**Survey Methodology Notes**

**Overview**

The National Survey of Research Commercialisation (NSRC) is a voluntary national survey on the research engagement and commercialisation activities of publicly funded research organisations (PFROs) in Australia. It is the primary source of information available on the Australian publicly funded research sector’s efforts to collaborate with industry to transfer knowledge and commercialise research. The survey has been conducted bi-annually since 2000 and moved to an annual collection cycle with the 2014 collection.
The target population for the NSRC consists of organisations that:

* undertake research and development activities;
* receive public funding for research;
* are not-for-profit; and
* have an Australian Business Number (ABN) or Australian Company Number (ACN).

This target population primarily includes universities, medical research institutes (MRI) and publicly funded research agencies (PFRA), although other select PFROs are also eligible to participate.

**Methodology**

The Department of Industry, Innovation and Science administered the 2015 NSRC data collection between 15 September and 28 October 2016 using Survey Monkey. Data collected was for the 2015 calendar year.

Sixty seven organisations were approached to participate, with 66 providing returns, this represented a 99% participation rate. Returns were provided by: seven PFRAs, 38 universities and 21 MRIs. Extensions were granted to a small number of organisations on request.

The 2015 survey population makeup included for first time the participation by Olivia Newton-John Cancer Research Institute (an MRI). The 2015 NSRC participants (please provide link) are listed in full.

The 2015 survey comprised 18 main questions, one supplementary question, and an optional case study. Patents data was sourced from IP Australia’s Data Analytics Hub for the second year. Data on start-ups was reintroduced within the NSRC survey instrument. On completion of the survey, organisations were provided with a PDF copy of their validated return.

**Unit Record Data**

Survey returns were exported from Survey Monkey into an Excel spreadsheet and checked for accuracy and consistency. A cleaning and coding tool was used to identify outliers and conduct derivation, category and logic checks. In some cases, where inconsistent responses or incomplete data was identified, respondents were contacted to validate and where necessary adjust their returns. The raw survey data has been uploaded into a 2015 unit record data sheet and into the 2000-15 data sheet. The reporting period covers the calendar year 2015 or financial year 2015/16, depending on the institution’s reporting period.  Where an institution reported on a financial year basis, values were converted into a calendar year by averaging values reported on the financial years. All the dollar values reported in the unit record data are as reported for the relevant year.

For more information on the collection process including definition of questions, please refer to the NSRC 2015 Instructions and Definitions.

**Time series**

Ten metrics are included in the NSRC time series based on the 2014 NSRC data collection:

* Dedicated commercialisation staff
* Invention disclosures
* LOAs executed
* LOAs yielding income
* LOA gross income
* LOA income paid to others
* Start-up companies formed during the year
* Start-up companies operational at year end dependent on assignment of technology
* Start-up companies operational at year end with institutional equity stakes
* Value of equity holdings

The NSRC time series includes metrics that have remained consistent over the span of the data collection. For each metric, the unit record files from previous surveys were scrutinised and inconsistencies or errors corrected in consultation with the respondent. There were less metrics in the 2015 time series compared to the previous NSRC time series as patents data previously collected through the NSRC is now sourced from the IP Australia’s Analytics Hub. However, the metric on dedicated commercialisation staff had been restored back in the time series dataset, with a definition that is consistent with the previous NSRC collections.

To be included in the time series, an institution must have a response rate of greater than or equal to 70% for the ten metrics over 2000-15. Data coverage is calculated for each institution by counting the number of years for which a usable response had been provided. Blank, unknown and not applicable responses are not incorporated. The response count for each institution is then expressed as a percentage of the maximum possible count of 160 (that is, 16 years of usable data multiplied by ten metrics). For example, if an institution did not respond for the year 2000, but responded in the years 2001-15 to a sufficient number of questions to make the 2000-15 overall response rate equal or greater than 70%, the institution was then included in the time series. This means that the time series cohort and values vary in every NSRC data release. The 55 organisations are included in the 2015 NSRC Time Series Cohort (please provide link). The time series dataset for the 2015 NSRC data collection will be available for all users.  A summary of time series metrics for 2015 NSRC data collection will again be published.  Financial data in the time series table has been adjusted using the 2015 implicit price deflators.[[1]](#footnote-1)

**International**

The NSRC continues to benchmark Australia’s performance internationally. In 2015, data was available for benchmarking with US, Canada, the UK and, Israel. Australia had fewer metrics available for international data comparisons in 2015 compared to previous years because patent data is now collected through IP Australia’s Analytics Hub.  However, Australia was again able to include the total number of research commercialisation staff in the 2015 international comparisons. The metrics used for international comparisons are: total number of commercialisation staff, number of invention disclosures per USD 100m research expenditure, number of LOA’s executed per USD 100m research expenditure, ratio of LOA income to total research expenditure (%), and the number of start-up company formed per USD 100m research expenditure.
Comparative data is drawn from the following sources:

* National Survey of Research Commercialisation (2004 -2015)
* Statistics Access for Tech Transfer (STATT) online database for Canada and the US (2004-2014)
* US and Canada Licensing Activity Surveys Highlights (2015)
* Higher Education Business and Community Interaction Survey (2004-2014), Higher Education Funding Council for England
* Survey of Knowledge Commercialization Companies in Israel, 2014-2015
* Central Bureau Statistics, Israel (special request)

Research expenditure data provided by the 2015 NSRC cohort was used to calculate Australia’s research expenditure data. In most cases this data correlates with information provided by respondents to the Australian Bureau of Statistics every two years on research and development expenditure.

International data has been prepared by comparing research expenditure and LOA income received from providers as reported in the local currency for each country. The data was then converted to US dollars by dividing expenditure by the purchasing power parities developed by the Organisation for Economic Cooperation and Development for each year respectively. This method was also used to calculate start-up company formation and invention disclosure metrics where research expenditure was used to normalise the data.

**Data Publication**

Various NSRC datasets will be published on the department’s website (please provide link). Tableau visualisation software will be available to assist with data visualisation and analysis. The main survey data products associated with the 2015 NSRC data collection include:

* 2000-15unit record
* 2013-2015 summary of selected survey metrics
* 2000-15 Summary of selected time series metrics
* 2015 time series historical dataset
* 2004-2015 International Comparison table; and
* 2013-15 Data Summary.

**2015 NSRC Participants\***

**PFRA**

* Australian Astronomical Observatory (AAO)
* Australian Institute of Marine Science (AIMS)
* Australian Nuclear Science and Technology Organisation (ANSTO)
* Commonwealth Scientific and Industrial Research Organisation (CSIRO)
* Defence Science Technology Group
* National Measurement Institute (NMI)
* NICTA

**MRI**

* ANZAC Research Institute
* Baker IDI Heart and Diabetes Institute
* Bionics Institute
* Brien Holden Vision Institute
* Burnet Institute
* Cancer Council Victoria
* Centenary Institute of Cancer Medicine and Cell Biology
* Garvan Institute of Medical Research
* Hudson Institute of Medical Research
* Kolling Institute of Medical Research
* Murdoch Childrens Research Institute
* Neuroscience Research Australia
* Olivia Newton-John Cancer Research Institute
* Peter MacCallum Cancer Centre
* QIMR Berghofer Medical Research Institute
* Telethon Kids Institute
* The George Institute for Global Health
* The Institute for Breathing and Sleep
* The Walter and Eliza Hall Institute of Medical Research
* Victor Chang Cardiac Research Institute
* Woolcock Institute of Medical Research

**Universities**

* Australian Catholic University
* Charles Darwin University
* Charles Sturt University
* CQUniversity
* Curtin University of Technology
* Deakin University
* Edith Cowan University
* Federation University Australia
* Flinders University
* Griffith University
* James Cook University
* Latrobe University
* Macquarie University
* Monash University
* Murdoch University
* Newcastle Innovation Ltd (University of Newcastle, controlled entity)
* Queensland University of Technology
* RMIT University
* Southern Cross University
* Swinburne University of technology
* The Australian National University
* The University of Adelaide
* The University of Melbourne
* The University of New South Wales (NewSouth Innovations)
* The University of Notre Dame Australia
* The University of Queensland
* The University of Sydney
* The University of Western Australia
* University of Canberra
* The University of New England
* University of South Australia
* University of Southern Queensland
* University of Tasmania
* University of Technology Sydney
* University of the Sunshine Coast
* University of Western Sydney
* University of Wollongong
* Victoria University
* Western Sydney University

**2015 NSRC Time Series Cohort\***

**PFRA**

* Australian Institute of Marine Science
* Australian Nuclear Science and Technology Organisation (ANSTO)
* Commonwealth Scientific and Industrial Research Organisation (CSIRO)
* DST Group

**MRI**

* Baker IDI Heart and Diabetes Institute
* Cancer Council Victoria
* Centenary Institute of Cancer Medicine and Cell Biology
* Florey Nueroscience Institute
* Garvan Institute of Medical Research
* Ludwig Institute for Cancer Research
* Macfarlane Burnet Institute for Medical Research and Public Health (Burnet Institute)
* Murdoch Childrens Research Institute
* Neuroscience Research Australia
* Telethon Kids Institute
* The Walter and Eliza Hall Institute of Medical Research
* Victor Chang Cardiac Research Institute
* Women’s and Children’s Health Research Institute

**Universities**

* Australian Catholic University
* Charles Darwin University
* Charles Sturt University
* CQUniversity
* Curtin University of Technology
* Deakin University
* Edith Cowan University
* Federation University Australia
* Flinders University
* Griffith University
* James Cook University
* Latrobe University
* Macquarie University
* Monash University
* Murdoch University
* Newcastle Innovation(University of Newcastle, controlled entity)
* Queensland University of Technology
* RMIT University
* Southern Cross University
* Swinburne University of technology
* The Australian National University
* The University of Adelaide
* The University of Melbourne
* The University of New England
* The University of New South Wales (NewSouth Innovations)
* The University of Notre Dame Australia
* The University of Queensland
* The University of Sydney
* The University of Western Australia
* University of Canberra
* University of South Australia
* University of Southern Queensland
* University of Tasmania
* University of Technology Sydney
* University of the Sunshine Coast
* University of Western Sydney
* University of Wollongong
* Victoria University

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2 Australian Bureau of Statistics’ Australian System of National Accounts 2015-16, cat. no 5204.0

1. Australian Bureau of Statistics’ Australian System of National Accounts 2015-16, cat. no 5204.0 [↑](#footnote-ref-1)