



Australian Government
Department of Industry,
Innovation and Science

National Survey of Research Commercialisation (NSRC)

2018 Snapshot

Data represents activities undertaken in 2016



industry.gov.au

Australian Government support for knowledge transfer and research commercialisation

- The Australian Government supports knowledge transfer, collaboration and commercialisation through initiatives such as the:
 - Cooperative Research Centres (CRCs) program,
 - Australian Research Council (ARC) Linkages program,
 - Entrepreneurs Programme,
 - Biomedical Translation Fund (BTF) and
 - CSIRO's 'ON' Accelerator and Innovation Fund.
- And our public research organisations – universities, medical research organisations and CSIRO are doing more to drive partnerships with industry and the commercialisation of research

We have many great examples of Australian research commercialised



Bionic Ear



Gardasil



Medical application of penicillin



Google maps platform



Black box flight recorder



WiFi



Solution for sleep apnoea



Polymer banknotes



Ultrasound scanner

National Survey of Research Commercialisation (NSRC) – What is it?

- The NSRC surveys Australian Universities, Medical Research Institutes (MRIs) and Publicly Funded Research Agencies (PFRAs)
- The data collected covers:
 - **Investment** in R&D, commercialisation staff and training
 - **Commercialisation pathways**: licences, startups, patents and disclosures, consultancies, contracts and collaborations
- Data is also included on CRCs, Patents and Plant Breeders Rights (PBRs)



37
UNIs

ACU
Adelaide
ANU
Canberra
CQU
CSU
Curtin
Deakin
Edith Cowan
FedUni
Flinders
Griffith
James Cook
La Trobe
Macquarie
Melbourne
Monash
Murdoch
New England
New South Wales

Newcastle
Notre Dame
Queensland
QUT
RMIT
SCU
South Australia
Sunshine Coast
Swinburne
Sydney
Tasmania
USQ
UTS
Victoria
Western Australia
Western Sydney
Wollongong




20
MRIs

ANZAC
Baker
Bionics
Brien Holden Vision
Burnet
Cancer Council Vic
Centenary
Garvan
George
Hudson
IBAS
MCRI
NeuRA
ONJCRI
PeterMac
QIMR Berghofer
Telethon Kids
Victor Chang
WEHI
Woolcock



6
PFRAs

AAO
AIMS
ANSTO
CSIRO
DST
NMI



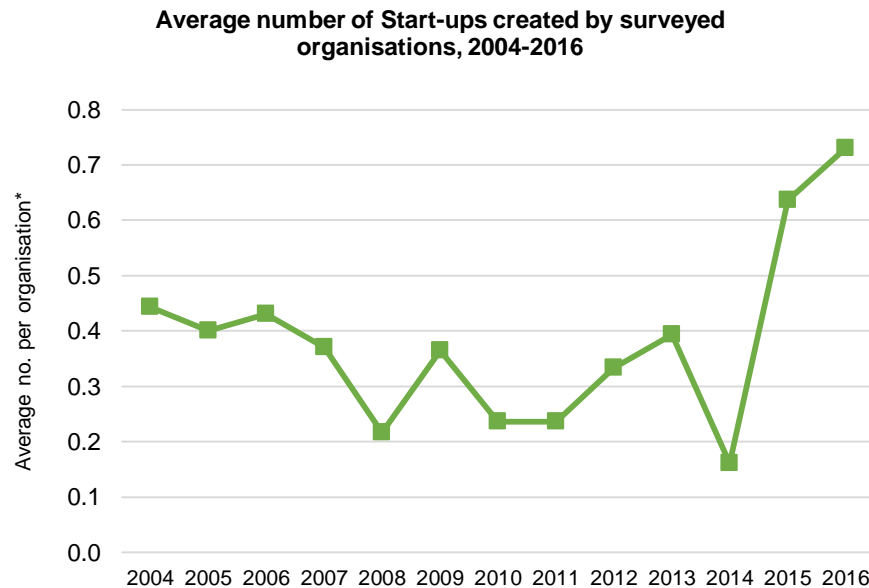
NSRC – 2018 Highlights

- Australian public research organisations have **increased** their commercialisation and collaboration activities over the life of the survey since it was first undertaken in 2000.
- NSRC data for 2016 shows **positive trends** across most metrics:
 - Continued growth in start-up creation
 - Increased technology licences executed
 - Consultancies, contracts and collaborations with end users including industry partners
- And an increase of 35% in researchers and students participating in industry skills training

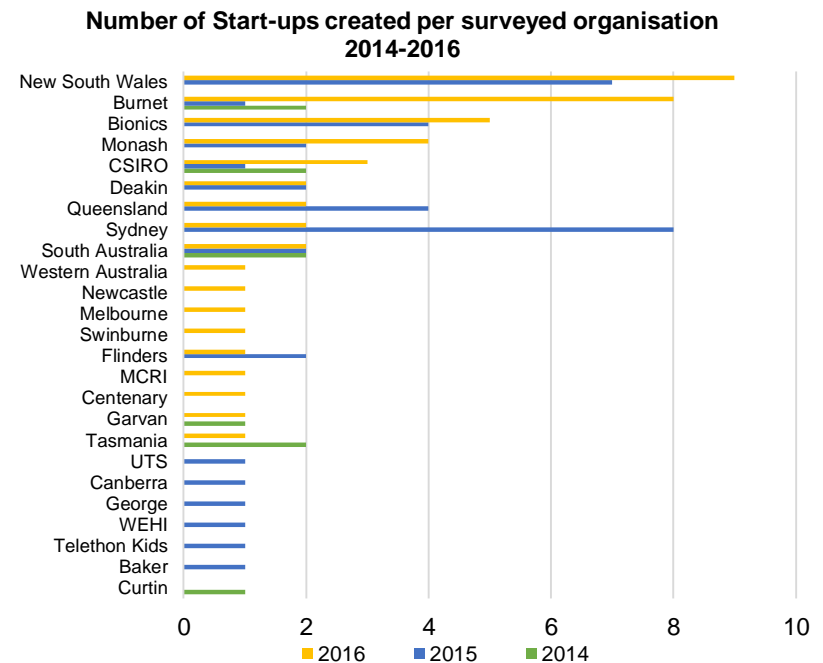
Commercialisation Activity – Startup creation

Institutional policy within each PFRO plays a significant role in determining that organisations appetite for starting up new firms. Some organisations may, for example, wish to minimise the legal/financial risk associated with startups. However, startups do convey a range of benefits to PFROs.

For example, having the IP owned by a separate organisation i.e. the startup, enables ease of transfer and transactions. It also facilitates access to overseas markets because the firm's mobility is comparatively unrestricted. Ultimately, the strategy behind starting up new firms may be that PFROs can realise the greatest amount of returns with minimal risk to the home organisation.



*Data has been normalised by dividing the total number of start-ups created by the number of participating organisations each year.

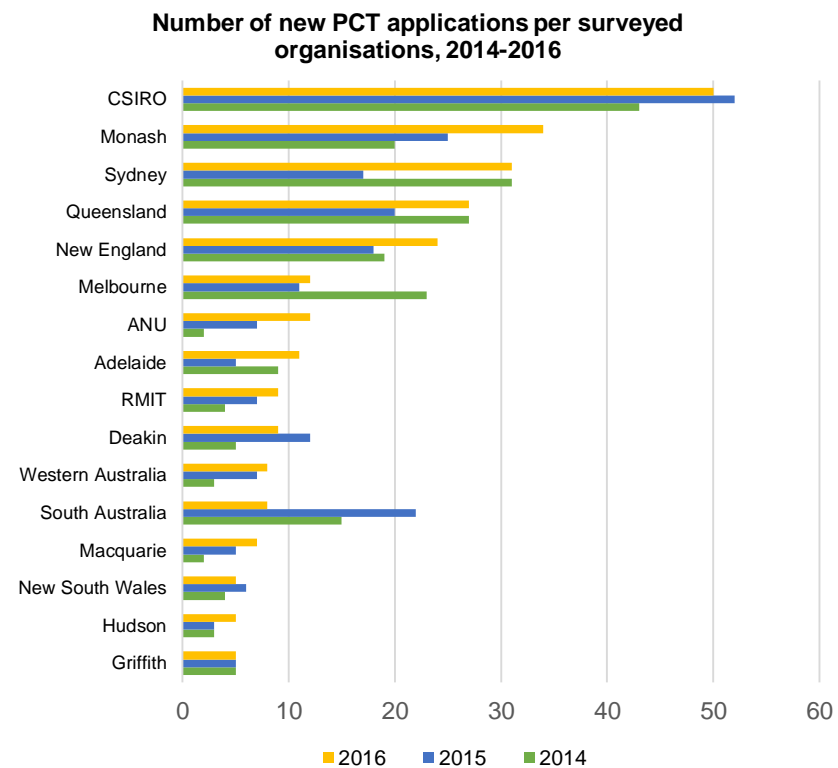
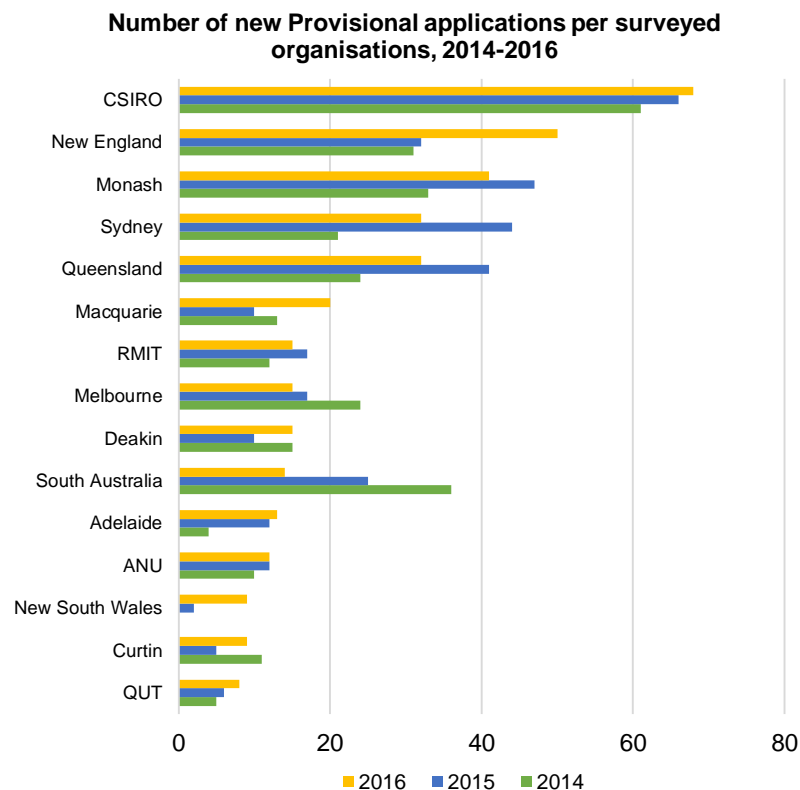


Commercialisation Activity – Provisional and PCT applications

Provisional applications establish a priority date signalling intention to file a full patent application. To claim the priority date, a patent or a Patent Cooperation Treaty (PCT) application must be filed within 12 months.

A provisional application allows time to determine if the invention is worthy of further time, money and effort associated with filing an application for a patent.

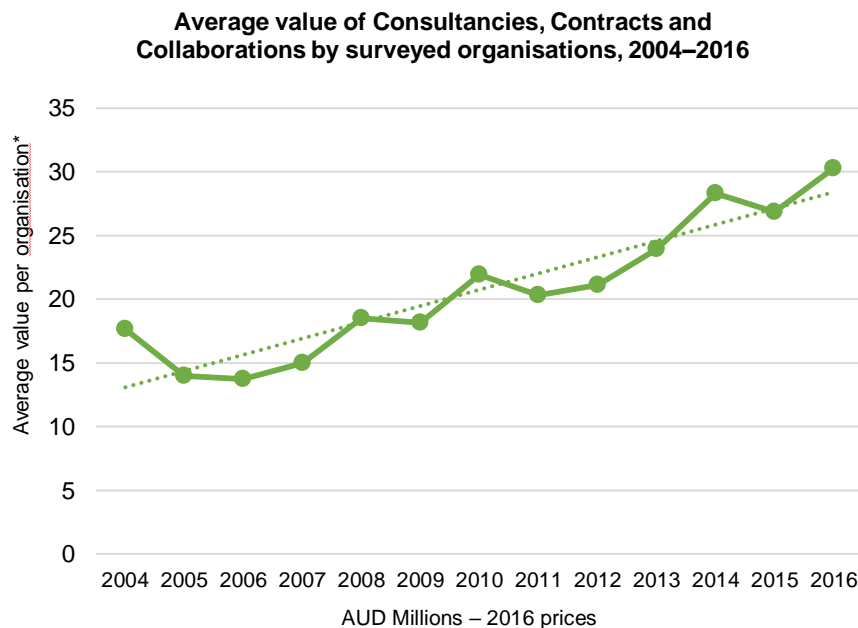
A PCT application provides a quick indication of whether an invention can be patented. A PCT application will go through an examination process according to a set of standards accepted by all the 151 countries which are signatories to the treaty.



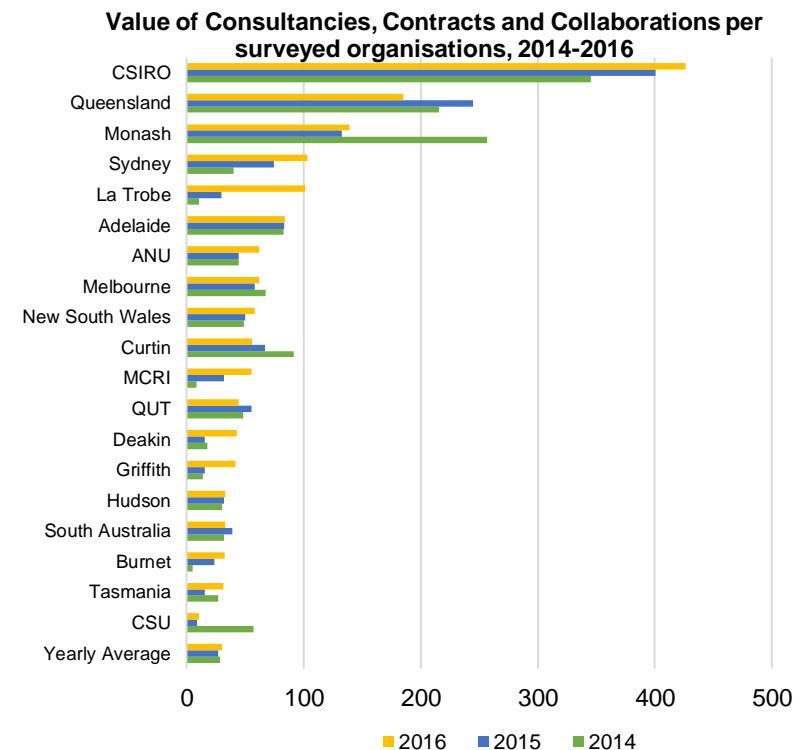
Commercialisation Activity – consultancies, contracts and collaborations with end users

Research contracts, consultancies and collaborations provide useful insights on levels of engagement between research organisations and end users, particularly industry partners, at an early stage in the commercialisation pipeline.

A **consultancy** is the provision of expert advice to clients external to the PFRO based on its existing research knowledge, skills and capabilities. A **contract** is an agreement to undertake research on behalf of clients external to the PFRO. A **collaboration** is a structured research project that involves researchers from the PFRO and one or more industry partners where all parties work together toward a common goal by sharing resources, knowledge, learning and building consensus.



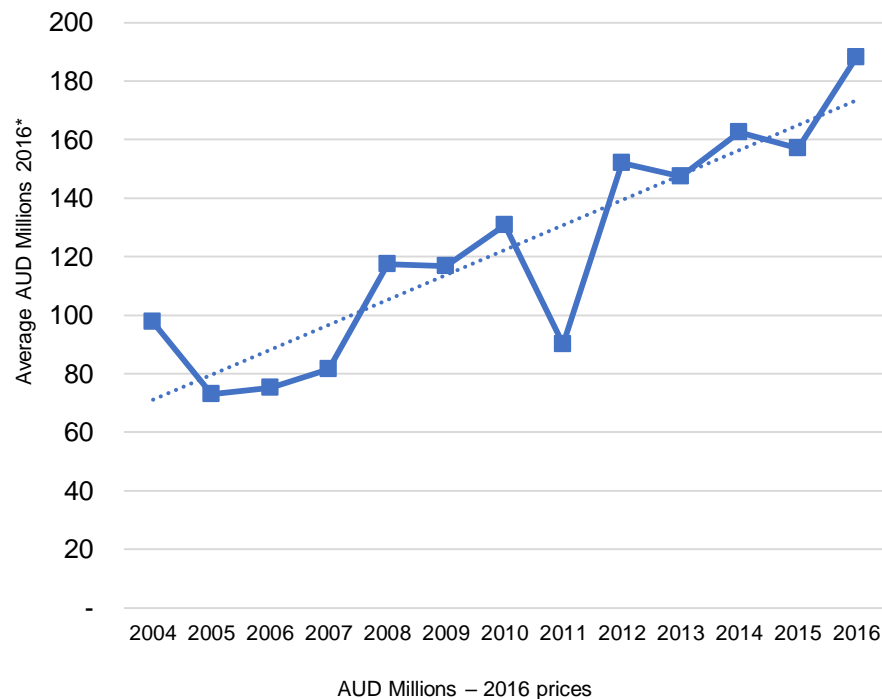
*Data has been normalised by dividing the number of consultancies, contracts and collaborations by the number of participating organisations each year.



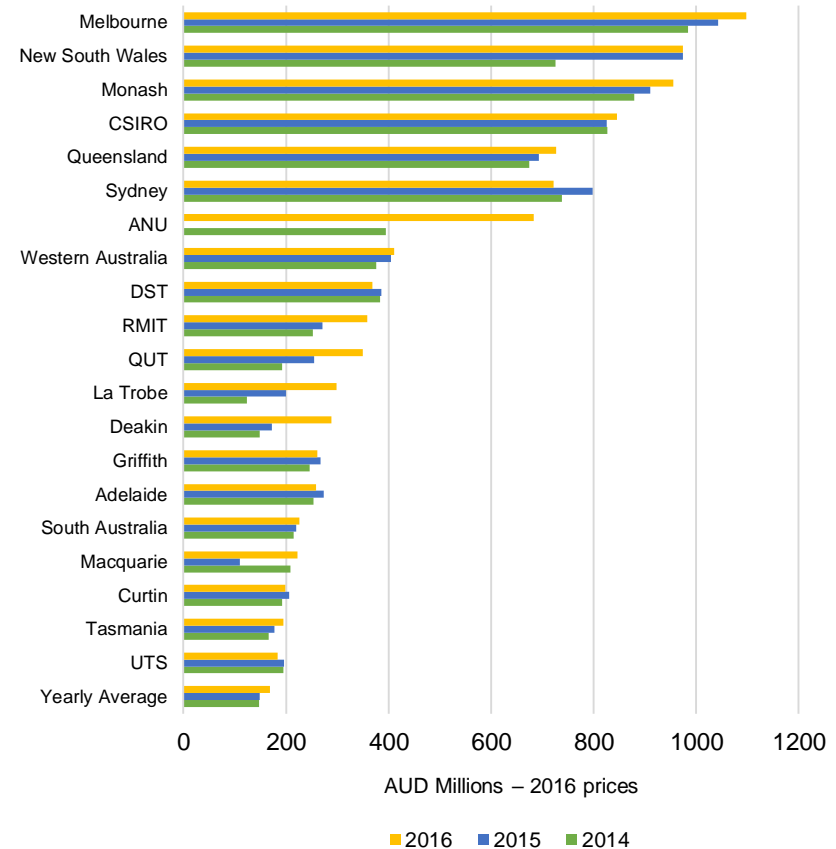
Commercialisation Investment – R&D Expenditure

R&D expenditure is a key indicator of innovation effort in a given year and defined as the money spent on creative work undertaken on a systematic basis to increase the stock of knowledge and the use of this knowledge to devise new applications.

**Average R&D expenditure by surveyed organisations,
2004-2016**



**R&D expenditure per surveyed organisations,
2014-2016**

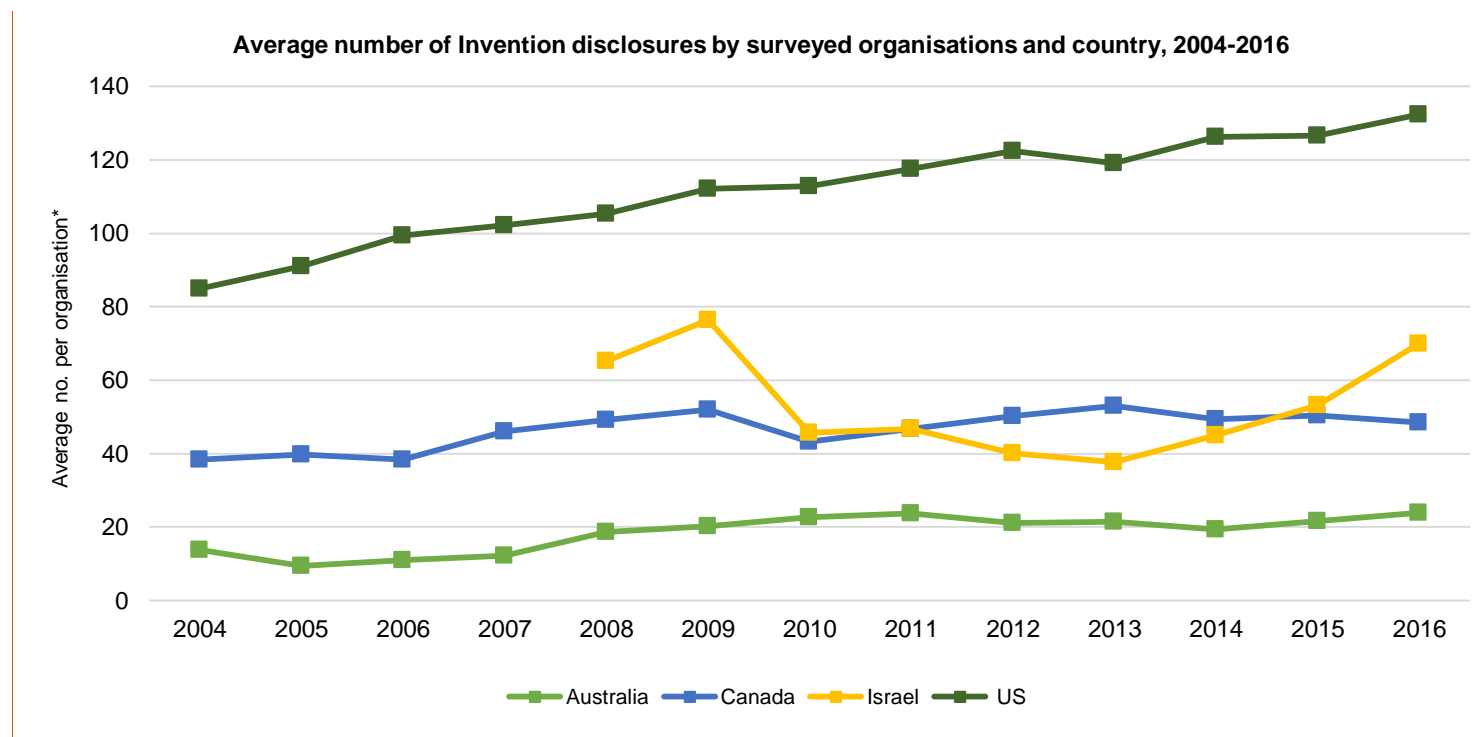


*Data has been normalised by dividing the total R&D expenditure by the number of participating organisations for each year.

Commercialisation Activity – Invention disclosures international comparison

An invention disclosure is a confidential document outlining a new invention, product or process which helps an organisation to determine whether patent protection should be sought. These are often a PFRO researcher's first step in the commercialisation process and the beginning of their relationship with their institution's technology transfer office.

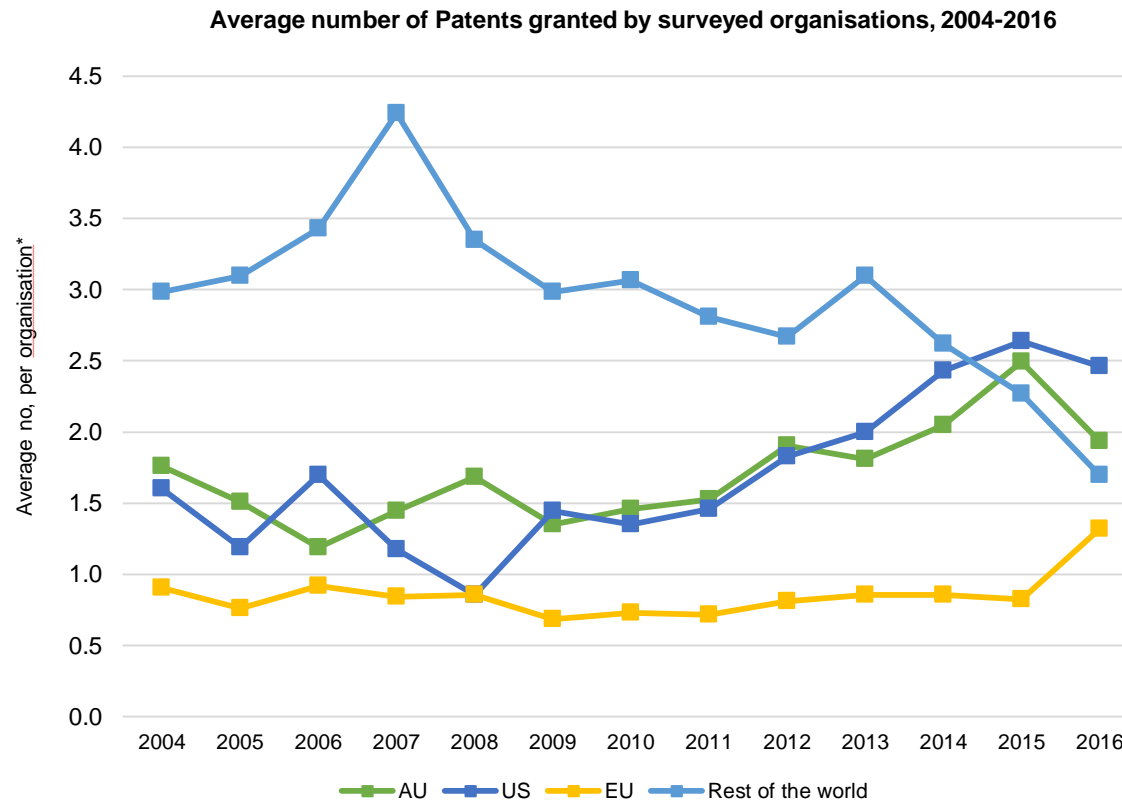
By submitting an invention disclosure, the inventor enables their technology transfer office to offer assistance and support throughout the commercialisation process if the university asserts its interest in the technology. The number of invention disclosures filed within an institution shows the extent of research outcomes with potential to generate economic benefits through commercialisation.



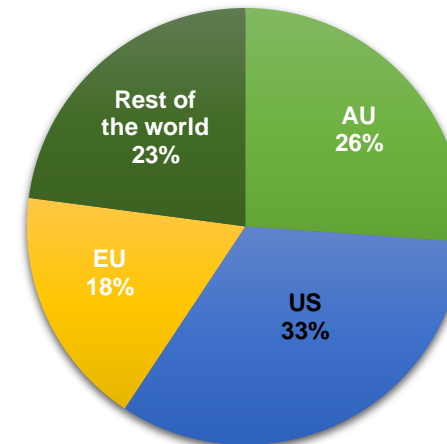
*Data has been normalised by dividing the total number of invention disclosures by the number of participating organisations each year.

Commercialisation Pathways – Patents granted

There are two types of patents available in Australia – standard and innovation. Once granted, a patent excludes anyone else from using the patented invention in Australia for up to 20 years for standard patents (or 25 years for some pharmaceutical patents) and up to eight years for innovation patents. Patent protection means the invention cannot be commercially produced, used, distributed, imported or sold by others without the patent owner's consent.



Average Patents granted by region to surveyed organisations in 2016



*Data has been normalised by dividing the number of patents granted by the number of participating organisations.

Industry-Research Collaboration – CRC performance data

IN 2015-16

33 ACTIVE CRCs

across Agriculture, Forestry and Fishing;
Manufacturing; Mining and Services

No. of PATENTS



Australia



Overseas

Maintaining

86

236

Filing

17

20

LICENSES



233 produced

INDUSTRY UPTAKE



68 postgraduate students
taking up employment with industry



NSRC summary

- The 2018 Snapshot presents a collection of metrics based on data collected through the NSRC which demonstrate commercialisation activities and outcomes of participating Australian research organisations.
- In its 16th year, the NSRC tracks knowledge exchange activities in Australia's public research system. The NSRC results showcase efforts to collaborate with industry, transfer knowledge and commercialise research. Organisations surveyed are Australian universities, medical research institutes (MRIs) and publicly funded research agencies (PFRAs).
- The survey is an important source of evidence on Australian public research commercialisation, covering outcomes from engagement and collaboration, through to impact.
- The dataset is widely used to understand trends, priorities and gaps by a range of stakeholders including federal and state governments, international bodies, universities, medical research institutes, publicly funded research agencies and peak bodies. It is used for policy, planning and benchmarking by research organisations, industry and government.
- The results presented in the 2018 Snapshot are from the latest NSRC survey, representing 2016 data, and cover Startup creation, Provisional and PCT applications, consultancies, contracts and collaborations, R&D expenditure, invention disclosures, patents granted and CRCs.