



Survey of Research and Experimental Development, Businesses 2017-18

RDBS

In correspondence, please quote this number ▼

Australian Business Number

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Please correct any errors

Purpose of Collection

The Research and Experimental Development (R&D) survey provides comprehensive data on Australia's R&D effort. This information is used by government and advisers to government, international organisations such as the Organisation for Economic Co-operation and Development, businesses, economists and others. The information is used for purposes such as policy formulation, allocation of funds and the determination of priorities for research and development.

Collection Authority

The information asked for is collected under the authority of the *Census and Statistics Act 1905*. Your cooperation is sought in completing and returning this form by the due date. The Act provides me with the power, if needed, to direct you to provide the information sought.

Confidentiality

Your completed form and personal information remain confidential to the Australian Bureau of Statistics.

Due Date

Please complete this form and return it in the reply paid envelope to the Australian Bureau of Statistics by

Help Available

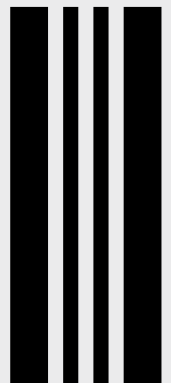
If you have problems in completing this form, or feel that you may have difficulties meeting the due date, please contact the Australian Bureau of Statistics by:

Telephone

1800 818 909
Freecall (excluding mobile phones)

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Australian Bureau of Statistics
Reply Paid 91263
Dandenong South VIC 3175



Australian Statistician

Person we should contact if any queries arise regarding this form

Name		Date		/		/			
Signature					Telephone				
Email									

Please read this first

- **Important:** This form will be read using electronic equipment.
- Use **only black ball point pen** when completing this form.
- Keep each number, letter or tick within the data entry boxes provided, for example

			2	8	5
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 or

- Leave answer boxes blank where you have no response or data to enter.
- Do not use 'nil', 'n/a' or draw a line in the data entry boxes.
- If a mistake is made, cross out the incorrect answer and either write the answer in the remaining boxes, for example

Expenditure \$

7	3	,	8	6	,000
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or if not enough space is left, write next to the relevant item, for example

Expenditure ^{3 1 4 2} \$

3	6	4	2	,000
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- Information reported on this form should comply with the Australian equivalents to International Financial Reporting Standards (AIFRS).
- Report all expense items **exclusive of Goods and Services Tax (GST)** where this is recoverable as an input tax credit.
- If exact figures are not available, please provide careful estimates.
- Please report all monetary values in *thousands of Australian dollars (A\$'000)*. For example, report \$20,000 as 20. Where the value in the accounts of this business is not expressed in thousands of dollars, round the value to the nearest thousand dollars.
- The items listed under *Including* and *Excluding* are examples and should not be taken as a complete list of items to be included or excluded.
- Include details of this business's participation in any unincorporated joint ventures.
- You will need to report an estimate of time taken when you have completed this form.

Part A – General information

1 Period covered by financial data on this form

Note

- This form is for the financial year ended 30 June 2018.
- If this business has a different financial year, please report for a 12 month period which ends between 1 October 2017 and 30 September 2018 (e.g. a financial year ending 31 December 2017).

Tick one box only

1 July 2017– 30 June 2018

1 January 2017 – 31 December 2017

Other (Please specify)

From / / To / /

If the period covered by this form is not 12 months, please explain below

2 Number of persons working for this business during the last pay period ending in June 2018

Including

- Persons paid a retainer, wage or salary
- Full-time and part-time employees
- Permanent, temporary and casual employees
- Managerial and executive employees
- Employees absent on paid or prepaid leave
- Employees on workers' compensation who continue to be paid through the payroll
- Working proprietors and partners if this is an unincorporated business (e.g. sole trader, partnership or joint venture)
- Salaried directors if this is an incorporated business (e.g. Pty Ltd)

Excluding

- Employees paid solely under the Australian Government's Paid Parental Scheme
- Contractors paid on invoice
- Persons paid by commission only
- Non-salaried directors
- Self-employed persons such as consultants who are not employees, working proprietors or partners of this business
- Volunteers

Number

..... ,

Definition of Research and Experimental Development (R&D)

What is R&D?

Research and experimental development (R&D) comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge.

For an activity to be considered R&D, the activity must be:

- **novel** (aimed at new findings)
- **creative** (based on original, not obvious, concepts and hypotheses)
- **uncertain** (uncertain about the final outcome)
- **systematic** (planned and budgeted)
- **transferable and/or reproducible** (lead to results that could be possibly reproduced)

All five criteria are to be met, at least in principle, every time an R&D activity is undertaken.

R&D performed by businesses is investigative work that has actual or potential use in the development of new or enhanced materials, products, devices, processes, systems or services.

Examples of R&D

- Clinical trial phases I, II and III
- Research into and original development (or substantial modification) of computer software, such as new programming languages and new operating systems
- Design, construction and operation of prototypes where the main objective is technical testing or to make further improvements
- Construction and operation of pilot plants while still in the experimental phase and the primary purpose of operation is non-commercial
- 'Feedback R&D' directed at solving problems occurring beyond the original R&D phase, such as the resolution of technical problems arising in initial production runs
- Research work in the social sciences, arts and humanities

Where does R&D end?

R&D ends when the work is no longer experimental, for example, when the material, product etc. is substantially developed and the primary objective is to:

- develop markets
- plan for pre-production and undertake pre-production activities (such as demonstration of commercial viability, tooling up and trial production runs)
- get production or control systems working smoothly

If the primary objective is to make further technical improvements, then the work is still R&D.

Specific R&D excludes

Unless used primarily as part of (or for the support of) R&D projects, the following are excluded:

- Clinical trial phase IV
- Scientific and technical information services
- Prospecting, exploring or drilling for minerals, petroleum or natural gas
- Policy related studies, management studies, efficiency studies and programme evaluations
- Consumer surveys, advertising, market research
- Routine quality control, testing and standardisation
- General purpose or routine data collection
- Feasibility studies
- Routine computer programming, systems maintenance or software application
- Commercial, legal and administrative aspects of patenting, copyrighting or licensing activities
- Activities associated with standards compliance
- Specialised routine medical care (e.g. routine pathology services)
- Purely R&D financing activities including management and distribution of grants

Differences between the R&D Tax Incentive scheme and the ABS R&D Business Survey

The scope and definitions of this survey differ from those of the R&D Tax Incentive and R&D related competitive grants schemes. This survey includes R&D performed by all types of businesses, irrespective of the source of R&D funding, as well as R&D activities and supporting R&D activities performed by Australian businesses overseas.

	Included in this survey	Included in R&D Tax Incentive and competitive grants schemes
Computer software development, irrespective of its purpose	✓	X
Research in social sciences, arts and humanities	✓	X
Non-specific R&D expenditure that is indirectly attributable to R&D (e.g. a proportion of general overhead expenditure)	✓	X
Expenditure incurred to acquire, construct, extend or improve a building to be used for R&D	✓	X
Expenditure on acquiring technology for use in R&D	✓	X

Part C – Human resources devoted to R&D

5 For the following categories, please report the effort (in person years) devoted by this business to R&D during the year ended 30 June 2018 or the equivalent financial period

Note

- Only report the R&D effort of **employees** paid a retainer, wage or salary by this business.
- The following equation can be used to calculate person years of effort on R&D for **employees**: (Full time equivalent) x (Portion of the employee’s job spent on R&D) x (Portion of the year the employee spent on R&D) = Person years of effort.
- For example: a full time employee spent 40% of their time on R&D for half the year.
1 person x 0.4 x 0.5 years = 0.2 person years of effort

Including

- Effort of employees who were involved in, or **directly** supported, R&D

Excluding

- Effort of contractors and self-employed persons such as consultants who are **not** employees, working proprietors or partners of this business
- Effort of employees whose work **indirectly** supported R&D (e.g. executives and directors concerned primarily with budgets and human resources rather than project content; personnel officers)

(a) Researchers

Definition

- Researchers are professionals engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques instrumentation, software or operational methods.

Note

- Software developers or programmers; and executives and directors involved in the planning or management of scientific and technical aspects of R&D projects are also classified as researchers.

Person years
(round to one decimal place)

, .

(b) Technicians directly supporting R&D

Definition

- Technicians and equivalent staff are persons whose main tasks require technical knowledge and experience in one or more fields of engineering, physical and life sciences, or social sciences, humanities and the arts. They participate in R&D by performing scientific and technical tasks involving the application of concepts, operational methods and use of research equipment, normally under the supervision of researchers.

Note

- Typical tasks of technicians may include: preparation and conduct of experiments or tests; carrying out bibliographic searches; recording measurements, making calculations and preparing charts and graphs.

Person years
(round to one decimal place)

, .

(c) Other staff directly supporting R&D

Definition

- Other supporting staff includes skilled and unskilled craftsmen, and administrative, secretarial and clerical staff participating in R&D projects or directly associated with such projects.

Note

- Other supporting staff may include: secretarial and clerical staff working on, or directly associated with R&D activity; plant and machine operators.

Person years
(round to one decimal place)

, .

(d) **Total** (sum of Questions 5(a), 5(b) and 5(c))

, .

Part D – Type of R&D expenditure

6 For the following categories, please report the amount this business spent on R&D during the year ended 30 June 2018 or the equivalent financial period

(a) Labour costs

Note

- Report wages, salaries and associated labour costs for the total person years of effort reported at Question 5(d).

Including

- Gross earnings before taxation and other deductions
- Overtime earnings, penalty payments and shift allowances
- Employer contributions into superannuation (including salary sacrifice)
- Fringe benefits tax and payroll tax
- Payments to contract staff **on the payroll** of this business
- Severance, terminations and redundancies
- Workers' compensation premiums or costs
- Provisions for employee entitlements
- Salaries and fees of directors and executives
- Retainers and commissions of persons who received a retainer
- Bonuses
- Annual and other types of leave

Excluding

- Payments to **contractors** and self-employed persons such as consultants (include in Question 6(b))
- Cost of labour for those employees who **indirectly** supported R&D (include in Question 6(b))

Report in A\$'000

\$, , 000

(b) Other current expenses

Note

- Please include an appropriate portion of:
 - labour costs for employees who **indirectly** supported R&D
 - costs for services which **indirectly** supported R&D (e.g. security, repair and maintenance)
 - business **overhead** costs (e.g. insurance, telecommunications, rent, electricity)

Including

- Cost of materials, supplies and equipment to support R&D (e.g. fuels, journals, chemicals)
- Leasing and hiring expenses
- Payments to **contractors**, consultants and other businesses or organisations for services (e.g. analytical work, engineering) required as part of R&D carried out by this business
- R&D portion of commissions for those persons who were **not** paid a retainer

Excluding

- Contract payments related to R&D projects **not** carried out by this business
- Payments for purchases of technical know-how
- Depreciation provisions
- Interest charges
- Payments for patent searches
- Costs for patents applied for after the completion of the R&D project

Report in A\$'000

\$, , 000

Part D – Type of R&D expenditure – (continued)

6 For the following categories, please report the amount this business spent on R&D during the year ended 30 June 2018 or the equivalent financial period – (continued)

(c) Capital expenditure (R&D related portion only)

Note

- If the asset has or will be used for more than one activity (e.g. R&D and commercial production), only include a portion of the expenditure that reflects use for R&D.
- The R&D portion of expenditure could be estimated in a number of ways, including: number of R&D personnel using the facility, compared to total personnel; or a certain proportion of floor space or time assigned to R&D.
- For example, if a new building is expected to be in use for 20 years, with the first two years dedicated to R&D and the remaining years used for non-R&D business activities, the R&D portion would be estimated as 2/20ths (or one tenth) of expenditure for the building.

Excluding

- Depreciation provisions
- Repair and maintenance expenses (include in Question 6(b))

(i) Land, buildings and other structures

Including

- Expenditure on fixed assets used in the R&D projects of this business

Report in A\$'000

\$, ,000

(ii) All other capital expenditure

Including

- Purchase of vehicles, plant, machinery and equipment
- Acquisition of computer software and/or licences expected to be used for more than one year (i.e. capitalised computer software)
- Purchase of computer databases expected to be used for more than one year
- Acquisition of patents and long-term licences for R&D purposes to be used for more than one year

Excluding

- Software for own account produced as part of R&D (include where relevant, in Question 6(a) or 6(b))
- Capitalised wages and salaries (include where relevant, in Question 6(a) or 6(b))
- Capitalised costs for patents applied for after the completion of the R&D project

Report in A\$'000

\$, ,000

Report in A\$'000

\$, ,000

(d) Total R&D expenditure (sum of Questions 6(a), 6(b), 6(c)(i) and 6(c)(ii))

Part E – Location of R&D expenditure

7 Please provide a breakdown of total R&D expenditure reported at Question 6(d) by the location(s) in which this business carried out R&D

Report in A\$'000

(a) New South Wales

\$, ,000

(b) Victoria

\$, ,000

(c) Queensland

\$, ,000

(d) South Australia

\$, ,000

(e) Western Australia

\$, ,000

(f) Tasmania

\$, ,000

(g) Northern Territory.....

\$, ,000

(h) Australian Capital Territory.....

\$, ,000

(i) Overseas.....

\$, ,000

(j) Total (equals the total at Question 6(d))

\$, ,000

Part F – Source of R&D funds

8 Please provide a breakdown of total R&D expenditure reported at Question 6(d) by the following source(s) of funds

Note

- Funding **not specifically sourced for R&D** activity should be reported at Question 8(a) (i.e. this business’s own funds).
- Sources of funds for R&D may not be the same as income source. For example, bank interest is considered to be this business’s own funds, not funding from a financial institution.

Report in A\$'000

(a) This business’s own funds

Including

- Equity, borrowings and retained earnings

\$, ,000

(b) Other business(es)

Including

- Payments for R&D projects carried out on contract for other businesses located within Australia

Excluding

- Payments from non-profit organisations (include in Question 8(g))

\$, ,000

(c) Commonwealth government

Including

- Federal government grants that support R&D
- Payments for R&D projects carried out on contract for Commonwealth government agencies

Excluding

- The value of the **R&D Tax Incentive**

\$, ,000

(d) State and local government

Including

- State government grants that support R&D
- Payments for R&D projects carried out on contract for State or Local government agencies

\$, ,000

(e) Joint business and government (i.e. funds provided by levies)

\$, ,000

(f) Overseas sources (please specify in BLOCK letters)

\$, ,000

(g) Other Australian sources

\$, ,000

Please specify, in BLOCK letters, the two largest items and amounts included in ‘Other Australian sources’

\$, ,000

\$, ,000

(h) **Total** (equals the total at Question 6(d))

\$, ,000

Part G – Type of R&D activity

9 Please allocate the relevant percentage of total R&D expenditure reported at Question 6(d) to the following type(s) of R&D activity

(a) Pure basic research

Definition

- Pure basic research is the experimental and theoretical work undertaken to acquire new knowledge without looking for long term benefits other than the advancement of knowledge.
- For example, research into the migratory patterns of birds or the identification of new species to increase humankind’s stock of knowledge, which will not necessarily result in a financial benefit.

%

(b) Strategic basic research

Definition

- Strategic basic research is experimental and theoretical work undertaken to acquire new knowledge directed into specified broad areas in the expectation of practical discoveries. It provides the broad base of knowledge necessary for the solution of recognised practical problems.
- For example, research into next generation technology such as nanotechnology.

%

(c) Applied research

Definition

- Applied research is original work undertaken primarily to acquire new knowledge with a specific application in view. It is undertaken either to determine possible uses for the findings of basic research or to determine new ways of achieving some specific and predetermined objectives.
- For example, research which turns ideas into operational forms, such as R&D into the application of energy efficient knowledge advancements in the design of a new processing plant.

%

(d) Experimental development

Definition

- Experimental development is systematic work, using existing knowledge gained from research or practical experience, which is directed to: producing new materials, products, devices, policies, behaviours or outlooks; installing new processes, systems and services, or improving substantially those already installed.
- For example, the testing phase of a newly designed and constructed pilot plant, or substantial modification of existing hardware and software infrastructure.

%

(e) **Total** (sum of percentages reported at Questions 9(a), 9(b), 9(c) and 9(d))

%

Part H – Classification of R&D

10 Please allocate the relevant percentage of total R&D expenditure reported at Question 6(d) to each of the following Fields of Research (FOR) Divisions

Definition

- Fields of Research (FOR) is an R&D specific classification which forms part of the Australian and New Zealand Standard Research Classification (ANZSRC).
- FOR reflects the area of knowledge discovery, rather than the activity of the business unit performing the R&D.

Note

- More than one FOR Division may be relevant in cases of multiple, large or complex projects.
- If you require additional information to assist in classifying R&D projects to FOR Divisions, please refer to the classification publication, ANZSRC 2008, which is free to download from the ABS website www.abs.gov.au

FOR code	FOR Division	
01	Mathematical Sciences	<input type="text"/> %
02	Physical Sciences	<input type="text"/> %
03	Chemical Sciences	<input type="text"/> %
04	Earth Sciences	
	<p>Note</p> <ul style="list-style-type: none"> • Projects that include routine geological studies in regard to mining, mineral processing and metallurgy should be classified to Division 09 (Engineering) and not Division 04 (Earth Sciences). 	<input type="text"/> %
05	Environmental Sciences	<input type="text"/> %
06	Biological Sciences	
	<p>Note</p> <ul style="list-style-type: none"> • Biological or life sciences associated with human health and medicine should be classified to Division 11 (Medical and Health Sciences) and not Division 06 (Biological Sciences). 	<input type="text"/> %
07	Agricultural and Veterinary Sciences	<input type="text"/> %
08	Information and Computing Sciences	
	<p>Note</p> <ul style="list-style-type: none"> • Computer software development should be classified according to the area of knowledge discovery. For example, the creation of new software for use in automotive engineering is Division 08 (Information and Computing Sciences) and not Division 09 (Engineering). 	<input type="text"/> %
09	Engineering	<input type="text"/> %

Part H – Classification of R&D – (continued)

10 Please allocate the relevant percentage of total R&D expenditure reported at Question 6(d) to each of the following Fields of Research (FOR) Divisions – (continued)

FOR code	FOR Division	
10	Technology	<input type="text"/> %
11	Medical and Health Sciences	<input type="text"/> %
12	Built Environment and Design	
	<div style="border: 1px solid black; padding: 5px;"> <p><i>Note</i></p> <ul style="list-style-type: none"> • Civil engineering, such as construction materials and transport engineering, should be classified to Division 09 (Engineering) and not Division 12 (Built Environment and Design). </div>	<input type="text"/> %
13	Education	<input type="text"/> %
14	Economics	<input type="text"/> %
15	Commerce, Management, Tourism and Services	<input type="text"/> %
16	Studies in Human Society	<input type="text"/> %
17	Psychology and Cognitive Sciences	<input type="text"/> %
18	Law and Legal Studies	<input type="text"/> %
19	Studies in Creative Arts and Writing	<input type="text"/> %
20	Language, Communication and Culture	<input type="text"/> %
21	History and Archaeology	<input type="text"/> %
22	Philosophy and Religious Studies	<input type="text"/> %
Total	(sum of percentages reported against FOR codes 01 to 22)	<input type="text" value="100"/> %

Part H – Classification of R&D – (continued)

11 Please allocate the relevant percentage of total R&D expenditure reported at Question 6(d) to each of the following Socio-economic Objective (SEO) Divisions

Definition

- Socio-economic Objective (SEO) is an R&D specific classification which forms part of the Australian and New Zealand Standard Research Classification (ANZSRC).
- SEO reflects the intended purpose or outcome of the R&D, and the dominant beneficiary or beneficiaries of the R&D output.

Note

- More than one SEO Division may be relevant in cases of multiple, large or complex projects.
- If you require additional information to assist in classifying R&D projects to SEO Divisions, please refer to the classification publication, ANZSRC 2008, which is free to download from the ABS website www.abs.gov.au

Sector A: Defence

SEO code	SEO Division	
81	Defence	<input type="text"/> %

Sector B: Economic Development

SEO code	SEO Division	
82	Plant Production and Plant Primary Products	<input type="text"/> %
83	Animal Production and Animal Primary Products	<input type="text"/> %
84	Mineral Resources (excluding Energy Resources)	<input type="text"/> %
85	Energy	<input type="text"/> %
86	Manufacturing	<input type="text"/> %
87	Construction.....	<input type="text"/> %
88	Transport	

Note

- Manufacture of transport equipment (such as motor vehicles, railway rolling stock, aircraft, boats) and their components should be classified to Division 86 (Manufacturing) and **not** Division 88 (Transport).

..... %

Part H – Classification of R&D – (continued)

11 Please allocate the relevant percentage of total R&D expenditure reported at Question 6(d) to each of the following Socio-economic Objective (SEO) Divisions – (continued)

Sector B: Economic Development – (continued)

SEO code	SEO Division	
89	Information and Communication Services	
	<p><i>Note</i></p> <ul style="list-style-type: none"> Computer software development should be classified according to the intended purpose of the software. For example, software specifically developed for a food processing factory should be classified to Division 86 (Manufacturing) and not Division 89 (Information and Communication Services). 	... <input type="text"/> %
90	Commercial Services and Tourism	<input type="text"/> %
91	Economic Framework... ..	<input type="text"/> %

Sector C: Society

SEO code	SEO Division	
92	Health	
	<p><i>Note</i></p> <ul style="list-style-type: none"> Pharmaceutical manufacturing should be classified to Division 86 (Manufacturing) and not Division 92 (Health). 	... <input type="text"/> %
93	Education and Training	<input type="text"/> %
94	Law, Politics and Community Services	<input type="text"/> %
95	Cultural Understanding	<input type="text"/> %

Sector D: Environment

SEO code	SEO Division	
96	Environment	
	<p><i>Note</i></p> <ul style="list-style-type: none"> Environmental aspects of projects associated with economic activities should be classified to the relevant Division under the Economic Development sector, and not Division 96 (Environment). 	... <input type="text"/> %

Sector E: Expanding Knowledge

SEO code	SEO Division	
97	Expanding Knowledge	<input type="text"/> %
Total (sum of percentages reported against SEO codes 81 to 97)		<input type="text" value="100"/> %

Part I – Comments and time taken

12 Please provide comments

- on any information you have supplied on this form (e.g. related to unusual movements or other factors) (Please use BLOCK letters)

- on any difficulties you had in providing the requested information, or suggested improvements to this form (Please use BLOCK letters)

13 Please provide an estimate of the time taken to complete this form

Including

- The time actually spent reading the instructions, working on the questions and obtaining the information
- The time spent by all employees in collecting and providing this information

... ..

hrs	mins
<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>

Thank you for completing this form