



# Screen Industry Survey

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# Screen Industry Survey

## Abstract

The Screen Industry Survey measures the size and shape of the New Zealand screen industry, and the range of activities involved in it. The survey was a census of all businesses and individuals within the target population, which is defined as all economically significant New Zealand businesses involved in any screen industry activity. These activities include film and television production, post-production services, motion picture distribution, film exhibition, and television broadcasting. In 2015, a sample design was first introduced, this had a sample size of around 3,300 units. In 2018, the survey was further reduced to around 1,800 units. Reasoning on the changes are noted in screen industry data collection 2017/18. The survey has been run since 2005, with a number of changes in methodology and questionnaire design made over that time.

## Purpose

The purpose of the survey is to construct a set of comprehensive, official statistics on the New Zealand screen industry. The data collected is used to the development of government funding and legislation, and enable policy implementation to be monitored over time. The data also enables industry bodies, such as New Zealand Film Commission, to promote the New Zealand screen industry to international markets.

## Screen Series Data Collection

### Methodology

#### Target population

The target population is all economically significant New Zealand businesses involved in any screen industry activity. The screen industry encompasses all film, video, television, commercial, music video, and non-broadcast media activities in production (including pre-production), post-production, distribution, exhibition, and broadcasting. All enterprises sampled are required to complete the questionnaire.

The population includes all businesses that meet the economic significance criteria and fall within the Australia New Zealand Standard Industry Classification (ANZSIC06) classifications listed below.

- J5511 Motion picture and video production: businesses mainly engaged in producing motion pictures, videos, and television programmes or commercials.
- J5512 Motion picture and video distribution: businesses mainly engaged in acquiring distribution rights and distributing motion pictures and videos. These products are distributed (through leasing and wholesale channels) to exhibitors such as motion picture theatres and television stations, using a variety of visual media.
- J5513 Motion picture exhibition: businesses mainly engaged in screening motion pictures using a variety of visual media. We include businesses screening productions at festivals and other similar events in this class.
- J5514 Post-production services and other motion picture and video activities: businesses mainly engaged in providing post-production services and other motion picture and video activities, including specialised motion picture or video post-production services (eg 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.
- J5621 Free-to-air television broadcasting: businesses mainly engaged in free-to-air television broadcasting of visual content, in the form of electronic images together with sound, through broadcasting studios and facilities. These businesses may also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programmes on a pre-determined schedule. Transmissions are made available without cost to the viewer.
- J5622 Cable and other subscription broadcasting: businesses mainly engaged in broadcasting television programmes on a subscription or fee basis (such as subscription cable or satellite television broadcasting) to viewers.
- J6020 Other information services: businesses mainly engaged in providing other information services (eg news collection services).

#### Exclusions to the population

We exclude any business that primarily undertakes activities not directly related to the process of making or screening a screen production from the population.

Businesses and individuals providing acting services and recruitment are excluded. Other examples of excluded businesses are those providing services to crew (accommodation and catering), services to office management (accounting and legal), and services that support the industry but are not involved in screen productions (educational bodies, film libraries, and film trusts).

We also exclude any businesses that supply services to the industry but not on an exclusive basis. These businesses (which include builders and vehicle hire) are excluded as their information is unlikely to be easily isolated from their other business activities.

We exclude the following ANZSIC06 classifications from the population:

- G4242 Entertainment media retailing: businesses mainly engaged in retailing audio tapes, compact discs, computer games, digital versatile discs, or video cassettes.
- N7211 Employment placement and recruitment services: businesses mainly engaged in listing employment vacancies and in referring or placing applicants for employment in any field.
- L6631 Heavy machinery and scaffolding rental and hiring: businesses mainly engaged in hiring, leasing, or renting (without operators) heavy machinery and scaffolding (including mobile platforms) from stock physically held for the purpose.

#### **Adjustments involving goods and services tax**

Published dollar values exclude GST. Most respondents give GST-exclusive figures. We adjust the rest when we process the data.

#### **Data collection**

The screen industry release includes information from data sources such as the Screen Industry Survey, Linked Employee-Employer Data (LEED), and the Annual Enterprise Survey since Screen Industry 2013/14 release.

#### **Screen Industry Survey**

We post the Screen Industry Survey to all businesses in the target sample that meet our selection criteria.

#### **Data Book**

In previous years we used the Data Book, an industry publication, to supplement our population identification. However, for 2018 we did not use source. Analysis on previous collections showed the majority of businesses in the Data Book had been registered on Stats NZ's Business Register with screen related industry classification. This meant they were already selected into the population. Also, businesses listed in the Data Book did not provide a major contribution to the total screen production revenue. Based on these findings, we decided not to use the Data book to supplement the population.

#### **Linked Employee-Employer Data (LEED)**

We collected information on employees in the screen industry from LEED to provide more detail on the staffing situations of businesses captured in the Screen Industry Survey. This screen industry information included:

- number of people employed
- number of jobs
- earnings from jobs
- distribution by age groups
- distribution by sex
- percentiles for earnings from jobs
- percentiles of wages earned by people.

See [Linked Employer-Employee Data](#) for more information about LEED.

#### **Annual Enterprise Survey (AES)**

We collected information on value added to the screen industry from the Annual Enterprise Survey (AES).

See [Annual Enterprise Survey](#) for more information about AES.

#### **Data processing**

We check the data to assess any inconsistencies between questions. If we find inconsistent data, we correct it based on existing information, or follow up with respondents.

The following outlines the imputation methodology we use in the Screen Industry Survey.

**Unit non-response:** occurs when businesses in the survey do not return the questionnaire, or do not answer all the predefined key questions (whether they are a producer, contractor, distributor, exhibitor, or broadcaster).

We compensate for non-response by using weight adjustment. This 'weights up' the responding firms, to compensate for the non-responding firms in the same weighting cell. We multiply initial selection weights by a non-response factor to give the adjusted weight.

Weighting cells are based on ANZSIC06, annual GST turnover, and region. We create separate weighting cells for key units within each ANZSIC group.

We use historical imputation where weight adjustment significantly over- or under-estimates a unit that otherwise has little variation in its previous survey data. In these cases, we may impute the values from the previous return for the current year to account for the missing data.

**Item non-response:** responding businesses that do not complete one or more questions they should have are treated as item non-responses, and we impute their missing variables.

**Imputation cells and merging:** businesses are assigned to imputation cells for us to calculate and assign a new weight. Imputation cells are based on the main activity of the business, annual GST turnover, and region. We create separate weighting cells for key units within each ANZSIC group. To ensure we apply robust calculations, minimum constraints allow groups to merge imputation cells until sufficient responses are achieved, or constraints met.

**Imputation of numeric variables:** we use weighted mean imputation and donor imputation.

For totals and other key numeric variables, we calculate a weighted mean from linked responding units for each numeric line code within each imputation cell. We then impute data for non-responding businesses with the weighted mean for their imputation cell.

Donor imputation randomly selects a donor from within each imputation cell. The non-respondent's data is then imputed with the value(s) from the donor. We use donor imputation to impute components and percentages so the distribution is maintained.

**Imputation of categoric questions:** for categoric imputation, we use donor imputation. We randomly select a donor within each imputation cell and the non-respondent is imputed with the value(s) from the donor.

### Quality of data

In 2015, a partial sample was used in the Screen Industry Survey, this introduced sample error. Relative sample errors are reported in the section regarding period-specific information.

In 2018, the sample was further reduced to decrease respondent burden. The reduction was done after analysis into where the majority of screen industry revenue was in 2017. Due to the changes in sampling, the measures for counts of screen industry works and businesses were unable to be published. This was due to quality and confidentiality concerns.

The smaller sample in 2018 means the relative sampling errors are much higher for this year than for previous collections.

Non-sampling errors occur for reasons such as respondent error, interpretation variations, sample frame quality, and errors in processing. We impute data for non-respondents, which may introduce errors. While every effort is made to minimise these types of error, they may still occur. We can't quantify their effect.

We reduced the risk of non-sampling error by careful design and thorough testing of questionnaires, efficient operating systems and procedures, and appropriate methodology.

We compare the survey data with annual reports, websites, trade data, and other indicators we publish. Where the survey results differ substantially, we study the data in more detail. Exact comparisons are not always possible, due to differences in timing or definition.

### Interpreting the data

#### Sector breakdown

In this release, the screen industry is classified to the following groups: production and post-production, broadcasting, distribution, and exhibition. We determine classification in these groups by revenue activity (including expenditure activity in the production and post-production sector).

#### Structure of screen industry

We can further define the production and post-production sector by the relationship of the business with the work being created. 'Producing' is activity carried out on works that are the end-to-end responsibility of that business. 'Contracting' is activity carried out on works being produced by another business. A business may generate revenue from producing (work on its own productions) and contracting (work contributing to another business' production) in the same year. Business counts for those involved in producing or contracting may change from year to year as business activity changes.

#### Revenue as a measure of industry activity

Total revenue is the measure we use to define activity in the screen industry. We ask each business to report their revenue in each sector, including the production and post-production sector, exclusive of their relationships to other businesses.

While revenue is a valid measure of activity, it does not account for the relationships between businesses within the industry. In an industry with many contracting and sub-contracting relationships, there is a high likelihood of some double-counting in the totals.

### Confidentiality

Data published from the Screen Industry Survey must conform to the provisions of the Statistics Act 1975. Stats NZ must publish data so that no individual can be identified.

See information about [privacy, security, and confidentiality of survey data](#). The confidentiality process may cause a total to differ slightly from the sum of the contributing cells.

### More information

Statistics in this release have been produced in accordance with [Principles and protocols for producers of Tier 1 statistics](#) for quality. They conform to the Statistics NZ Methodological Standard for Reporting of Data Quality.

### Liability

While all care and diligence has been used in processing, analysing, and extracting data and information in this publication, Stats NZ gives no warranty it is error-free and will not be liable for any loss or damage suffered by the use directly, or indirectly, of the information in this publication.

### Timing

Our information releases are delivered electronically by third parties. Delivery may be delayed by circumstances outside our control. Stats NZ does not accept responsibility for any such delay.

### Frequency

4 Annual

### Significant events impacting this study series

This series has been affected by ongoing development of the questionnaire and process changes to methods of population selection and stratification.

### Main users of the data

Government agencies and industry bodies whose decisions are affected by the performance of the New Zealand screen industry.

### Usage and limitations of the data

Data may be used for policy, funding and business decisions. This survey does not account for the relationships between businesses in the industry. In an industry with many contracting and sub-contracting relationships there is a high likelihood of double counting in the totals.

## Related Materials

### Other

- [Film and television](#)
- [Screen Industry Survey - Information Releases](#)

## Variables

## Concepts

### Screen Industry Concepts

Name	Description
ANZSIC	<b>ANZSIC</b> The Australia and New Zealand Standard Industrial Classification is a system classifying industries by industry group. We use the 2006 version in this release.
Broadcasting	<b>Broadcasting</b> The distribution of works through media such as television or the internet.
Business Register	<b>Business Register</b> A register maintained by Statistics NZ of all businesses operating in New Zealand.
Contracting activity	<b>Contracting activity</b> Activity that contributes to a work for which another business has production responsibility. This includes the contracted supply of services related to any aspect of production or post-production activity. It also includes the contracted supply of industry-specific equipment or facilities. A business may undertake both contracting and producing activities in a single year.
Digital technology	<b>Digital technology</b> A measurement of the use of digital exhibition (eg digital cinema) and digital broadcasting (eg digital television broadcasting).
Distribution	<b>Distribution</b> The process of delivering the completed work for display to the public market. This includes marketing the work.

Economically significant business	<p><b>Economically significant business</b></p> <p>One that meets at least one of these criteria:</p> <ul style="list-style-type: none"> <li>• has greater than \$30,000 annual GST expenses or sales</li> <li>• 12-month rolling mean employee count greater than three</li> <li>• is part of a group of enterprises</li> <li>• is registered for GST and involved in agriculture and forestry</li> <li>• over \$40,000 of income recorded in the IR10 annual tax return (this includes some units in residential property leasing and rental).</li> </ul>
Employees	<p><b>Employees</b></p> <p>The number of employees as defined by a business' rolling mean employment (RME).</p>
Enterprise	<p><b>Enterprise</b></p> <p>A business or service entity operating in New Zealand. It can be a company, partnership, trust, estate, incorporated society, producer board, local or central government organisation, voluntary organisation, or self-employed individual.</p>
Exhibition	<p><b>Exhibition</b></p> <p>The display of a completed work to the public at pre-set locations, such as cinemas or museum displays.</p>
Funding and financing	<p><b>Funding and financing</b></p> <p>Direct investment made by government and private organisations that specifically targets a single project or series of projects, to aid with costs and to enable production. This includes production investment provided to businesses.</p>
Gross revenue	<p><b>Gross revenue</b></p> <p>The measure of total turnover for a particular variable. It measures all transactions and money flows, including internal transactions. We measure the screen industry using turnover, rather than net revenue earned by the industry.</p>
GST	<p><b>GST</b></p> <p>Goods and services tax.</p>
Imputation	<p><b>Imputation</b></p> <p>The process of accounting for missing values in the data, either for a question, or for whole unit responses.</p>
Non-broadcast media	<p><b>Non-broadcast media</b></p> <p>Works intended for a specialised audience, such as corporate, marketing, training, or educational media.</p>
Post-Production	<p><b>Post-Production</b></p> <p>All activities involved in putting together scenes to make a production complete; for example editing, duplication, visual effects, and audio.</p>
Producing	<p><b>Producing</b></p> <p>Business activity on a work for which the business has end-to-end responsibility. This does not preclude the business contracting aspects of the overall production to other businesses.</p>
Production	<p><b>Production</b></p> <p>All work leading up to and including filming. This includes development, pre-production, and principal photography.</p>
Regional business location	<p><b>Regional business location</b></p> <p>We derive a regional-based location from the data to give an idea of the regional distribution of businesses in the screen industry. We determine this by using the reported physical location of each business. Where a business has more than one location, we use the location with the largest RME. This means a business generating screen activity from more than one location has all that activity recorded against one location only.</p>
RR3	<p><b>RR3</b></p> <p>Randomly adjusting values up or down to a number divisible by three, otherwise known as random rounding to base 3.</p>
Rolling mean employment	<p><b>Rolling mean employment</b></p> <p>RME is a 12-month moving average of the monthly employment figure, obtained from taxation data, and related to PAYE. RME does not include people who are not paid PAYE, such as contract staff, and owner operators.</p>

Screen industry	<b>Screen industry</b> All aspects of the industry included in the Screen Industry release. All businesses and activity involved in creating screen content (production and post-production), and the display of such works (distribution, exhibition, and broadcasting) are part of the survey.
Value added	<b>Value added</b> Income formed during the production process. It is considered to be a more reliable measure of the screen industry as it subtracts expenditure, which can correct some double-counting.
Weighting	<b>Weighting</b> If we don't get a response from a business, we give other businesses with similar profiles a weight to represent the missing business.