



Department of Science and Technology



Statistics South Africa



Human Sciences Research Council

**CeSTII SURVEY OF RESEARCH & EXPERIMENTAL DEVELOPMENT INPUTS TO HIGHER EDUCATION: 2005 ACADEMIC YEAR**

UNIT	Please modify address label if necessary

**AUTHORITY**

The Centre for Science, Technology and Innovation Indicators (CeSTII), within the Knowledge Systems Programme of the Human Sciences Research Council (HSRC), conducts the Survey of Inputs into Research and Experimental Development (R&D) for the Department of Science and Technology (DST). All data gathered for this survey is confidential. The HSRC and DST will not disseminate any information identifiable with an organisation without their consent.

**PURPOSE AND SCOPE OF SURVEY**

The R&D survey collects data on the inputs into R&D activities performed **IN-HOUSE** in South Africa by all organisations (including Business, Government, Science Councils, Not-for Profit and Higher Education). The data is used for planning and monitoring purposes and for measuring international competitiveness. Previous survey results may be viewed at [www.hsrc.ac.za/RnDSurvey](http://www.hsrc.ac.za/RnDSurvey). This survey covers the Academic Year 1 January to 31 December 2005.

**DUE DATE**

Kindly complete and return this form as soon as possible, but no later than 31 October 2006.  
Return address: R&D Survey, Private Bag X2, Vlaeberg, 8018 *OR*: E-mail to addresses listed below.

**ASSISTANCE**

To assist you with queries kindly contact one of the survey managers:

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Executive Director: CeSTII/Knowledge Systems  
Human Sciences Research Council

**Details of person completing this questionnaire (Please print)**

<b>Name (With title)</b>	
<b>Designation</b>	
<b>Date</b>	
<b>Signature</b>	

<b>Tel</b>	( )
<b>Fax</b>	( )
<b>Cell</b>	( )
<b>E-mail</b>	

**Details of person who has verified the data provided in this survey form, and is authorised to sign off on behalf of the institution (e.g. Dean/Director of Research)**

<b>Name (With title)</b>	
<b>Designation</b>	
<b>Date</b>	
<b>Signature</b>	

<b>Tel</b>	( )
<b>Fax</b>	( )
<b>Cell</b>	( )
<b>E-mail</b>	

## THE FOLLOWING DEFINITIONS ARE IMPORTANT IN THE COMPLETION OF THE SURVEY QUESTIONNAIRE: WHAT IS R&D?

### Definition

This survey follows the approach of the Organisation for Economic Co-operation and Development (OECD), which defines Research and Experimental Development (R&D) as:

- **Research** is creative work and original investigation undertaken on a systematic basis to gain new knowledge, including knowledge of humanity, culture and society.
- **Development** is the application of research findings or other scientific knowledge for the creation of new or significantly improved products, applications or processes.

The basic criterion for distinguishing R&D from related activities is the presence in R&D of an appreciable element of novelty and the resolution of scientific and/or technological uncertainty, i.e. when the solution to a problem is not readily apparent to someone familiar with the basic stock of commonly used knowledge and techniques in the area concerned.

### Scope of survey

- The survey requests data performed IN-HOUSE by your organisation on the national territory of South Africa.
- Part five asks some questions on “out-sourced R&D”.

### R&D in Higher Education Institutions

- Any activity classified as R&D is characterised by originality; it should have investigation as a primary objective and should have the potential to produce results that are sufficiently general for humanity's stock of knowledge (theoretical and/or practical) to be recognisably increased.
- Most research work in higher education institutions would qualify as R&D.

### R&D Includes – but is not limited to:

Activities of personnel who are obviously engaged in R&D. In addition, research activity includes:

- The provision of professional, technical, administrative or clerical support and/or assistance to personnel directly engaged in R&D.
- The management of personnel who are either directly engaged in R&D or are providing professional, technical or clerical support or assistance to those R&D activities of students undertaking postgraduate research courses.
- Supervision and monitoring of postgraduate research courses, including students.
- Software development where the aim of the project is the systematic resolution of a scientific uncertainty.
- Research work in the biological, medical, engineering, physical and social sciences and the humanities.
- Social science research, including economic, cultural, educational, psychological and sociological research
- R&D projects performed for other parties.
- “Feedback R&D” directed at solving problems occurring beyond the original R&D phase, for example technical problems arising during initial production runs.

### R&D Excludes:

The following specific activities are excluded, except where they are used primarily for the support of, or as part of, R&D activities performed in this reporting unit:

- Preparation for teaching
- Academic development activities
- Scientific and technical information services
- Engineering and technical services
- General purpose or routine data collection
- Standardisation and routine testing
- Feasibility studies (except into R&D projects)
- Specialised routine medical care, for example routine pathology services
- The commercial, legal and administrative aspects of patenting, copyrighting or licensing activities
- Routine computer programming, systems work or software maintenance where there are no technological uncertainties to be resolved.

### The Classification of Borderline Institutions

Research institutes (such as specialised healthcare clinics or “attached” research institutions) that are not directly concerned with third level teaching, but whose activities, R&D or otherwise, are all the same closely associated with the Higher Education sector should be carefully considered:

- Entities initiated by a Higher Education Institution (HEI) but subsequently becoming a not-for-profit or business entity should be classified as such and surveyed by Not-for Profit or Business sectors, even if there are close links with a Higher Education Institution.
- Staff and R&D expenditure should be reported where it was incurred.
- Staff members on the payroll of the HEI Institution (e.g. department heads) should be reported by the HEI concerned
- Staff that appears on the payroll of the “borderline” institution’ should be reported by the institution concerned and not the HEI.
- The same applies to equipment and running costs.
- It would be appreciated if we were informed of all such institutions to ensure that they are surveyed by the appropriate sectors and to minimise double counting.

### Provincial/Academic Hospitals

Higher Education Institutions are requested to report on all academic and technical staff performing R&D, with joint appointments between provincial/academic hospitals and the HEI. This includes headcount, FTE’s, labour costs, equipment and running costs.

It is understood that some of these costs may not be reflected in the HEI’s HEMIS data or financial statements, but we request that a best estimate be included where necessary.

## PART 1: GENERAL INFORMATION

1. Name of Higher Education Institution

2. Name of reporting unit e.g. Faculty

3. Did the reporting unit perform any IN-HOUSE R&D in South Africa during the 2004 academic year?

- In-house R&D refers to R&D performed by the reporting unit on its own behalf or on behalf of the others.
- Only R&D performed in South Africa should be recorded.

Yes

Please continue with Question 4

No

Please proceed to Part 5: Question 14 and 15 on Outsourced R&D

If your reporting unit does *not* do any In-House or Outsourced R&D, please tick this box and return the questionnaire as a NIL response.

## PART 2: R&D PERSONNEL AND STUDENTS

### R&D PERSONNEL

Report against the categories listed below for all personnel employed directly in R&D or providing direct R&D services/support for at least 5% of their time. Do not count any staff NOT supporting research.

Please include permanent, temporary, full-time, part-time and contract staff, as well as joint appointments for provincial hospital staff.

#### 1. Researchers

##### Include:

- Academic staff engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the direct management of the projects concerned.
- Managers and administrators engaged in the planning and management of the scientific and technical aspects of a researcher's work. Their rank is usually equal or superior to that of persons directly employed as researchers and they are often former or part-time researchers.
- Academic staff involved in research and also studying towards a Masters or Doctoral degree should be included as research staff.

##### Exclude:

- Managers and directors concerned primarily with budgets and human resources, rather than project management.
- Masters and doctoral students and post-doctoral fellows .

#### 2. Technicians directly supporting R&D

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

#### 3. Other personnel directly supporting R&D

##### **3.1 Executive and managerial level**

Executives and directors concerned primarily with budgets and human resources in support of research, rather than project management.

##### **3.2 Administrative and support staff**

- Skilled and unskilled crafts workers supporting research.
- Secretarial, administrative and clerical personnel supporting/working on, or directly associated with, R&D activity.

##### Exclude:

Persons providing *indirect* services such as security and maintenance personnel, staff of central libraries, IT departments or head offices, should be excluded here but the relevant proportion of their labour costs should be included under "Other Current Costs" in Question 8D.

### R&D STUDENTS

- All Post-doctoral fellows in whichever capacity they are appointed by the institution
- Doctoral students
- Students undertaking a Masters degree with at least a 40% research component in 2005

#### 4. HEADCOUNTS OF R&D PERSONNEL

Provide the Headcounts of all R&D personnel in this reporting unit according to the categories below.

- Consult the Appendix provided on how to extract researcher Headcount and FTE data from HEMIS.
- Consult **NOTE A** on page 7 on how to calculate the Headcount and FTE data for Technicians and Other Support Staff.

Personnel Categories and Highest Qualification	African		Coloured		Indian		White		Subtotal		TOTAL
	M	F	M	F	M	F	M	F	M	F	

##### Researchers

Doctorates											
Masters/Hons/Bachelors or equivalent											
Diplomas and other											
<b>RESEARCHER TOTAL</b>											

##### Technicians /Technologists

Doctorates											
Masters/Hons/Bachelors or equivalent											
Diplomas and other											
<b>TECHNICIAN TOTAL</b>											

##### Other personnel directly supporting R&D

###### (a) Executive and managerial level

Doctorates											
Masters/Hons/Bachelors or equivalent											
Diplomas and other											
<b>Total Executive and Managerial</b>											

###### (b) Administrative and support staff

Doctorates											
Masters/Hons/Bachelors or equivalent											
Diplomas and other											
<b>Total administrative and support staff</b>											

Carry subtotals over to Q 5



## 5. RESEARCH FULL-TIME EQUIVALENTS (FTE's) AND COST-TO-COMPANY

Using the Male and Female Headcounts of all R&D personnel reported for in Question 4, provide the Research Full-Time Equivalents (time devoted to Research and Development). Then calculate the total labour costs of R&D using the average annual full cost-to-company for full-time staff (including annual wages and salaries and all associated costs or fringe benefits such as bonus payments, contributions to pension and medical aid funds, payroll tax, UIF and all other statutory payments) per category below.

- Consult the Appendix provided on how to extract researcher Headcount and FTE data from HEMIS.
- Consult **NOTE A** on page 7 on how to calculate the Headcount and FTE data for Technicians and Other Support Staff.

Personnel Categories	Headcounts (From Q 4)			Research Full Time Equivalents (FTE's)			Average annual labour cost per full-time person  R'000 (Excl. VAT) (B)	Calculated labour cost of R&D  R'000 (Excl. VAT)  (A x B)
	M	F	Total	M	F	Total (A)		
<b>Researchers</b> <i>*Use the median annual labour cost (cost-to-company as explained above) of FULL-TIME senior lecturers</i>								
<b>Technicians directly supporting R&amp;D</b>								
<b>Other personnel directly supporting R&amp;D:</b>								
Executive and Managerial level								
Administrative and support staff								
<b>TOTAL LABOUR COST OF R&amp;D</b>								

Carry over total calculated labour cost of R&D personnel to Question 8C



**NOTE A: CALCULATION OF HEADCOUNTS AND FTE's**

To assist respondents in providing data from HEMIS in a consistent way across all HEI's, CeSTII / Knowledge Systems will extract researcher headcount and FTE data from HEMIS, This data will be provided to you as a guideline figure and can be used by your institution or adapted as you see fit. Should you have other values which you believe to be the true reflection of the staff numbers, please submit those to us instead.

Unfortunately HEMIS data only reports on technicians and other staff DOING research and not SUPPORTING research. Technicians and other staff DOING research should be included under the Researcher category. HEMIS data as such could therefore not be used to calculate the headcount and Research FTE's of technicians and other staff supporting research. This information should rather be obtained from Management Information, Faculty Officers and/or Faculty Deans.

Please note: Total FTE's should only include such staff members that support research for at least 5% of their time, NOT ALL Technicians, Executive/Managerial or Administrative staff.

**CALCULATING RESEARCH FULL-TIME EQUIVALENTS**

For the purpose of this survey, a person can work a maximum of 1 FTE in a year. This is why the Research FTE is not defined by specifying the maximum number of working hours in a month or year.

So a full time employee spending 40% of his/her time on R&D during half of the survey year would contribute  $0.4 \times 0.5 = 0.2$  FTE to the R&D effort, even if his/her average time per week was, for example, 60 hours. A part-time employee working 40% of a full time week throughout the year on R&D would contribute 0.4 FTE to the R&D effort.

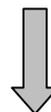
## 6. HEADCOUNT OF POSTGRADUATE STUDENTS

Provide the **Headcount** of all R&D post-doctoral fellows and postgraduate students (full-time and part-time students) in this reporting unit according to the categories below.

To assist respondents in providing data from HEMIS in a consistent way across all HEI's, CeSTII / Knowledge Systems will extract student headcount and FTE data from HEMIS. This data will be provided to you as a guideline figure and can be used by your institution or adapted as you see fit. Should you have other values which you believe to be the true reflection of your student numbers, please submit those to us instead.

Postgraduate student categories	African		Coloured		Indian		White		Subtotal		TOTAL
	M	F	M	F	M	F	M	F	M	F	
Post-doctoral fellows											
Doctoral Students											
Masters Students (only those with at least a 40% research component in their Masters degree)											
<b>TOTAL</b>											

Carry subtotals over to Q7



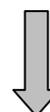
## 7. PERCENTAGE TIME ON RESEARCH AND TOTAL COSTS

Using the headcounts of all R&D post-doctoral fellows and postgraduate students reported in Q 6, provide the Research Full Time Equivalents (time spent on Research and Development) according to the categories below. Then provide the total value of salaries, stipends and all bursaries (both internal and external) from all available records.

Consult the Appendix provided on how to extract student headcounts and FTE's from HEMIS

Postgraduate Student Categories	Headcount (From Q6)		Full-Time Equivalents (FTE's)		Total value of salaries, stipends & bursaries R'000 (Excl. VAT)
	M	F	M	F	
Post-doctoral fellows					
Doctoral students					
Masters students (only research masters, not taught masters)					
<b>TOTAL COST OF STUDENTS</b>					

Carry over total value of salaries, stipends and bursaries to Question 8C



## PART 3: IN-HOUSE R&D EXPENDITURE

### 8. IN-HOUSE R&D EXPENDITURE

Compile expenditure on IN-HOUSE R&D during the academic year 2005.

- Include expenditure funded from all sources: internal and external (contracts and grants) and undertaken by the reporting unit on its own behalf or for other parties.
- **Please note: Outsourced R&D should be reported under Part 5.**

#### CAPITAL EXPENDITURE ON R&D

See **NOTE B** on page 10 regarding the definition of capital expenditure and how to calculate capital expenditure on R&D.

Purchase of equipment can, in theory, be classified as either capital or current expenditure. A distinction can therefore be made between “major” and “minor” equipment (to be included in “capital” and “current” expenditures respectively) by establishing some kind of monetary limitation. Please provide us with this limitation as used by your institution:

R .....

		R'000 Excluding VAT					
Vehicles, plant, machinery and equipment	<b>A</b>						
Land, buildings and other structures	<b>B</b>						

#### LABOUR COSTS OF R&D

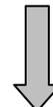
		R'000 Excluding VAT					
Total cost of R&D personnel (carried over from Question 5)							
Total cost of R&D postgraduate students (carried over from Question 7)							
<b>TOTAL</b>	<b>C</b>						

#### OTHER CURRENT EXPENDITURE ON R&D

See **NOTE C** on page 10 regarding the definition of current expenditure and how to calculate current expenditure devoted to R&D.

		R'000 Excluding VAT					
Other Current Expenditure	<b>D</b>						
<b>TOTAL R&amp;D EXPENDITURE (A + B + C + D = E)</b>	<b>E</b>						

Carry over Total R&D Expenditure (E) to Question 9



## THE DEFINITION AND CALCULATION OF IN-HOUSE R&D EXPENDITURE

### NOTE B: CAPITAL EXPENDITURE

<ul style="list-style-type: none"> <li>The full cost of capital expenses must be reported in the year of purchase (Do not depreciate)</li> </ul>	
<p><b>Including – but not limited to:</b></p> <ul style="list-style-type: none"> <li>Expenditure on fixed assets used in the R&amp;D projects of this reporting unit</li> <li>Acquisition of software, including license fees, expected to be used for more than one year</li> <li>Purchase of databases expected to be used for more than one year</li> <li>Major repairs, improvements and modifications on land and buildings</li> </ul>	<p><b>Excluding:</b></p> <ul style="list-style-type: none"> <li>Other repairs and maintenance expenses</li> <li>Depreciation provisions</li> <li>Proceeds from the sale of R&amp;D assets</li> </ul>

- Where a capital item is used solely for R&D, allocate the full cost of the item.
- If the capital item is used for more than one activity, include only an estimate of the portion used for R&D.
- Only where such an estimate of the portion used for R&D is not available, apply the percentage time that Researchers in the reporting unit spent on R&D, to the cost of the item.

### NOTE C: CURRENT EXPENDITURE

<p><b>Including - but not limited to:</b></p> <ul style="list-style-type: none"> <li>Direct project costs, project consumables and running costs linked to research such as materials, fuels and other inputs, including telephone and printing</li> <li>Subsistence and travel expenses</li> <li>Repair and maintenance expenses</li> <li>Payments to outside organisations for use of specialised testing facilities, analytical work, engineering or other specialised services in support of R&amp;D projects carried out by this reporting unit</li> <li>Commission/consultant expenses for research projects carried out by this reporting unit</li> <li>The relevant % of indirect and institutional costs and utility costs such as rent, space charge, leasing and hiring expenses, furniture, water, electricity any other overhead costs</li> <li>The relevant % of labour costs of persons providing indirect services such as the Head Office, HR, Finances, security and maintenance personnel, staff of central libraries, IT departments</li> </ul>	<p><b>Excluding:</b></p> <ul style="list-style-type: none"> <li>Contract R&amp;D expenses where the research project is carried out elsewhere by others on behalf of this reporting unit</li> <li>Payments for purchases of technical know-how (goodwill)</li> <li>Payments for patent searches.</li> <li>Licence fees</li> <li>Depreciation provisions</li> </ul>
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- Where current expenses such as direct project costs and consumables are used solely for R&D, allocate the full cost of the items.
- If these current expenses are used for more than one activity, include only an estimate of the portion used for R&D
- Only where such an estimate of the portion used for R&D is not available, such as indirect and utility costs, and labour costs of staff providing indirect services, it is advised that respondents apply the percentage time that researchers in the reporting unit spent on R&D to the total of these current expenditures.
- So if a Faculty income and expenditure statement shows that the current expenditure for indirect and utility costs and labour costs of staff providing indirect services for the year was say R1,700,000 and that researchers on average spent 22% of their time to R&D, then this component of R&D current expenditure may be estimated as  $0.22 \times R1,700,000 = R374,000$ .

## 9. SOURCES OF IN-HOUSE R&D EXPENDITURE

(as reported in Question 8)

Provide a breakdown of the total R&D expenditure according to the sources of funds listed below.

(NOTE: Only the proportion of the money actually SPENT is required, not the total income per source)

EXTERNAL SOURCES SPENT ON R&D	R'000 Excluding VAT				
<b>National, Provincial and Local Government</b> excluding the HE Vote					
<b>Government Research Institutes</b> e.g. Water Research Commission, KwaZulu Natal Wildlife, Natal Sharks Board, National Health Laboratories Service, Nuclear Energy Corporation of South Africa (NECSA), SA National Botanical Institute.					
<b>Agency Funding</b> e.g. all funding administered by NRF and its National Facilities (HartRAO, SAIAB, iThemba Labs, SAAO, HMO, Zoological Gardens); THRIP funds from DTI; Innovation Fund; MRC Agency funding Note: Report only the component of funding spent by <b>your</b> institution					
<b>Science Council Funding</b> i.e. CSIR, HSRC, MRC (Non-agency), ARC, Geosciences, SABS, Mintek, Africa Institute of SA					
<b>Domestic Business</b> including industry funds for THRIP projects					
<b>Other South African Sources</b>					
Other Higher Education Institutions					
Not for Profit Organisations					
Donations and bequests from individuals					
<b>Foreign Sources</b>					
<b>SUBTOTAL EXTERNAL SOURCES</b>	F				

### **NOTE D: THE CALCULATION OF GENERAL UNIVERSITY FUNDS**

To calculate General University Funds please subtract the subtotal of all external sources listed above (F) from the total in-house R&D expenditure reported in Q8. General University Funds will therefore comprise components of the Higher Education Vote and the HEI's own funds (e.g. income from endowments, shareholdings, property, student fees, and subscriptions to journals...).

In order to enable us to classify the source of these funds more accurately, please provide your best estimate of the split of these General University Funds that can be attributed to the Higher Education Vote and the University's Own Funds. You may use a percentage distribution to calculate the split.

<b>Total R&amp;D EXPENDITURE</b> (carried over from Q8)	<b>E</b>					
<b>SUB TOTAL (EXTERNAL SOURCES)</b> (carried over from F above)	<b>F</b>					
<b>GENERAL UNIVERSITY FUNDS</b> (See <b>NOTE D</b> above) (Including the Higher Education Vote and the HEI's Own Funds)	<b>E- F</b>					
<b>Higher Education Vote</b>	<b>%</b>					
<b>Own Funds</b>	<b>%</b>					

## 10. PROVINCIAL EXPENDITURE ON R&D

Please state the location where the reporting unit carried out R&D activities and the percentage of the total R&D expenditure.

Specify where R&D is actually performed, rather than where it is managed/financed from.

Eastern Cape	
Free State	
Gauteng	
KwaZulu-Natal	
Limpopo	

Mpumalanga	
Northern Cape	
North-West	
Western Cape	
<b>TOTAL</b>	<b>100%</b>

## PART 4: CATEGORIES OF IN-HOUSE R&D EXPENDITURE

### 11. IN-HOUSE R&D CURRENT EXPENDITURE BY TYPE OF R&D

Specify the percentage of IN-HOUSE R&D LABOUR COST AND OTHER CURRENT EXPENDITURE by type of R&D.

#### Basic Research

- Work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without a specific application in view.
- The analyses of properties, structures and relationships with a view to formulating and testing hypotheses, theories or laws.
- The results of basic research are usually published in peer-reviewed scientific journals.

Percentage		

#### Applied Research

- Original investigation to acquire new knowledge with a specific application in view.
- To determine the possible uses for the findings of basic research.
- To determine new methods or ways of achieving specific and pre-determined objectives.
- The results of applied research are intended primarily to be valid for a single or limited number of products, operations, methods, or systems.
- Applied research develops ideas into operational form.
- The knowledge or information derived from it is often patented but may also be kept secret.

Percentage		

#### Experimental Development

- Systematic work using existing knowledge gained from research and/or practical experience for the purpose of creating new or improved materials, products, processes or services, or improving substantially those already produced or installed.

Percentage		

<b>TOTAL</b>	<b>1</b>	<b>0</b>	<b>0</b>
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## 12a. RESEARCH FIELDS (RF)

Classify R&D according to Research Fields with associated % expenditure. (See Code book)

The RF Codes are based on recognised academic disciplines and emerging areas of study.

RF Codes						Percentage		RF Codes						Percentage		
RF								RF								
RF								RF								
RF								RF								
RF								RF								
RF								RF								
								<b>Total</b>						1	0	0

## 12b. MULTI-DISCIPLINARY R&D

Please estimate the percentage of R&D expenditure allocated to the following areas:

- Multi-disciplinary R&D combines several research fields or disciplines. If your organisation performs such R&D, as described below, please provide the applicable % of total R&D Expenditure.
- Note that the percentages will most likely not total 100%.

Multidisciplinary Area of R&D	% of R&D expenditure
Biotechnology	
Nanotechnology	

**No Multi-Disciplinary R&D in these areas** ← TICK if no such R&D is done

## 12c. R&D AND NATIONAL PRIORITY AREAS

Please estimate the percentage of R&D expenditure allocated to the following areas:

- National Policy and the National R&D Strategy emphasise the importance of certain areas of R&D.
- Some of these National Priority areas are listed below. If your organisation performs R&D in these areas, please provide the applicable % of total R&D Expenditure.
- Note that the percentages will most likely not total 100%.

National Priority Area of R&D	% of R&D expenditure
Open source software	
New materials	
Tuberculosis (TB), HIV/AIDS, Malaria	

**No R&D in these areas** ← TICK if no such R&D is done

### 13. SOCIO-ECONOMIC OBJECTIVES (SEO)

Classify R&D according to Socio-Economic Objectives with associated % expenditure. (See code book)

The SEO classification provides an indication of the sector of the national economy which will be the main beneficiary of the R&D you are practising

SEO Codes						Percentage		SEO Codes						Percentage		
S								S								
S								S								
S								S								
S								S								
S								S								
								<b>Total</b>						1	0	0

### PART 5: R&D OUTSOURCED / CONTRACTED OUT

**Outsourced R&D refers to:**

- Outsourced or extramural expenditures are the amounts an organization paid or committed to pay to another organisation for the performance of R&D during a specific period.
- This includes acquisition of R&D performed by and/or grants given to other organisations for performing R&D

14. State value of R&D outsourced inside South Africa.

R'000 (Excl. VAT)

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15. State value of R&D outsourced outside South Africa.

R'000 (Excl. VAT)

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**THANK YOU FOR YOUR TIME AND EFFORT**