



Research & Development survey 2014 for Govt sector

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Are the address details above correct? If not, use the boxes below to correct any errors.

Legal name	<input type="text"/>	0001
Building / Level / Unit	<input type="text"/>	0002
Street / PO Box / Rural Delivery	<input type="text"/>	0003
Suburb	<input type="text"/>	0004
Town / City	<input type="text"/>	0005
	Postcode	<input type="text"/>
Attention:	<input type="text"/>	0006

Please complete, sign and return this questionnaire in the envelope supplied.
Return date: 29 August 2014

Purpose of this survey

The purpose of this survey is to collect data which will be used to produce summarised statistics of research and development activities for release to government, business and other users in the community. The statistics will be used in the development of science policy areas.

Compulsory requirement

The taking of this survey has been approved by the Minister of Statistics and the return of this questionnaire, duly filled in and signed, is a compulsory requirement under the Statistics Act 1975.

Confidentiality of information supplied

Only people authorised by the Statistics Act 1975 are allowed to see your individual information, and they must use it only for statistical purposes. Your information will be combined with similar information to prepare summary statistics.

This is a joint collection by Statistics New Zealand and the Ministry of Business, Innovation and Employment under section 9 of the Statistics Act 1975. For detailed confidentiality information read page 15.

As Government Statistician I thank you for completing this survey. Your information contributes to statistics available for business decision-making. To find out how Statistics New Zealand can help your business grow, contact our information centre on 0508 525 525.



Liz MacPherson
Government Statistician

Instructions

1 How to answer:

- This form will be scanned and recognised by electronic equipment. Therefore please:
 - mark answers like this
 - print answers in **CAPITAL** letters and
 - keep each letter or number **within** the spaces provided
 - for example **J O N E S L T D** or **1 2 3**
- Please use a blue or black pen.
- Where actual figures are not available, please give careful estimates.
- Where there is no response, leave blank unless instructed to write **0**
- Supply whole dollar values only.
- Supply **GST exclusive** values if possible.

2 Only include information for the organisation named on the front page. Do not provide consolidated data.

Don't include:

- subsidiary or associated organisations
- accounting divisions that operate entirely outside New Zealand

3 Please keep a record of the time it takes you (and anyone else) to read the instructions, collect the information, and answer the questions. You will be asked to record this at the end of the questionnaire.

Financial year

4 If possible, in the questions that follow, please provide information for the last financial year.

Note:

- if your balance date is between 1 Jan - 30 Sep, use financial data for the year ending 2014
- if your balance date is between 1 Oct - 31 Dec, use financial data for the year ending 2013

What is the balance date of the financial accounts
which you will use for this questionnaire?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
day				month		year	

0401

5 Is the financial year information for a 12 month period?

- 1 yes → go to **6** 0501 0502
- 2 no → the period covered is to
0500 day month year to day month year

Please mark a reason why it is not a 12 month period:

- 1 new business
- 2 ceased during the year
- 3 other → please state:

0503

0504



Definition of R&D

6 What is Research and Development (R&D)?

Research and development comprises creative work undertaken on a systematic basis in order to increase the stock of knowledge. Any activity classified as R&D is characterised by originality. Investigation is a primary objective.

Don't include:

- policy related studies, management studies, or efficiency studies
- general purpose or routine data collection

Further definitions of R&D are provided on page **14**.

R&D carried out internally

7 Did this organisation carry out any R&D internally in 2013/2014?

Include:

- subcontractors working on R&D projects carried out by this organisation.

Don't include:

- R&D projects funded by this organisation, but totally carried out by other organisations, or a subsidiary of this organisation.

1 yes → go to **8**

2 no → go to **55**

1300

GST

8 The figures given in this questionnaire:

1 exclude GST

2 include GST

7500



Internal R&D personnel by occupation

9 Please show both the **headcount** and number of **full-time equivalents** working on R&D as at 30 June 2014.

Include:

- contract staff on the payroll
- full-time and part-time employees
- permanent, temporary and casual employees

Don't include:

- postgraduate research students not on the payroll
- self-employed persons, such as contractors, not on the payroll

Full-Time Equivalent (FTE)

R&D may be carried out by persons who work solely on R&D projects or by persons who devote only part of their time to R&D, and the balance to other activities; such as testing, quality control and production engineering. To arrive at the total effort devoted to R&D in terms of hours worked, it is necessary to estimate FTEs of these people working part-time in R&D.

FTE = Number of persons who work solely on R&D projects + the estimate of time spent by persons working part-time on R&D.

Example calculation: If out of five employees engaged in R&D work, one works solely on R&D projects and the remaining four devote only one quarter of their working time, the FTE equals $1 + 1/4 + 1/4 + 1/4 + 1/4 = 2$ employees.

Personnel

**Headcount as
at 30 June 2014**

**Full-time equivalents
as at 30 June 2014**

Researchers

Staff engaged in the conception and / or creation of new knowledge / products. Personnel involved in the planning or management of scientific and technical aspects of R&D projects, and software developers.

1401 and 1405

Technicians

Staff engaged in technical tasks in support of R&D, normally under the direction and supervision of a researcher.

1402 and 1406

Other supporting staff

Include administrative and managerial staff working on, or directly associated with, R&D activity.

Don't include staff outside the R&D performing unit providing indirect support.

For example central finance or personnel services and central support services (eg information services and cleaning)

1403 and 1407

Total

1404 and 1408

This is total A

This is total B



Internal R&D personnel by qualification

10 Please show the highest qualification levels of both the **headcount** and number of **full-time equivalents** recorded in question **9**.

Note:

- For this question, the total headcount should agree with total A in question **9**.
- The total number of full-time equivalents should agree with total B in question **9**.

Qualification	Headcount as at 30 June 2014	Full-time equivalents as at 30 June 2014
PhD	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1501	and <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1506
Bachelor degrees or equivalent, and post graduate qualifications other than PhD For example Masters degrees and post graduate diplomas.	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1502	and <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1507
Technical and Trade qualifications For example NZ Certificate of Engineering or Science and NZ Trade Certificate.	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1503	and <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1508
Other qualifications	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1504	and <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1509
Total	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1505	and <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 1510

**Headcount
to agree with
total A**

**FTE to agree
with total B**

11 Please check that the totals in question **10** are the same as Totals A and B in question **9**



Current and capital expenditure on internal R&D

12 Please allocate the total expenditure on R&D carried out by this organisation during the financial year in questions **13** to **17**.

Don't include:

- R&D funded by this organisation, but carried out by other organisations. See question **55**

Note:

- if the figures are not specified in your accounts please give a careful estimate
- subcontractors are included in question **14**
- include a proportion of all overheads in question **14**. If necessary, estimate from your total overheads in proportion to the full-time equivalents engaged in R&D

13 Wages and salaries for full-time equivalent personnel

Include:

- other employment related costs (eg overtime, ACC, and fringe benefits)
- redundancy and severance payments

Don't include:

- wages and salaries of personnel indirectly supporting R&D

\$ 1801

14 Other current R&D expenditure

Include:

- all consumables and overheads incurred by direct and indirect support activities (eg materials, rent, and travel)
- wages and salaries of personnel indirectly supporting R&D. Include only that part of their wages and salaries that is attributable to the indirect support of R&D (eg central finance, personnel services, and cleaning)
- on site consultants and contract staff costs
- operating leasing

Don't include:

- depreciation
- wages and salaries etc (included in question **13** above)

\$ 1901

15 Capital expenditure - land and buildings

Note: If the land and buildings purchased are also used for production, please include only the portion used for R&D

\$ 2001

16 Capital expenditure - plant, equipment, machinery, vehicles, capitalised software and other assets

Note: If the assets purchased are also used for production, please include only the portion used for R&D

\$ 2101

17 Total expenditure on internal R&D

\$ 2201

This is total C



Source of funds for internal R&D

18 What were the sources of funds for the R&D expenditure reported in total C?

Note:

- sources should be the original sources providing funds
- funds received as levies or subscription fees from member associations, or associated industry organisations should be treated as payments from other organisations, and not included in question **19**

19 Own funds

Include:

- revenue from the crown, rate payers funds, equity, borrowing, retained earnings, and Cross Department Research Pool (CDRP)

2401 2402

\$ or %

20 NZ private sector

Include:

- private and publicly listed organisations
- state-owned enterprises
- producer boards
- research associations

2501 2502

\$ or %

21 NZ government funding agencies

Include:

- Ministry of Business, Innovation and Employment (MBIE). For example Tech NZ and NERF
- Royal Society of New Zealand (RSNZ)
- Health Research Council (HRC)

2601 2602

\$ or %

22 Other NZ government departments, ministries, crown entities or crown-owned companies

For example: Ministry for the Environment and AgResearch.

Don't include:

- state-owned enterprises (included in question **20**).

2701 2702

\$ or %

23 NZ local government sector

For example: district councils, city councils, and regional councils.

2801 2802

\$ or %

24 NZ Tertiary education sector

For example: Universities and polytechnics.

2901 2902

\$ or %

25 Overseas funds

Include:

- funds from overseas organisations in the same group.

3001 3002

\$ or %

26 Other funding sources

For example: Lottery Board, Cancer Society, and charities.

3103 3101 3102

Please state: \$ or %

27 Total internal R&D funds
To agree with total C

3201

\$ or **1 0 0** %



Purpose of research for internal R&D

- 28** Which of the following sectors benefit from the R&D projects carried out?
Please allocate to each of the following sectors the relevant percentage of R&D expenditure (reported in total C) in the financial year.

Note: This should relate to the area which will **ultimately** benefit from the results, not the nature of the R&D itself. For example, software specifically developed for a food processing factory should be classified to manufacturing.

Primary industries

- 29** Plant production and plant primary products
Includes: Forestry; horticultural and industrial crops; grains and oil seeds; harvesting and packaging of plant products; environmentally sustainable plant production % 3401
- 30** Animal production and animal primary products
Includes: Fisheries (aquaculture and wild caught); livestock raising; pasture, browse and fodder crops; primary animal products (including raw wool and unprocessed or minimally processed fish and milk); environmentally sustainable animal production % 3501
- 31** Mineral resources (excluding energy)
Includes: Mineral exploration; primary mining and extraction of minerals; first-stage treatment of ores and minerals; environmentally sustainable mineral-resource activities % 3601

Industrial development

- 32** Energy
Includes: Energy exploration; mining and extraction of energy; preparation and production of energy; energy transformation; renewable energy; storage, distribution and supply; energy conservation and efficiency; environmentally sustainable energy activities % 3701
- 33** Manufacturing
Includes: Processed food products and beverages (including dairy products); wood and paper products; leather, fibre and textiles; chemical products; pharmaceuticals; ceramics, glass; metal products; machinery and equipment; electronic and communication equipment; environmentally sustainable manufacturing % 3801
- 34** Construction
Includes: Construction materials, planning, design and processes; building management and services; environmentally sustainable construction % 3901
- 35** Transport
Includes: Land, water and aerospace transport; environmentally sustainable transport % 4001
- 36** Information and communication services
Includes: Communication networks and services; computer software and services; information and media services; management of environmental impacts from information and communication services % 4101
- 37** Commercial services and tourism
Includes: Financial services; property and business support services and trade; tourism, water and waste services; environmentally sustainable commercial services and tourism % 4201



Society

38 Health
Includes: Clinical health (organs, diseases and abnormal conditions); health and support services; public health

□	□	□	%	4301
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39 Education and training
Includes: Learner and learning; teaching and instruction; curriculum; school / institution; education and training systems

□	□	□	%	4401
---	---	---	---	------

40 Law, politics, and community services
Includes: Community service; government and politics; international relations; justice and law; work and institutional development

□	□	□	%	4501
---	---	---	---	------

41 Cultural understanding
Includes: Arts and leisure; communication, heritage, religion, and ethics, understanding past societies

□	□	□	%	4601
---	---	---	---	------

Other purposes

42 Economic framework
Includes: Macroeconomics and microeconomics; international trade; management and productivity, measurement standards and calibration services

□	□	□	%	4701
---	---	---	---	------

43 Environment
Includes: Air, atmosphere, weather, climate change; biosecurity; ecosystems; natural resource evaluation; policy, legislation and standards; biodiversity, land and water management; natural hazards; environmental rehabilitation; conservation areas; soils

□	□	□	%	4801
---	---	---	---	------

44 Defence
Includes: Navy or maritime; army or land, air force or aeronautics; logistics; intelligence; national security (non-military); emerging defence technologies

□	□	□	%	4901
---	---	---	---	------

45 Other

□	□	□	%	5001
---	---	---	---	------

46 Total

<hr/>				
1	0	0	%	



Bioscience R&D carried out internally

47 What is bioscience?

Bioscience is the development and application of knowledge of the way plants, animals and humans function for the development of products and services.

Bioscience activities may occur in the following areas:

- agriculture feedstock and chemicals
- aquaculture, horticulture, and forestry
- human and animal therapeutics and diagnostics (including clinical trial providers)
- medical devices and equipment
- research testing and medical laboratories
- microbes
- biotechnology (see note below for the definition of biotechnology)

Note: The OECD defines biotechnology as the application of science and technology to living organisms as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services.

The OECD provides the following list of biotechnologies, which can be used as an indicative guide to biotechnology activity.

DNA - the coding: Genomics, pharmaco-genetics, gene probes, DNA sequencing / synthesis / amplification, genetic modification.

Proteins and molecules - the functional blocks: Protein / peptide sequencing / synthesis, lipid / protein glycoengineering, proteomics, hormones and growth factors, cell receptors / signalling / pheromones.

Cell and tissue culture and engineering: Cell / tissue culture, tissue engineering, hybridisation, cellular fusion, vaccine / immune stimulants, embryo manipulation.

Process biotechnologies: Bioreactors, fermentation, bioprocessing, bioleaching, biopulping, biobleaching, biodesulphurisation, bioremediation and biofiltration.

Sub-cellular organisms: Gene therapy, viral vectors.

Other: Bioinformatics, nanobiotechnologies, etc.

48 Did the R&D reported in total C include any bioscience?

1 yes → please provide an estimate of the share of internal R&D expenditure that is attributable to bioscience.

%

5300

2 no

5301



Type of internal research carried out

49 Which of the following types of internal research were carried out?
Please allocate to each type the relevant percentage of R&D expenditure
(reported in total C) in the financial year.

50 Pure basic research

Research to pursue new knowledge without any particular application
in view.

% 5801

51 Targeted basic research

Research to produce a broad base of new knowledge likely to underpin
solutions to current or future applications.

% 5702

52 Applied research

- new work undertaken to acquire knowledge for a specific practical aim
- work to determine possible uses of basic research
- work to determine new ways of achieving a predetermined objective

% 5601

53 Experimental development

Systematic work undertaken using existing knowledge for the purpose
of creating new or improved materials, products, processes, and / or
services.

% 5501

54 Total

1 0 0 %



External R&D funded during the financial year

55 In the last financial year, did this organisation fund any R&D carried out at other organisations?

Include:

- funding to a subsidiary of this organisation.

Don't include:

- subcontractors working on R&D projects **carried out** by this organisation (subcontractors are included in question **14**).

5900

1 yes → go to **56**

2 no → go to **65**

56 If this organisation paid for R&D but did not do the work itself, where did this organisation spend the money?

57 NZ private sector

Include:

- private and publicly listed organisations
- state-owned enterprises
- producer boards
- research associations

\$

6101

58 NZ central government sector

For example: departments, ministries, and crown entities.

Don't include:

- crown research institutes
- state-owned enterprises

\$

6201

59 Crown research institutes

For example: NIWA, Landcare Research, Plant & Food Research, and AgResearch.

\$

6301

60 NZ local government sector

For example: district councils, city councils, and regional councils.

\$

6401

61 NZ tertiary education sector

For example: universities and polytechnics.

\$

6501

62 Overseas organisations

Include:

- funds overseas organisations in the same group.

\$

6601

63 Other (please state):

6702 \$

6701

64 Total
Do not include this amount in Total C

\$

6801



Budget appropriations for R&D expenditure

65 What amount does this organisation have in its budget for the 2014/2015 financial year for R&D?

\$

8001

Other details

66 How long did it take you (and anyone else) to read the instructions, collect the information, and complete this questionnaire?

hrs mins

7601

67 Please make any comments that would help Statistics New Zealand to interpret the information that you have given:

7701

68 The main results of this survey are expected to be released in April 2015. If you would like a link to the results sent to the email address in question **69**, please mark below.

yes, I would like to be emailed the main results of this survey

7801

69 Who should we contact if we have any queries about the information you have given? If necessary, please correct errors or provide details in the white boxes below each item.

Name

→

7901

Position

→

7902

Email

→

7903

Phone

→

7904

Fax

→

7905

Cellphone

→

7906

I declare that this questionnaire has been completed to the best of my knowledge.

Signature

Date

Day Month Year

7907

Office use:

A B C

07/2014



Further definitions of R&D

R&D includes:

- Design, construction and operation of prototypes where the main objective is technical testing or to make further improvements
- Construction and operation of pilot plants not operated or intended to be operated as commercial units
- Research into, and original development (or substantial modification) of computer software such as new programming languages and new operating systems
- "Feedback R&D" directed at solving problems occurring beyond the R&D phase, for example technical problems arising during the initial production runs
- Research work in the biological, physical and social sciences, and the humanities
- Social science research includes economic, cultural, educational and sociological research

R&D excludes (except where used primarily for the support of, or as part of, R&D projects):

- General purpose or routine data collection
- Policy related studies, management studies, efficiency studies
- Routine quality control and testing
- Pre-production activities such as demonstration of commercial viability, tooling up and trial production runs
- Prospecting, exploring or drilling for minerals, petroleum or natural gas
- Cosmetic modifications or style changes to existing products
- Scientific and technical information services
- Routine computer programming, systems maintenance or software development and application
- Operational research and mathematical or statistical analysis
- Commercial, legal and administrative aspects of patenting, copyrighting or licensing activities
- Activities associated with standards compliance
- Specialised routine medical care, eg routine pathology services

Where does R&D end?

R&D ends when work is no longer experimental and pre-production begins.

If the primary objective is to make further technical improvements, then the work comes within the definition of R&D.

However, if the material, product etc. is substantially developed and the primary objective is to develop markets (i.e. market research), to do pre-production planning or to get production or control systems running smoothly, then the work is no longer R&D.

Borderline between research and studies

Research activities are usually performed in scientific units. Their aim is to produce innovative results which can be generalised or be generally utilised. The activities are often connected to other research, and financed from research funds; the results have a considerable novelty value and they are widely published.

Studies involve collecting, processing and analysing data for decision making and planning. The studies are often made by enterprises as an integral part of planning activities. The results are mainly descriptive, they are not widely published and they cannot easily be generalised or utilised for any other purpose. Income and expenditure on studies should not be included in this questionnaire.





Confidentiality of information supplied

This is a joint collection by Statistics New Zealand and the Ministry of Business, Innovation and Employment under section 9 of the Statistics Act 1975. You have the right to object in writing to the Government Statistician, to the release of your individual information to the Ministry of Business, Innovation and Employment. Any data released to the Ministry of Business, Innovation and Employment continues to be protected by the Statistics Act (section 37) and must only be used for statistical purposes. It must not be related in any way which identifies your individual information. The Ministry of Business, Innovation and Employment may contact you for further clarification of budget information supplied

Thank you for your time and effort.

The main results of all our surveys are available at www.stats.govt.nz



