIC code then the allocation of remuneration would be 100% to that ANZSIC code. Alternatively if a SAWIC code is split between, for example, two ANZSIC codes, the remuneration would be allocated to these two ANZSICs based on the proportion of businesses in each ANZSIC as defined by CABEE.

It was also noticed that the WorkCoverSA datasets for 2007-08, 2011-12 and 2012-13 had duplicate records for the same business and location when the same business and location had been categorised into different SAWIC codes within the same financial year (i.e. the location changed SAWIC mid-financial year). Where this occurred total remuneration was calculated for these businesses and the SAWIC code which had been active the longest in the financial year was taken as the SAWIC code for that business. The duplicates were treated this way because it was not possible to determine the reason why the SAWIC changed during the financial year, e.g. one reason could be that the original code was incorrect, another could be that the business location changed their core business during the year and hence fell into a different industry class. Due to the small number of businesses (<1% in each year) that were in this situation, the impact on total remuneration within each ANZSIC code is negligible, irrespective of how they were treated.

Comcare Investigation

There are known gaps in the coverage of the WorkCoverSA data. WorkCoverSA are not the sole insurer of businesses in South Australia, notably Comcare insure some of the larger national businesses/government employers. The

availability and quality of data from Comcare that the ABS has access to was investigated. As Comcare do not collect remuneration data, and the availability of data by business location is of poor quality, no data from the Comcare businesses has been included. The ABS has taken steps to address this data gap by collecting location information relating to Comcare businesses as part of its ongoing profiling of large Australian Businesses. It is hoped that in the future low level information regarding Comcare businesses will be available.

Data Tables

Tables of remuneration by 4 digit ANZSIC code by Metropolitan/Ex-Metropolitan for the three sectors were produced for the 2003-04, 2007-08, 2011-12 and 2012-13 financial years and accompany this report.

For each of the financial years of interest, the following steps were followed to produce the output:

1. Using the correspondence, data was retained from the businesses that were in the SAWIC classes which corresponded to the ANZSIC class definitions of the three sectors of interest.
2. For each business, the remuneration figure for the year was split between the ANZSIC classes to which that business' SAWIC code corresponded using the correspondence proportions.
3. For each ANZSIC code, the remuneration was summed for each of the three State Government Region defined groups: Metropolitan, Ex-Metropolitan and those records that could not be geocoded.
4. The tables were confidentialised to protect individual entities from identification. This involved suppressing cells and combining some ANZSIC codes. Where possible the total remuneration for each ANZSIC code was retained.

It should be noted that while remuneration data has been provided for all businesses on the WorkCoverSA datasets, it has not been confronted against other sources of data, such as that from the Australian Taxation Office, and so the level of quality is not fully understood. Also, the full extent of total remuneration in SA is not represented as the scope of this output is limited to businesses insured by WorkCoverSA. Businesses insured by Comcare are not accounted for.

Implementation of the correspondence

While each business is likely to only belong to one industry as defined by ANZSIC, to produce these aggregates, the remuneration for each business has been proportionally allocated according to proportions from CABEE in SAWIC correspondence for that business. This is equivalent to adding up remuneration for each SAWIC code by region and then proportionally splitting the aggregated remuneration according to the proportions in the correspondence for the related ANZSIC codes. While this doesn't fully represent reality, it provides a good estimate and follows accepted practice – ABS geographical correspondences give proportions for split areas based on numbers of people in each of the corresponding areas.

The other option that was considered for the implementation of the SAWIC to ANZSIC correspondence was to randomly allocate a proportion, determined by the correspondence, of businesses from each of SAWIC codes to relevant ANZSIC codes. This was seen to be less reliable as it could introduce more error in the aggregates if, for example, the random allocation by chance allocated all large businesses to a certain ANZSIC.

Conclusion

The ABS has met the deliverables of this project, producing a functional correspondence of SAWIC to ANZSIC 2006 for the three sectors of interest to DMITRE and producing previously unavailable data tables that shed light on remuneration by industry in South Australia over time for those same sectors. While there are some limitations to the WorkCoverSA dataset in terms of quality and coverage, the output is a useful source of low level economic data which could be further used to produce other estimates of interest, such as counts of both businesses and employees broken down by industry and location. We also note that WorkCoverSA is committed to updating the SAWIC to closely align with ANZSIC 2006 in the next few years, which will enable output by industry to be produced more easily and accurately in the future.

In addition, a publication was prepared and published to the ABS website: [Experimental Estimates of Workplace Counts and Remuneration, SA, 2009-10 to 2012-13](#) (cat. no. 8177.4.55.001).

Appendix 1 – KIS Sector Summaries

Received from DMITRE on 09/10/2012:

KIS Sector Summaries

Arts & Recreation Services (ANZSIC Div R)

The Arts and Recreation Services sector includes entities mainly engaged in the preservation and exhibition of objects and sites of historical, cultural or educational interest; the production of original artistic works and/or participation in live performances, events, or exhibits intended for public viewing; and the operation of facilities or the provision of services that enable patrons to participate in sporting or recreational activities, or to pursue amusement interests.

It specifically excludes entities involved in the production and distribution of motion pictures, videos, television programs or television and video commercials (see Information Media and Telecommunications).

More specifically, this sector includes:

- **Heritage activities** (ANZSIC Codes 8910, 8921, 8922), such as museums and art galleries; active management, breeding, study, preservation and display of plants and animals (eg. zoos and botanical gardens); and preservation of flora and fauna in their natural habitat, (eg. nature reserves and conservation parks).
- **Creative and Performing Arts activities** (ANZSIC Codes 9001, 9002, 9003), such as provision or production of live theatrical or musical presentations or performances; creation of original artistic or cultural works (eg. artists, choreographers, presenters, writers, composers, costume and set designers, comedians, musicians, theatre lighting designers, cartoonists, producers and directors); operating venues for the presentation and rehearsal of performing arts.
- **Sports and Recreation activities** (ANZSIC Codes 9111, 9112, 9113, 9114), such as operating health clubs, fitness centres and gymnasias; operating individual sports or physical recreation clubs or teams; operating indoor or outdoor sports and physical recreation venues, grounds and facilities; administration and/or control of sports or physical recreation organisations.
- **Horse and Dog Racing activities** (ANZSIC Codes 9121 & 9129), including training, stables and kennels operation, track operation etc.
- **Amusement and Other Recreation Activities** (ANZSIC Codes 9131 & 9139), such as providing amusement and recreation services in the form of amusement parks, arcades or centres; providing other outdoor recreation activities.
- **Gambling activities** (ANZSIC Codes 9210, 9202 & 9209) such as casino operation; operation and sales of lotteries or lottery products; and other gambling services including TABs, bookmakers, internet gambling and betting shops.

Education & Training (ANZSIC Div P)

The Education and Training sector includes entities mainly engaged in the provision and support of education and training for people.

Education and training services are delivered by teachers or instructors who explain, tell or demonstrate a wide variety of subjects. There is a commonality of processes involved, such as the labour inputs of teachers and instructors, and their subject matter, knowledge and teaching expertise.

The sector is generally split into three (3) parts, including pre-school and school; tertiary; and adult, community & other. Specifically, in this directory, we are focused on the latter two parts, including:

- **Tertiary Education** (ANZSIC Codes 8101, 8102) includes entities providing *technical and vocational* education and training (eg. apprenticeships, courses specialised in particular fields such as computers, business management, secretarial, technical etc.); *higher education* entities providing undergraduate and postgraduate training (eg. universities and teachers colleges).
- **Adult, Community and Other Education** (ANZSIC Codes 8211, 8212, 8219) such as entities mainly providing non-vocational instruction in sporting and physical recreation activities (eg. coaching and instruction in specific sports); entities mainly providing non-vocational instruction in the arts, including art, dance, drama and music (eg. drama and dance schools, music schools); entities mainly engaged in providing other adult and community education (eg. flying or driving instruction, survival skills training, public speaking, parental education);
- **Education Support Services** (ANZSIC Code 8220) such as entities providing non-instructional services that support educational processes or systems (eg. curriculum development, exam development and evaluation, test and exam services).

Computer System Design & Related Services (ANZSIC Div M, Sub Div 70)

This sub-sector includes entities that are mainly engaged in providing expertise in the field of information technologies such as writing, modifying, testing or supporting software to meet the needs of a particular consumer; or planning and designing computer systems that integrate computer hardware, software and communication technologies.

It specifically includes computer facilities management, hardware consulting, system design, software consulting and custom development, software analysis, installation, simulation and testing.

It specifically **does not include** mass production or publishing of software, installation of computer cabling or hire of computers or data processing equipment.

Information Media and Telecommunications (ANZSIC Div J)

This division includes activities that primarily create, enhance and disseminate information products, subject to copyright. It is the intangible nature of the information products which determines their unique dissemination process, which may include via a broadcast, electronic means, or physical form.

This sector includes entities mainly engaged in creating, enhancing and storing information products in media that allows for their dissemination; transmitting information products using analogue and digital signals (via electronic, wireless, optical and other means); and providing transmission services and/or operating the infrastructure to enable the transmission and storage of information and information products.

More specifically, the sector includes:

- **Publishing** (ANZSIC codes 5411, 5412, 5413, 5414, 5419 & 5420) such as creating and disseminating newspapers, magazines, journals, periodicals, newsletters, books and manuals, directories and mailing lists, calendars, diaries and postcards. It also includes the creation and dissemination of non-customised software.
- **Motion Picture and Sound Recording** (ANZSIC codes 5511, 5512, 5513, 5514, 5521 & 5522) covering activities such as production and distribution of movies, video and television programs and commercials; cinema operation; post-production services and other movie and video activities, including specialised post-production services such as editing, film/tape transfers, titling, subtitling, credits, closed captioning and computer-produced graphics, animation and special effects, as well as developing and processing motion picture film. It also includes entities engaged in acquiring and registering copyrights for musical compositions and promoting and authorising the use of these compositions in recordings, radio, television, motion pictures, live performances, print, or other media. These entities represent the interest of the composing unit, or other owners of musical compositions, to produce revenues from the use of such works, usually through licensing agreements. These entities may own the copyright or act as administrator of the music copyrights on behalf of copyright owners and includes sheet music and various methods of master sound recording.
- **Broadcasting** (ANZSIC codes 5610, 5621, 5622), including radio and television broadcasting.
- **Internet Publishing & Broadcasting** (ANZSIC code 5700) providing textual, audio and/or video content on the internet.
- **Telecommunications Services** (ANZSIC codes 5801, 5802, 5809) includes entities operating, maintaining or providing access to facilities for the transmission of voice, data, text, sound and video using wired or wireless telecommunications networks and resellers of such services.
- **Internet Service Providers, Web Search Portals and Data Processing Services** (ANZSIC codes 5910, 5921 & 5922) includes providers of internet access and web search facilities; entities providing application and data hosting, capture, processing and storage and retrieval services.
- **Library and Other Information Services** (ANZSIC codes 6010,6020) includes provision of library and archive services for books, newspapers, journals, video and sound and facilitation of the use of such documents, as well as news collection services and telephone-based recorded information services.

Employment Services (ANZSIC Div N, Subdiv 72, Group 721)

This is a small subsector of the broader Administrative and Support Services category of the ANZSIC classifications. For the purposes of this directory we are interested in the group that essentially covers recruitment and labour supply services. It falls into two (2) main categories:

- **Employment Placement & Recruitment Services** (ANZSIC code 7211), including entities that provide services involved in the recruitment process from formulation of job descriptions, screening & testing of applicants and investigation of references. It includes entities such as casting agencies, employment agencies, recruitment services and executive placement services.
- **Labour Supply Services** (ANZSIC code 7212) covers the supplying of employees to clients' businesses on a fee or contract basis, where assignments are usually temporary and performed under the supervision of the client at the client's premises. It includes entities providing contract labour hire, labour on-hiring, labour supply and temporary labour hire services.

Specialist Medical and Allied Services (ANZSIC Div Q, Div 85)

This category is a subsector of the broader Health Care and Social Assistance category of the ANZSIC classifications. Essentially we are covering Specialist Medical and Diagnostics services and Allied Health services, which may have potential to provide export services remotely from SA. The specific areas covered include:

- **Specialist Medical Services** (ANZSIC code 8512) includes entities mainly engaged in the independent practice of specialised medicine - specialist medical practitioners who generally operate private or group practices in medical clinics or centres (eg. anaesthetic, neurology, gynaecology, ophthalmic, orthopaedic, paediatric, psychiatry etc.).
- **Pathology and Diagnostic Imaging Services** (ANZSIC code 8520) includes aspects such as diagnostic imaging services (eg. ultrasound and x-rays), pathology and other medical laboratory services.
- **Allied Health Services** (ANZSIC codes 8531, 8532, 8533, 8534, 8539 & 8599) includes a broad range of other health services such as dental and orthodontic, optometry and optical, physiotherapy, chiropractic and osteopathic, acupuncture, audiology, psychology, homeopathy, midwifery, naturopathy, nursing, occupational therapy and speech pathology, blood bank services, health assessment and health care services etc.

Specialist Support to Agriculture, Fishing, Forestry and Aquaculture (ANZSIC Div A, Subdiv 05)

This subsector includes entities that provide a range of support services to the agriculture, fishing, forestry and aquaculture industries. It specifically includes:

- **Forestry Support services** (ANZSIC codes 0510) includes entities providing services such as forest nursery, forest planting and maintenance, tree pruning, tree thinning and silviculture.
- **Agriculture and Fishing Support services** (ANZSIC codes 0522, 0529) includes shearing services for sheep, goats and other livestock; aerial spraying, seeding, mustering, pest control and fertilising; aquaculture support services; crop harvesting; fishing support; farm irrigation services; fruit & vegetable picking; hay baling; seed grading; and wool classing.

Professional, Scientific & Technical Services (ANZSIC Div M)

Professional, Scientific and Technical Services includes entities mainly engaged in providing services through the application of common processes, where labour inputs are integral to the production or service delivery. Entities in this division specialise and sell their expertise. In most cases, equipment and materials are not major inputs. The activities undertaken generally require a high level of expertise and training and formal (usually tertiary level) qualifications.

Specifically excludes entities mainly providing Health Care and Social Assistance Services, as well as Computer System Design and Related Services.

This sector specifically covers services across a broad range, including:

- **Scientific Research Services** (ANZSIC code 6910) undertaking research in the agricultural, biological, physical or social sciences.
- **Architectural, Engineering and Technical Services** (ANZSIC codes 6921, 6922, 6923, 6924 & 6925) includes entities providing planning & designing buildings, structures and landscapes, drafting services and town planning and land use services; surveying and mapping services (eg. aerial, cadastral, engineering, geodetic, hydrographic, oceanographic and seismic surveying and map preparation services); engineering consulting services across the whole gamut of engineering disciplines; specialised design services (eg fashion design, commercial art and graphic design, jewellery design, textile design and sign-writing); scientific and technical analysis services such as physical or chemical testing, calibration testing, mechanical testing, thermal testing and biological testing (eg. chemical and forensic analysis, geological testing, materials strength testing, pollution monitoring, seismic survey data analysis, wine testing and wool testing).
- **Legal and Accounting Services** (ANZSIC codes 6931, & 6932) includes entities mainly engaged in providing legal representation and advice and the preparation of legal documents (eg. solicitor, barrister, advocate, conveyancing, legal aid and notary services); entities mainly engaged in providing accounting services such as auditing of accounting records, preparing financial statements, preparing tax returns and bookkeeping.
- **Advertising Services** (ANZSIC code 6940) including entities providing services such as the creation of advertising campaigns and materials; and media planning and buying (i.e. placing advertisements).

- **Market Research and Statistical Services** (ANZSIC code 6950) including entities providing services such as the systematic gathering, recording, tabulating and presenting of marketing and public opinion data.
- **Management & Related Consulting Services** (ANZSIC codes 6962) includes entities providing advice on business or personnel management policies or practices and management of public figures (eg. business management, agricultural management consulting, environmental consulting, management consulting, artist, entertainer or public figure management, personnel management consulting etc.).
- **Veterinary Services** (ANZSIC code 6970) includes animal clinics, hospitals, pathology, quarantine and spraying operations.
- **Other Professional Services** (ANZSIC codes, 6991 and 6999) including professional photographic and video services; interpretation and translation services; meteorological services; any other professional or technical services.

Franchising Services

Whilst not specifically covered in the ANZSIC classification structure, this sector covers the process of business growth and expansion via the franchise model. It relates to a process and model that can be applied across many industry and business sectors.

Appendix 2 – Example of decision process for correspondence

While the groupings of ANZSICs for the other two sectors (Manufacturing and Services to mining and energy) had a neat alignment with the relevant groupings of SAWICs, for KIS there were several SAWICs which partly fell into an in-scope KIS ANZSIC and partly fell out of scope. Where possible, decisions were made to entirely exclude particular SAWIC-to-ANZSIC matches to deal with this issue. Otherwise, a proportion of SAWICs have been excluded to account for the fact that one of the ANZSICs the SAWIC aligns with is out of scope.

An example is 913801 'Services to the Arts NEC', which aligns with three in-scope KIS ANZSICs as well as two out-of-scope ANZSICs. ANZSIC code 6639 'Other Goods and Equipment Rental and Hiring NEC' contains one activity, 'theatrical equipment renting', which falls under SAWIC 913801. Considering the other activities included in ANZSIC code 6639, such as bicycle rental, camping equipment rental, costume hire, furniture rental and suit hire to name a few, a decision was made that theatrical equipment renting, the only in-scope activity, would make up only a small part of this group and therefore the entire group is excluded from 913801.

Conversely, most of code 7299 would fall into SAWIC 913801 and in addition there are a large number of businesses that fall into this ANZSIC code (397 businesses) so the ANZSIC code can't simply be excluded from this SAWIC code. However, it is not possible to determine which individual businesses in SAWIC 913801 fall into ANZSIC 7299 and therefore exclude them. Rather than simply include all businesses in 913801, a proportion of these businesses (in alignment with the number of businesses with that ANZSIC in SA according to CABEE) have been randomly selected to be excluded from KIS, while the remaining proportion have been split between the in-scope ANZSICs that align with that SAWIC (again, in alignment with the proportions found in CABEE).

For example, if there were 60 businesses with SAWIC 913801, 0.4% (which amounts to 0) would be allocated to 6020, 19% (12 businesses) to 7211, 52.1% to 9002 (31 businesses) and 28.4% (17 businesses) would be identified as out of scope of KIS. The allocation of businesses to codes could be done randomly. For an alternate way to allocate for output see section [Implementation of the correspondence](#).

SAWIC	SAWIC Description	ANZSIC	ANZSIC Description	Split	Included or Excluded	Proportion
913801	Services to the Arts NEC	6639	Other Goods and Equipment Rental and Hiring NEC	Include theatrical equipment renting	Excluded	0.0
913801	Services to the Arts NEC	6020p	Other Information Services	Include press agency operation	Included	0.004
913801	Services to the Arts NEC	7211p	Employment Placement and Recruitment Services	Include casting agency operation, theatrical and motion picture casting service	Included	0.19
913801	Services to the Arts NEC	7299p	Other Administrative Services NEC	Include booking agency operation, theatre booking agency, events booking agent, theatre ticket agency	Included	0.284
913801	Services to the Arts NEC	9002p	Creative Artists, Musicians, Writers and Performers	Include set designing service, costume designing, stage management operation, theatre lighting design service	Included	0.521

Appendix 3 - Final Correspondence provided to DMITRE

Manufacturing

SAWIC	SAWIC Description	Split category description	ANZSIC	Proportion	ANZSIC Description
211501	Meat Processing (except livestock processing)		1111	1	Meat Processing
211505	Livestock Processing		1111	1	Meat Processing
211601	Poultry Processing	Canning of poultry	1111	0.303	Meat Processing
211601	Poultry Processing	Excluding canning of poultry	1112	0.697	Poultry Processing
211701	Bacon, Ham and Smallgoods Manufacturing		1113	1	Cured Meat and Smallgoods Manufacturing
212101	Milk and Cream Processing	Excluding sour cream and yoghurt manufacturing	1131	0.158	Milk and Cream Processing
212101	Milk and Cream Processing	Sour cream and yoghurt manufacturing	1133	0.842	Cheese and Other Dairy Product Manufacturing
212301	Dairy Products Manufacturing nec		1133	1	Cheese and Other Dairy Product Manufacturing
212401	Ice Cream, Frozen Confections Manufacturing		1132	1	Ice Cream Manufacturing
213101	Fruit and Vegetable Processing (except sun-drying)		1140	1	Fruit and Vegetable Processing
214001	Oil and Fat Manufacturing		1150	1	Oil and Fat Manufacturing
215101	Flour Mill Products Manufacturing (excluding cornflour or rice flour)		1161	1	Grain Mill Product Manufacturing
215201	Starch Gluten and Starch Sugars Manufacturing (including arrowroot and cornflour)		1161	1	Grain Mill Product Manufacturing
215301	Cereal Foods and Baking Mixtures Manufacturing (including rice flour, pasta, jelly crystals, custard powder)	Rice flour, meal or offal, Rice, Sago, Self-raising flour, Tapioca manufacturing	1161	0.091	Grain Mill Product Manufacturing

215301	Cereal Foods and Baking Mixtures Manufacturing (including rice flour, pasta, jelly crystals, custard powder)	Baking mixes (prepared), bread mix (dry), cake mix (dry), Cereal breakfast foods (prepared), Cereal foods, Crumbs (made from cereal food, except biscuit or breadcrumb), Custard powder, Dessert (dried prepared), Noodles, Oatmeal, Oats (hulled or shelled, kilned or unkilned), Pasta (including macaroni, spaghetti, vermicelli), Pastry mix	1162	0.909	Cereal, Pasta and Baking Mix Manufacturing
216101	Bread and Biscuit Manufacturing	Bread bakery operation, bread manufacturing, bread roll manufacturing, breadcrumb manufacturing, fruit loaf manufacturing, unleavened bread manufacturing (all factory based)	1171	0.763	Bread Manufacturing (Factory based)
216101	Bread and Biscuit Manufacturing	Biscuit crumb, biscuits, ice cream cones or wafers manufacturing	1173	0.237	Biscuit Manufacturing (Factory based)
216201	Cakes, Pastries, Pies Manufacturing		1172	1	Cake and Pastry Manufacturing (Factory based)
217101	Sugar Manufacturing		1181	1	Sugar Manufacturing
217301	Confectionery Manufacturing		1182	1	Confectionery Manufacturing
217401	Seafood Processing		1120	1	Seafood Processing
217501	Prepared Animal and Bird Feed Manufacturing		1192	1	Prepared Animal and Bird Feed Manufacturing
217601	Food Manufacturing nec	Potato crisps and similar snack foods manufacturing	1191	1	Potato, Corn and Other Crisp Manufacturing
218501	Soft Drink, Cordial and Syrup Manufacturing		1211	1	Soft Drink, Cordial and Syrup Manufacturing
218601	Beer, Ale, Stout or Porter Manufacturing		1212	1	Beer Manufacturing
218701	Malt Manufacturing		1161	1	Grain Mill Product Manufacturing

218801	Wine, Brandy, Fortifying Spirits, Fermented Cider and Wine Vinegar Manufacturing	Brandy, Fortifying spirits manufacturing	1213	0.005	Spirit Manufacturing
218801	Wine, Brandy, Fortifying Spirits, Fermented Cider and Wine Vinegar Manufacturing	Cider (alcoholic), fortified wine, mead, perry (alcoholic), sherry, sparkling wine, unfortified wine manufacturing	1214	0.995	Wine and Other Alcoholic Beverage Manufacturing
218901	Alcoholic Beverages Manufacturing nec		1213	1	Spirit Manufacturing
219001	Tobacco Product Manufacturing		1220	1	Cigarette and Tobacco Product Manufacturing
219601	Food Manufacturing nec	Meat or ham pastes manufacturing	1113	0.139	Cured Meat and Smallgoods Manufacturing
219601	Food Manufacturing nec	Brown sugar, caster sugar, refined sugar manufacturing	1181	0.022	Sugar Manufacturing
219601	Food Manufacturing nec	Excluding crisps manufacturing, brown sugar, caster sugar, refined sugar, meat or ham pastes, ice manufacturing	1199	0.532	Other Food Product Manufacturing n.e.c.
219601	Food Manufacturing nec	Ice manufacturing (except dry ice)	1211	0.307	Soft Drink, Cordial and Syrup Manufacturing
234001	Yarns and Broadwoven Fabrics Manufacturing	Excluding man-made fabrics and fibres manufacturing	1312	0	Natural Textile Manufacturing
234001	Yarns and Broadwoven Fabrics Manufacturing	Man-made fabrics and fibres manufacturing	1313	1	Synthetic Textile Manufacturing
234201	Wool Scouring and Top Making (including fellmongering, scouring, carbonising, carding, combing, manufacturing tops)	Excluding fellmongered wool manufacturing	1311	0	Wool Scouring
234201	Wool Scouring and Top Making (including fellmongering, scouring, carbonising, carding, combing, manufacturing tops)	Fellmongered wool manufacturing	1320	1	Leather Tanning, Fur Dressing and Leather Product Manufacturing

234801	Narrow Woven Textiles Manufacturing (30cm or less in width) and Elastic Textiles Manufacturing		1313	1	Synthetic Textile Manufacturing
234901	Textile Finishing	Excluding crocheted fabrics manufacturing	1334	1	Textile Finishing and Other Textile Product Manufacturing
235201	Textile Floor Covering Manufacturing		1331	1	Textile Floor Covering Manufacturing
235301	Felt and Felt Products Manufacturing	Knitted clothing (including cardigans, pullovers, jackets), hosiery, Panty hose, sock, stocking, tights manufacturing	1334	1	Textile Finishing and Other Textile Product Manufacturing
235401	Canvas and Associated Products nec Manufacturing		1333	1	Cut and Sewn Textile Product Manufacturing
235501	Rope, Cordage and Twine Manufacturing	Excluding paper bags manufacturing	1332	1	Rope, Cordage and Twine Manufacturing
235601	Textile Products Manufacturing nec	Crocheted fabrics manufacturing	1334	0.868	Textile Finishing and Other Textile Product Manufacturing
235601	Textile Products Manufacturing nec		1340	0.132	Knitted Product Manufacturing
245001	Clothing Manufacturing	Excluding knitted clothing (including cardigans, pullovers, jackets), hosiery, Panty hose, sock, stocking, tights manufacturing	1340	0.046	Knitted Product Manufacturing
245001	Clothing Manufacturing	Excluding softwood woodchips manufacturing and chemically preserving timber	1351	0.954	Clothing Manufacturing
246001	Footwear or Footware Components Manufacturing	Softwood woodchips manufacturing	1352	1	Footwear Manufacturing
253101	Log Sawmilling (including softwood woodchipping and chemically preserving timber)		1411	0.512	Log Sawmilling

253101	Log Sawmilling (including softwood woodchipping and chemically preserving timber)		1412	0.139	Wood Chipping
253101	Log Sawmilling (including softwood woodchipping and chemically preserving timber)	Excluding prefabricated buildings, wooden or timber framed, manufacturing	1413	0.349	Timber Resawing and Dressing
253201	Resawn and Dressed Timber Manufacturing (including kiln drying or seasoning)	Prefabricated buildings, wooden or timber framed, manufacturing	1413	1	Timber Resawing and Dressing
253301	Veneers and Manufactured Boards of Wood Manufacturing (including laminations of timber with non-timber materials)	Fibreboard manufacturing	1493	0	Veneer and Plywood Manufacturing
253301	Veneers and Manufactured Boards of Wood Manufacturing (including laminations of timber with non-timber materials)		1494	1	Reconstituted Wood Product Manufacturing
253501	Wooden Structural Component nec Manufacturing (excluding on-site fabrication with installation)	Excluding chip board, fibreboard, hardboard, laminations of timber and non-timber materials, particle board manufacturing	1491	0.013	Prefabricated Wooden Building Manufacturing
253501	Wooden Structural Component nec Manufacturing (excluding on-site fabrication with installation)	Chip board, fibreboard, hardboard, laminations of timber and non-timber materials, particle board manufacturing	1492	0.987	Wooden Structural Fitting and Component Manufacturing
253601	Wooden Containers Manufacturing (including pallets or staves)	Excluding fibreboard manufacturing	1499	1	Other Wood Product Manufacturing n.e.c.
253701	Hardwood Woodchips Manufacturing	Chemically preserving timber	1412	1	Wood Chipping
253801	Wood Products nec Manufacturing		1499	1	Other Wood Product Manufacturing n.e.c.

254101	Furniture Manufacturing, Reupholstery, French Polishing, Shop Fitting Manufacture and Installation Nec		2511	0.922	Wooden Furniture and Upholstered Seat Manufacturing
254101	Furniture Manufacturing, Reupholstery, French Polishing, Shop Fitting Manufacture and Installation Nec		2519	0.078	Other Furniture Manufacturing
254201	Mattresses, Pillows, Cushions Manufacturing (excluding rubber)		2513	1	Mattress Manufacturing
263101	Pulp, Paper or Paperboard Manufacturing		1494	0.4	Reconstituted Wood Product Manufacturing
263101	Pulp, Paper or Paperboard Manufacturing	Paper bags manufacturing	1510	0.6	Pulp, Paper and Paperboard Manufacturing
263201	Paper Bags Manufacturing (including textile bags)		1333	0.979	Cut and Sewn Textile Product Manufacturing
263201	Paper Bags Manufacturing (including textile bags)	Tissue, toilet paper, sanitary paper products manufacturing	1522	0.021	Paper Bag Manufacturing
263401	Paperboard Containers or Sheeting Manufacturing		1521	1	Corrugated Paperboard and Paperboard Container Manufacturing
263501	Paper Product Manufacturing nec	Excluding bookbinding	1524	0	Sanitary Paper Product Manufacturing
263501	Paper Product Manufacturing nec	Bookbinding	1529	1	Other Converted Paper Product Manufacturing
264301	Paper Stationery Manufacturing (excluding commission printing)	Egg cartons, wallpaper, paper products manufacturing nec	1523	1	Paper Stationery Manufacturing
264401	Printing and Bookbinding	Platemaking, typesetting	1611	0.896	Printing
264401	Printing and Bookbinding		1612	0.104	Printing Support Services
264501	Services to Printing	Excluding paraffin and petroleum waxes and jellies manufacturing	1612	1	Printing Support Services

275101	Fertiliser Manufacturing	Pharmaceutical products for human use manufacturing - excluding barrier cream, sunscreen, toilet lanolin manufacturing	1831	1	Fertiliser Manufacturing
275201	Industrial Gas Manufacturing	Calcium chloride, hydrochloric acid, hydrofluoric acid, hydrogen peroxide, inorganic dye, nitric acid, phosphoric acid, silicate, sodium bicarbonate, sodium carbonate, sodium hydroxide, sulphuric acid, zinc oxide manufacturing	1811	0.231	Industrial Gas Manufacturing
275201	Industrial Gas Manufacturing		1812	0.538	Basic Organic Chemical Manufacturing
275201	Industrial Gas Manufacturing	Products made of synthetic rubber excluding tyres	1813	0.23	Basic Inorganic Chemical Manufacturing
275301	Synthetic Resins, Rubber and Plastic Materials Manufacturing	Cellulose acetate, Ethyl cellulose	1821	0.885	Synthetic Resin and Synthetic Rubber Manufacturing
275301	Synthetic Resins, Rubber and Plastic Materials Manufacturing		1829	0.115	Other Basic Polymer Manufacturing
275301	Synthetic Resins, Rubber and Plastic Materials Manufacturing	Bag, sack or packet (plastic film or sheeting), film (plastic), plastic lamination with paper manufacturing	1892	0	Explosive Manufacturing
276101	Explosives, Fireworks and Matches Manufacturing		1892	1	Explosive Manufacturing
276201	Paint Manufacturing	Rigid or semi-rigid polymer products manufacturing eg Awning (fibreglass), conveyer belt (plastic), garbage bin (plastic), garden hose (plastic), gloves (plastic) manufacturing	1916	1	Paint and Coatings Manufacturing

276301	Medicinal and Pharmaceutical Product Manufacturing		1841	0.325	Human Pharmaceutical and Medicinal Product Manufacturing
276301	Medicinal and Pharmaceutical Product Manufacturing		1842	0.15	Veterinary Pharmaceutical and Medicinal Product Manufacturing
276301	Medicinal and Pharmaceutical Product Manufacturing		1852	0.525	Cosmetic and Toiletry Preparation Manufacturing
276401	Pesticide Manufacturing	Pharmaceutical products for veterinary use manufacturing	1832	1	Pesticide Manufacturing
276501	Soap and Other Detergent Manufacturing	Barrier cream, sunscreen, toilet lanolin manufacturing	1851	1	Cleaning Compound Manufacturing
276601	Cosmetic and Toiletry Preparation Manufacturing nec	Photographic chemicals, film or plates, sensitised paper manufacturing	1852	1	Cosmetic and Toiletry Preparation Manufacturing
276701	Inks Manufacturing	Fibreglass awnings manufacturing	1916	1	Paint and Coatings Manufacturing
276801	Chemical Product Manufacturing nec	Baths, bottles, buckets, clothes pegs, kitchenware (plastic), pipes (plastic), toilet (plastic) manufacturing	1899	1	Other Basic Chemical Product Manufacturing n.e.c.
276801	Chemical Product Manufacturing nec		1915	0	Adhesive Manufacturing
277001	Petroleum Refining		1701	0.353	Petroleum Refining and Petroleum Fuel Manufacturing
277001	Petroleum Refining	Ammonia, hydrogen sulphide, sulphur dioxide manufacturing	1709	0.647	Other Petroleum and Coal Product Manufacturing
278001	Petroleum and Coal Product Manufacturing nec	Acetaldehyde, acetic acid, charcoal, citric acid, ethanol, ethylene glycol, formaldehyde, industrial alcohol, lactic acid, lake colour, methanol, organic dye, tanning extract, turpentine (except mineral), vinyl chloride, wood tar manufacturing	1709	1	Other Petroleum and Coal Product Manufacturing
285001	Glass and Glass Product Manufacturing		2010	1	Glass and Glass Product Manufacturing
286101	Clay Brick Manufacturing		2021	1	Clay Brick Manufacturing

286201	Refractory Product and Industrial Ceramic Manufacturing		2029	1	Other Ceramic Product Manufacturing
286301	Ceramic Tiles and Pipes or other Ceramic Construction Goods Manufacturing (excluding vitreous china or porcelain)		2029	1	Other Ceramic Product Manufacturing
286401	Ceramic Goods nec Manufacturing	Agricultural or hydrated lime manufacturing	2029	1	Other Ceramic Product Manufacturing
287101	Cement Manufacturing		2031	1	Cement and Lime Manufacturing
287201	Concrete Slurry Manufacturing		2033	1	Ready-Mixed Concrete Manufacturing
287401	Concrete Products Manufacturing nec		2034	1	Concrete Product Manufacturing
288101	Plaster Products and Expanded Minerals Manufacturing	Dry mix concrete manufacturing	2032	1	Plaster Product Manufacturing
288401	Non-Metallic Mineral Products Manufacturing nec		2031	0.037	Cement and Lime Manufacturing
288401	Non-Metallic Mineral Products Manufacturing nec	Excluding agricultural or hydrated lime and dry mix concrete manufacturing	2033	0.123	Ready-Mixed Concrete Manufacturing
288401	Non-Metallic Mineral Products Manufacturing nec	Iron and Steel Casting	2090	0.84	Other Non-Metallic Mineral Product Manufacturing
294101	Basic Iron and Steel Manufacturing		2110	1	Iron Smelting and Steel Manufacturing
294201	Iron and Steel Casting and Forging		2121	0.778	Iron and Steel Casting
294201	Iron and Steel Casting and Forging		2210	0.222	Iron and Steel Forging
294501	Steel Pipe and Tube Manufacturing (excluding cast or forged)		2122	1	Steel Pipe and Tube Manufacturing
295201	Copper, Silver, Lead and Zinc Smelting, Refining		2133	1	Copper, Silver, Lead and Zinc Smelting and Refining
295401	Aluminium Smelting, Recovery		2132	1	Aluminium Smelting
295601	Basic Non-Ferrous Metal Manufacturing nec		2139	1	Other Basic Non-Ferrous Metal Manufacturing

296101	Aluminium Rolling, Drawing, Extruding	Iron and Steel Forging	2142	1	Aluminium Rolling, Drawing, Extruding
296201	Non-Ferrous Metal nec Rolling, Drawing, Extruding		2149	1	Other Basic Non-Ferrous Metal Product Manufacturing
296301	Non-Ferrous Metal Casting or Forging		2141	1	Non-Ferrous Metal Casting
314101	Structural Steel Fabricating (including prefabricated steel buildings manufacturing)		2221	0.698	Structural Steel Fabricating
314101	Structural Steel Fabricating (including prefabricated steel buildings manufacturing)	Include steel products	2222	0.302	Prefabricated Metal Building Manufacturing
314201	Architectural Aluminium Product Manufacturing	Include aluminium products	2222	0.36	Prefabricated Metal Building Manufacturing
314201	Architectural Aluminium Product Manufacturing		2223	0.64	Architectural Aluminium Product Manufacturing
314301	Structural Metal Product Manufacturing Nec		2229	1	Other Structural Metal Product Manufacturing
315101	Metal Container Manufacturing		2231	0.831	Boiler, Tank and Other Heavy Gauge Metal Container Manufacturing
315101	Metal Container Manufacturing		2239	0.169	Other Metal Container Manufacturing
315201	Sheet Metal Furniture Manufacturing		2512	1	Metal Furniture Manufacturing
315301	Sheet Metal Product Manufacturing Nec	Include other products	2222	0.219	Prefabricated Metal Building Manufacturing
315301	Sheet Metal Product Manufacturing Nec		2224	0.011	Metal Roof and Guttering Manufacturing (except Aluminium)
315301	Sheet Metal Product Manufacturing Nec		2240	0.302	Sheet Metal Product Manufacturing (except Metal Structural and Container Products)

315301	Sheet Metal Product Manufacturing Nec		2231	0.389	Boiler, Tank and Other Heavy Gauge Metal Container Manufacturing
315301	Sheet Metal Product Manufacturing Nec		2239	0.079	Other Metal Container Manufacturing
316101	Cutlery and hand tool manufacturing Nec		2299	1	Other Fabricated Metal Product Manufacturing n.e.c.
316201	Spring and Wire Product Manufacturing		2291	1	Spring and Wire Product Manufacturing
316301	Nut, Bolt, Screw and Rivet Manufacturing		2292	1	Nut, Bolt, Screw and Rivet Manufacturing
316401	Metal Coating and Finishing		2293	1	Metal Coating and Finishing
316501	Non-ferrous pipe fitting manufacturing		2299	1	Other Fabricated Metal Product Manufacturing n.e.c.
316601	Boiler and plate work		2231	1	Boiler, Tank and Other Heavy Gauge Metal Container Manufacturing
316701	Metal blinds and awnings Manufacturing		2299	1	Other Fabricated Metal Product Manufacturing n.e.c.
316801	Fabricated Metal Products Manufacturing Nec		2231	0.208	Boiler, Tank and Other Heavy Gauge Metal Container Manufacturing
316801	Fabricated Metal Products Manufacturing Nec		2299	0.576	Other Fabricated Metal Product Manufacturing n.e.c.
316801	Fabricated Metal Products Manufacturing Nec		2599	0.216	Other Manufacturing n.e.c.
323101	Motor Vehicle Manufacturing		2311	0.346	Motor Vehicle Manufacturing
323101	Motor Vehicle Manufacturing		2319	0.654	Other Motor Vehicle Parts Manufacturing
323201	Motor Vehicle Body Manufacturing		2312	1	Motor Vehicle Body and Trailer Manufacturing

323301	Automotive Electrical and Instrument Manufacturing (excluding batteries)		2313	1	Automotive Electrical Component Manufacturing
323401	Automotive Component Manufacturing Nec (excluding motor vehicle engine reconditioning)		2319	1	Other Motor Vehicle Parts Manufacturing
324101	Ship Building		2391	1	Shipbuilding and Repair Services
324105	Submarine building, converting, refitting or repairing		2391	1	Shipbuilding and Repair Services
324201	Boat Building		2392	1	Boatbuilding and Repair Services
324301	Railway Equipment Manufacturing		2393	1	Railway Rolling Stock Manufacturing and Repair Services
324401	Aircraft Manufacturing		2394	1	Aircraft Manufacturing and Repair Services
324501	Transport Equipment Manufacturing Nec		2399	0.284	Other Transport Equipment Manufacturing n.e.c.
324501	Transport Equipment Manufacturing Nec	Tricycle manufacturing	2592	0.716	Toy, Sporting and Recreational Product Manufacturing
334101	Photographic Equipment or Supplies and Optical Instruments or Equipment Manufacturing	Gun cotton manufacturing	1891	0	Photographic Chemical Product Manufacturing
334101	Photographic Equipment or Supplies and Optical Instruments or Equipment Manufacturing		2411	1	Photographic, Optical and Ophthalmic Equipment Manufacturing
334301	Professional and Scientific Equipment Manufacturing Nec		2419	0.546	Other Professional and Scientific Equipment Manufacturing
334301	Professional and Scientific Equipment Manufacturing Nec		2429	0.454	Other Electronic Equipment Manufacturing
334305	Medical and Surgical Equipment Manufacturing		2412	1	Medical and Surgical Equipment Manufacturing

335101	Radio and TV Receivers and Audio Equipment Manufacturing (including records, tapes, compact discs and		2422	0	Communication Equipment Manufacturing
335101	Radio and TV Receivers and Audio Equipment Manufacturing (including records, tapes, compact discs and		2429	1	Other Electronic Equipment Manufacturing
335201	Electronic Equipment or Parts Manufacturing Nec		2421	0.337	Computer and Electronic Office Equipment Manufacturing
335201	Electronic Equipment or Parts Manufacturing Nec		2422	0.192	Communications Equipment Manufacturing
335201	Electronic Equipment or Parts Manufacturing Nec		2429	0.471	Other Electronic Equipment Manufacturing
335301	Household Appliance Manufacturing		2441	0.31	Whiteware Appliance Manufacturing
335301	Household Appliance Manufacturing		2449	0.69	Other Domestic Appliance Manufacturing
335501	Electric Cable and Wire Manufacturing		2431	1	Electric Cable and Wire Manufacturing
335601	Battery Manufacturing		2439	1	Other Electrical Equipment Manufacturing
335701	Electrical Equipment Manufacturing Nec		2432	0.344	Electric Lighting Equipment Manufacturing
335701	Electrical Equipment Manufacturing Nec		2439	0.656	Other Electrical Equipment Manufacturing
336101	Agricultural Machinery Manufacturing		2461	1	Agricultural Machinery and Equipment Manufacturing
336201	Construction or Earth moving Machinery, Equipment or Attachments Manufacturing		2462	1	Mining and Construction Machinery Manufacturing
336301	Lifting and Material Handling Equipment Manufacturing		2491	1	Lifting and Material Handling Equipment Manufacturing

336401	Machinery Tool Manufacturing		2463	1	Machine Tool and Parts Manufacturing
336501	Pump and Compressor Manufacturing		2451	1	Pump and Compressor Manufacturing
336901	Industrial Machinery and Equipment Manufacturing Nec		2599	0.395	Other Manufacturing n.e.c.
336901	Industrial Machinery and Equipment Manufacturing Nec		2421	0.129	Computer and Electronic Office Equipment Manufacturing
336901	Industrial Machinery and Equipment Manufacturing Nec		2452	0.081	Fixed Space Heating, Cooling and Ventilation Equipment Manufacturing
336901	Industrial Machinery and Equipment Manufacturing Nec		2469	0.196	Other Specialised Machinery and Equipment Manufacturing
336901	Industrial Machinery and Equipment Manufacturing Nec		2499	0.199	Other Machinery and Equipment Manufacturing n.e.c.
345101	Leather Tanning and Fur Dressing		1320	0.305	Leather Tanning, Fur Dressing and Leather Product Manufacturing
345101	Leather Tanning and Fur Dressing		2599	0.695	Other Manufacturing n.e.c.
345201	Leather and Leather Substitute Product Manufacturing nec		1320	1	Leather Tanning, Fur Dressing and Leather Product Manufacturing
346101	Rubber Tyres Manufacturing nec	Adhesive, casein glue, glue, rubber adhesives manufacturing	1914	1	Tyre Manufacturing
346201	Rubber Product Manufacturing nec		1821	0.605	Synthetic Resin and Synthetic Rubber Manufacturing
346201	Rubber Product Manufacturing nec		1914	0.158	Tyre Manufacturing
346201	Rubber Product Manufacturing nec	Glass mirrors manufacturing	1920	0.237	Natural Rubber Product Manufacturing
347101	Flexible Packaging and Plastic Coated and Abrasive Paper Manufacturing	Foam products (plastic) manufacturing	1911	1	Polymer Film and Sheet Packaging Material Manufacturing

347401	Plastic Products Manufacturing nec		1912	0.33	Rigid and Semi-Rigid Polymer Product Manufacturing
347401	Plastic Products Manufacturing nec	Solid or semi-pneumatic rubber tyres or tubing manufacturing	1913	0.494	Polymer Foam Product Manufacturing
347401	Plastic Products Manufacturing nec	Products made solely of natural rubber	1919	0.176	Other Polymer Product Manufacturing
348101	Ophthalmic Articles Manufacturing (including grinding spectacle lenses)		2411	1	Photographic, Optical and Ophthalmic Equipment Manufacturing
348201	Jewellery and Silverware Manufacturing		2591	1	Jewellery and Silverware Manufacturing
348301	Brooms and Brushes, Coir Mats and Matting Manufacturing		1331	0	Textile Floor Covering Manufacturing
348301	Brooms and Brushes, Coir Mats and Matting Manufacturing		2599	1	Other Manufacturing n.e.c.
348401	Signs and Advertising Displays Manufacturing (including sign or ticket writing)		2599	0.775	Other Manufacturing n.e.c.
348401	Signs and Advertising Displays Manufacturing (including sign or ticket writing)	Electric sign manufacturing, neon sign manufacturing	2432	0.225	Electric Lighting Equipment Manufacturing
348501	Sporting Equipment Manufacturing	Rucksack manufacturing	1320	0.24	Leather Tanning, Fur Dressing and Leather Product Manufacturing
348501	Sporting Equipment Manufacturing		2592	0.296	Toy, Sporting and Recreational Product Manufacturing
348501	Sporting Equipment Manufacturing	Canoe manufacturing	2392	0.464	Boatbuilding and Repair Services
348601	Writing and Marking Equipment Manufacturing Nec		2599	1	Other Manufacturing n.e.c.
348701	Selected Manufacturing		2592	0.352	Toy, Sporting and Recreational Product Manufacturing
348701	Selected Manufacturing		2599	0.648	Other Manufacturing n.e.c.

472805	Glazing Services (incl cutting, bevelling or coating flat glass)		2010	1	Glass and Glass Product Manufacturing
488501	Bread and Cake Retailing	Bakery operation, biscuits or cookies produced and sold from the same premises, bread baked and sold from the same premises, cakes and pastries produced and sold from the same premises	1174	1	Bakery Product Manufacturing (Non-factory based)

Services to Mining and Energy Sector

SAWIC	SAWIC Description	ANZSIC	Proportion	ANZSIC Description
161101	Petroleum Exploration (own account)	1011	1	Petroleum Exploration
162005	Petroleum Exploration Services	1011	1	Petroleum Exploration
161201	Mineral Exploration (own account)	1012	1	Mineral Exploration
162006	Mineral Exploration Services	1012	1	Mineral Exploration
162001	Other Mining Services nec	1090	1	Other Mining Support Services

Knowledge Intensive Services

SAWIC	SAWIC Description	Split category description	ANZSIC	Proportion	ANZSIC Description
020401	Shearing Services		0522	1	Shearing Services
020501	Aerial Agricultural Services		0529	1	Other Agriculture and Fishing Support Services
020601	Services to Agriculture NEC	Exclude wool reclassing and bulk classing	0529	1	Other Agriculture and Fishing Support Services
030401	Forestry and Services to Forestry		0510	0.149	Forestry Support Services
030401	Forestry and Services to Forestry	Exclude gathering of forest products	NA	0.851	Forestry
264101	Publishing (including sale of advertising space)	Include newspaper publishing	5411	0.184	Newspaper Publishing
264101	Publishing (including sale of advertising space)	Include magazine publishing, periodical publishing	5412	0.346	Magazine and Other Periodical Publishing
264101	Publishing (including sale of advertising space)	Include book publishing	5413	0.404	Book Publishing

264101	Publishing (including sale of advertising space)	Include art prints publishing	5419	0.044	Other Publishing (except Software, Music and Internet)
264101	Publishing (including sale of advertising space)	Include sheet music publishing	5521	0.022	Music Publishing
264201	Printing and Publishing	Include newspaper publishing	5411	0.184	Newspaper Publishing
264201	Printing and Publishing	Include magazine publishing, periodical publishing	5412	0.346	Magazine and Other Periodical Publishing
264201	Printing and Publishing	Include book publishing	5413	0.404	Book Publishing
264201	Printing and Publishing	Include art prints publishing	5419	0.044	Other Publishing (except Software, Music and Internet)
264201	Printing and Publishing	Include sheet music publishing	5521	0.022	Music Publishing
348401	Signs and Advertising Displays Manufacturing	Include signwriting and ticket writing	6924	1	Other Specialised Design Services
590001	Telecommunication Services	Include telephone networks	5801	0.06	Wired Telecommunications Network Operation
590001	Telecommunication Services	Include satellite networks	5802	0.095	Other Telecommunications Network Operation
590001	Telecommunication Services	Include paging, etc	5809	0.196	Other Telecommunications Services
590001	Telecommunication Services	Include Internet Service Provider	5910	0.337	Internet Service Providers and Web Search Portals
590001	Telecommunication Services		5921	0.312	Data Processing and Web Hosting Services
633401	Architectural Services		6921	1	Architectural Services
633501	Surveying and Mapping Services		6922	1	Surveying and Mapping Services

633601	Technical Services NEC (including consultant engineering)	Exclude mechanical engineering consulting service, process engineering consulting service quantity surveying service	6923	0.872	Engineering Design and Engineering Consulting Services
633601	Technical Services NEC (including consultant engineering)	Exclude pollution monitoring service, seismic survey data analysis service, wine testing	6925	0.128	Scientific Testing and Analysis Services
637101	Legal Services		6931	1	Legal Services
637201	Accounting Services		6932	1	Accounting Services
638101	Data Processing Services	Include computer time sharing service, data entry service, data processing service, microfiche processing service	5921	0.29	Data Processing and Web Hosting Services
638101	Data Processing Services	Include tabulating service	6950	0.71	Market Research and Statistical Services
638105	Information Storage and Retrieval Services		5922	1	Electronic Information Storage Services
638107	Computer Consultancy Services		5420	0.008	Software Publishing
638107	Computer Consultancy Services		7000	0.705	Computer System Design and Related Services
638107	Computer Consultancy Services	Include website design (graphic design)	6924	0.287	Other Specialised Design Services
638201	Advertising Services		6940	1	Advertising Services
638301	Market and Business Consultancy Service	Include fashion design	6924	0.194	Other Specialised Design Services
638301	Market and Business Consultancy Service	Include Market research service, public opinion research service, statistical consultancy service	6950	0.033	Market Research and Statistical Services

638301	Market and Business Consultancy Service	Exclude artist, entertainer or other public figures management service, operations research service (commercial)	6962	0.665	Management Advice and Related Consulting Services
638301	Market and Business Consultancy Service	Include management training service, safety training service	8101	0.108	Technical and Vocational Education and Training
638905	Interior Design	Include interior design service	6924	1	Other Specialised Design Services
815105	Specialist Medical Services	Include allergist, anaesthetist, consultant physician, dermatologist, ear nose & throat specialist, gynaecologist services, haematologist services, hair restoration services, hair transplant services, neurologist services, obstetrician services, ophthalmologist services, orthopedic specialist services, otorhinolaryngologist services, paediatrician services, plastic surgeon services, psychiatrist services, rheumatologist services, scalp consultant service, specialist medical clinic, specialist medical practitioner services, surgeon, thoracic specialist services, urologist services, specialist medical services	8512	0.907	Specialist Medical Services
815105	Specialist Medical Services	Include pathologist services, radiologist services, radiology services	8520	0.093	Pathology and Diagnostic Imaging Services
815106	Pathology Services	Include medical laboratory operation, pathology laboratory operation, pathology services	8520	1	Pathology and Diagnostic Imaging Services
815201	Dental Services		8531	1	Dental Services

815401	Optometry and Optical Dispensing (including dispensing hearing aids)		8532	0.107	Optometry and Optical Dispensing
815401	Optometry and Optical Dispensing (including dispensing hearing aids)	Include hearing aid dispensing	8539	0.893	Other Allied Health Services
815801	Health Services NEC		8539	0.896	Other Allied Health Services
815801	Health Services NEC	Include radiographer services, radiography service, x-ray clinic operation	8520	0.086	Pathology and Diagnostic Imaging Services
815801	Health Services NEC	Include blood bank operation, health farm operation	8599	0.018	Other Health Care Services NEC
815805	Nursing		8539	1	Other Allied Health Services
815806	Physiotherapy Services		8533	1	Physiotherapy Services
815807	Chiropractic and Osteopathic Services		8534	1	Chiropractic and Osteopathic Services
816001	Veterinary Services		6970	1	Veterinary Services
824101	Higher Education		8102	1	Higher Education
824301	Technical and Further Education	Include engineering school operation, polytechnic school operation, technical and further education college operation, technical college operation	8101	1	Technical and Vocational Education and Training
824401	Education NEC	Include Sailing school operation	8211	0.146	Sports and Physical Recreation Instruction

824401	Education NEC	Include art or craft educational courses operation, art school operation, ballet school operation, ballet teaching, coaching college operation, craft school operation, dance teacher, drama school operation, music school operation, music teaching	8212	0.091	Arts Education
824401	Education NEC	Include academic tutoring service, correspondence school operation, deportment school operation, education, Educational workshops, elocution school operation, language school operation, motor vehicle driving school operation, post school education, truck driver training, tutoring service	8219	0.348	Adult, Community and Other Education NEC

824401	Education NEC	Include beauty school operation, business college operation, computer software training, earth moving equipment training, engineering school operation, coaching college operation, industrial equipment operation training, management training service, mannequin school operation, modelling school operation, nursing college operation, paramedical training college operation, radio navigation school operation, skill share operation - mainly training, teachers college operation, theological college or seminary operation, typing school operation	8101	0.415	Technical and Vocational Education and Training
825101	Libraries		6010	1	Libraries and Archives
825201	Museums and Art Galleries		8910	1	Museum Operation
846101	Scientific Research	Exclude universities	6910	1	Scientific Research Services
846201	Meteorological Services	Include meteorological service and weather station operation	6999	1	Other Professional, Scientific and Technical Services NEC
849101	Employment Services Category 1		7212	1	Labour Supply Services
849102	Employment Services Category 2		7212	1	Labour Supply Services
849103	Employment Services Category 3		7212	1	Labour Supply Services
849105	Employment Placement Services		7211	1	Employment Placement and Recruitment Services

913101	Film and Video Production	Include motion picture editing, movie picture editing, TV film editing service, video editing service	5514	0.118	Post-production Services and Other Motion Picture and Video Activities
913101	Film and Video Production	Include motion picture film or video tape production, newsreel production, TV commercial production, TV film or tape production, video filming for commercial usage, film and video production, video production service	5511	0.882	Motion Picture and Video Production
913301	Motion Picture Exhibition		5513	1	Motion Picture Exhibition
913401	Radio Services		5610	0.125	Radio Broadcasting
913401	Radio Services	Include radio programmes recording, radio programmes production (whether live or on tape)	5522	0.8	Music and Other Sound Recording Activities
913401	Radio Services	Include news collection for radio broadcasting	6020	0.075	Other Information Services
913501	Television Services	Include sale of advertising time in TV broadcasts, telecasting, TV broadcasting, TV station operation, television service	5621	0.022	Free-to-air Television Broadcasting
913501	Television Services	Include Pay TV operators, Pay TV station operation	5622	0.011	Cable and Other Subscription Broadcasting
913501	Television Services	Include TV programme production, TV programme video recording	5511	0.944	Motion Picture and Video Production
913501	Television Services	Include news collection for TV broadcasting	6020	0.022	Other Information Services

913601	Music and Theatre Productions	Include ballet company operation, choir operation, choral group operation, dance band, music and theatre productions operation, music and theatre productions, musical comedy company operation, musical group operation, musician, opera company operation, orchestra operation, performing artist operation, puppet show operation, rock band operation, stage show operation, theatrical company operation	9001	0.069	Performing Arts Operation
913601	Music and Theatre Productions	Include actor, busker, magician, musician, performing artist operation, showperson, singer, street musician, ventriloquist, band operation	9002	0.931	Creative Artists, Musicians, Writers and Performers
913605	Sound Recording Studios	Include, master audio recordings production, sound recording studio, sound recording studio operation	5522	1	Music and Other Sound Recording Activities
913606	Performing Arts Venues		9003	1	Performing Arts Venue Operation
913701	Creative Arts	Include press agency operator	6020	0.008	Other Information Services
913701	Creative Arts		9002	0.992	Creative Artists, Musicians, Writers and Performers
913801	Services to the Arts NEC	Include press agency operation	6020	0.004	Other Information Services
913801	Services to the Arts NEC	Include casting agency operation, theatrical and motion picture casting service	7211	0.19	Employment Placement and Recruitment Services

913801	Services to the Arts NEC	Include booking agency operation, theatre booking agency, events booking agent, theatre ticket agency	NA	0.284	Other Administrative Services NEC
913801	Services to the Arts NEC	Include set designing service, costume designing, stage management operation, theatre lighting design service	9002	0.521	Creative Artists, Musicians, Writers and Performers
914101	Parks and Zoological Gardens	Include aquarium operation, botanical garden operation, parks and zoological gardens, zoological garden operation	8921	0.2	Zoological and Botanical Gardens Operation
914101	Parks and Zoological Gardens	Include national park operation, parks and gardens operation, picnic ground operation, recreation ground operation (except sporting), tourist caves operation, wildlife sanctuary operation	8922	0.8	Nature Reserves and Conservation Parks Operation
914201	Lotteries	Include art union operation, lotteries, lottery agency operation, lottery operation	9202	1	Lottery Operation
914301	Gambling Services NEC	Excluding football pools	9209	0.93	Other Gambling Activities
914301	Gambling Services NEC	Include football pools operation	9202	0.07	Lottery Operation
914305	Casinos		9201	1	Casino Operation
914401	Sport and Recreation NEC	Include chair lift operation, boats - leasing, hiring or reting (from own stocks, with or without crews, for periods less than one year, for game fishing), boats - pleasure, leasing, hiring or renting (with crew, for any period, other than game fishing boats)	NA	0.117	Scenic and Sightseeing Transport

914401	Sport and Recreation NEC	Include cricket coaching service, football coaching service, golf coaching service, martial arts and self-defence instruction, parachuting club or school operation, scuba diving school, skin diving school, sporting and other recreational activity training, sports coaching school operation, sports coaching service, swimming school operation, tennis coaching service, yoga or tai chi instruction service	8211	0.121	Sports and Physical Recreation Instruction
914401	Sport and Recreation NEC	Include gymnasium operation, health and fitness centre operation	9111	0.108	Health and Physical Fitness Centres and Gymnasia Operation
914401	Sport and Recreation NEC	Include Athletic club operation, Basketball club operation, Boating club operation, Cricket club operation, Dart club operation, Football club operation, Golf club operation, Hockey club operation, Life-saving club operation, Orienteering club operation, Rowing club operation, Soccer club operation, sporting club operation, tennis club operation, trotting club operation, yacht club operation, rifle club operation (except hospitality)	9112	0.087	Sports and Physical Recreation Clubs and Sports Professionals

914401	Sport and Recreation NEC	Include athletic field operation, basketball stadium operation, billiard saloon operation, bowling green operation, boxing stadium operation, golf club operation, golf course or practice range operation, hiring of sports ground facilities, ice skating rink operation, indoor cricket centre operation, motor racing speedway operation, motor racing track operation, netball court operation, netball facility operation, pool room operation, race course or race track operation, rifle range operation, skating rink operation, sports ground operation, squash court operation, swimming pool operation, tenpin bowling alley operation, tennis court operation, thermal pool operation, velodrome cycle track operation, golf country club operation (except hospitality)	9113	0.071	Sports and Physical Recreation Venues, Grounds and Facilities Operation
914401	Sport and Recreation NEC	Include sports administration service	9114	0.006	Sports and Physical Recreation Administrative Service
914401	Sport and Recreation NEC	Include greyhound race track operation, racing or jockey club operation - race administration, racing or jockey club operation - race track operation, trotting track operation, jockey club operation	9121	0.002	Horse and Dog Racing Administration and Track Operation
914401	Sport and Recreation NEC	Include greyhound training	9129	0.085	Other Horse and Dog Racing Activities

914401	Sport and Recreation NEC	Include go-kart centre operation, go-kart track operation	9131	0.048	Amusement Parks and Centres Operation
914401	Sport and Recreation NEC	Include marina operation for pleasure craft	9139	0.036	Amusement Parks and Other Recreational Activities NEC
914401	Sport and Recreation NEC	Include weight reduction service - mainly exercise and fitness programs, physical fitness program operation, physical fitness service	NA	0.318	Other Personal Services NEC
914405	Horse Related Recreation and Sport	Include farrier service	529	0.724	Other Agriculture and Fishing Support Services
914405	Horse Related Recreation and Sport	Include riding school operation, horse related recreation and sport	8211	0.138	Sports and Physical Recreation Instruction
914405	Horse Related Recreation and Sport	Include horse training for racing, pacer training	9129	0.097	Other Horse and Dog Racing Activities
914405	Horse Related Recreation and Sport	Include horse riding operation - trail	9139	0.041	Amusement and Other Recreational Activities NEC
914406	Other Recreation Services	Include scenic railway operation, railway operation as a scenic railway (tourist attraction)	NA	0.372	Scenic and Sightseeing Transport
914406	Other Recreation Services	Include dance hall operation (with tuition), dance studio operation	8212	0.241	Arts Education
914406	Other Recreation Services	Include circus	9001	0.119	Performing Arts Operation
914406	Other Recreation Services	Include amusement centre operation, amusement park or arcade operation, carnival operation, merry go-round operation, putt putt golf centre operation, side show operation, theme park operation, water slide operation, mini golf centre operation	9131	0.153	Amusement Parks and Centres Operation

914406	Other Recreation Services	Include dance hall or studio operation, playground operation, shooting gallery operation	9139	0.115	Amusement and Other Recreational Activities NEC
936101	Photography Services NEC		6991	1	Professional Photographic Services