

# Research and Development Tax Incentive Programme

Report To Parliament 2017/18



science  
& technology

Department:  
Science and Technology  
REPUBLIC OF SOUTH AFRICA



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# ABBREVIATIONS

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DST	Department of Science and Technology
DPME	Department of Planning, Monitoring and Evaluation
ICT	information and communication technology
IPAP	Industrial Policy Action Plan
OECD	Organisation for Economic Cooperation and Development
R&D	research and development
SARS	South African Revenue Service
SIC	Standard Industrial Classification
SMEs	small and medium enterprises
THRIP	Technology and Human Resources for Industry Programme



# PREFACE

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One of the key thrusts of the draft White Paper on Science, Technology and Innovation is to increase research and development (R&D) in South Africa in order to support innovation and inclusive economic growth. The private sector is needed to complement the public sector's efforts in this regard and an environment conducive to private sector investment is therefore needed.

Since 2006, South Africa has used the R&D tax incentive as an instrument to encourage private sector R&D investment. The incentive is open to firms of any size and in any industry. It targets systematic investigative and experimental development activities, the activities that are critical in the innovation process. In effect, the incentive reduces the after-tax cost of R&D for beneficiary firms, thus encouraging further investment. The economy stands to benefit from this through technological advancements, employment and improved competitiveness, among other things.

In 2017/18, the programme maintained and improved on the administrative standards of previous years. Approximately 92% of all applications received were adjudicated and 80% provided with decisions. The average turnaround time for providing decisions on the 2017/18 applications improved to 115 days. The Minister's meeting with the business sector in March 2018 facilitated an important discussion about opportunities for further improvements. Independent studies showed that many businesses are aware of the existence of the R&D tax incentive, but need more information and guidance to access it, as well as simplified processes. A study done for the Davis Tax Committee estimated that beneficiary companies spent an additional R1,83 on R&D for each rand of revenue

foregone following the support through this incentive.

Other forms of support, such as grants, loans, equity holding, and partnerships are available, but these are mostly to support other aspects of the innovation process. Across government, discussions are being held about simplifying the overall government incentive portfolio to make it easier for businesses to understand and access incentives.

The National Treasury has initiated an impact evaluation to generate evidence about the benefits of the R&D tax incentive expected to result from section 11D of the Income Tax Act. This is required to inform policy decisions about the incentive, including possible adjustments and/or the continuation of the incentive beyond October 2022, the end of the current window stipulated in the Act.

The changes in the environment of business R&D and national policy considerations will continue to influence the amendment of incentives from time to time. Compared to a decade ago, there is now a greater diversity of R&D funding sources, alliances, models and locations for performing R&D, as well as a wider variety of channels for knowledge acquisition and mechanisms for exploiting R&D outputs.

I therefore urge the business sector to take advantage of the R&D tax incentive and invest more in R&D in South Africa.

**DR B E NZIMANDE, MP**  
**MINISTER OF HIGHER EDUCATION, SCIENCE AND TECHNOLOGY**

# EXECUTIVE SUMMARY

This annual report on the performance of the R&D tax incentive programme for the period March 2017 to February 2018 (referred to in this document as 2017/18) is made as required by section 11D(17) of the Income Tax Act (1962).

The report presents information on the activities of the incentive based on performance indicators such as the number of applications, the profile of participating companies and the estimated R&D expenditure. The annual report was prepared by using information available at the DST and the published data by the National Treasury. Data on claims processed at SARS was unavailable for purposes of this report. There is also feedback on the administrative process, which has a significant impact on the programme.

In this report, where appropriate, information is presented in cumulative terms to show the overall uptake and contribution of the incentive since November 2006. The information was obtained from two sources, namely, declarations made to the Department of Science and Technology (DST) about claims that companies submitted to the South African Revenue Service (SARS) retrospectively and the applications submitted to the DST under the pre-approval system.

In 2017/18, the DST received a total of 152 applications from 115 companies. These applications were for 317 R&D projects, with total expenditure estimated at R3 billion. Of the companies that submitted applications, 71 applied for the first time, increasing the total number of companies participating in the incentive since its inception in November 2006 to 1 091. Of the 1 091 companies, 902 received support by the end of February 2018.

By the end of 2017/18, 1 212 (92%) of the 1 318 pre-approval applications received since October 2012 had been adjudicated, and 1 054 (80%) had received final decisions from the Minister. A total of 720 (59,4%) applications, involving 426 companies, were approved. The expenditure on R&D in the approved applications totals an estimated R20,6 billion. If this is added to the R25,4 billion reported under the retrospective system, approximately R46 billion in R&D expenditure has been supported by the incentive since November 2006.

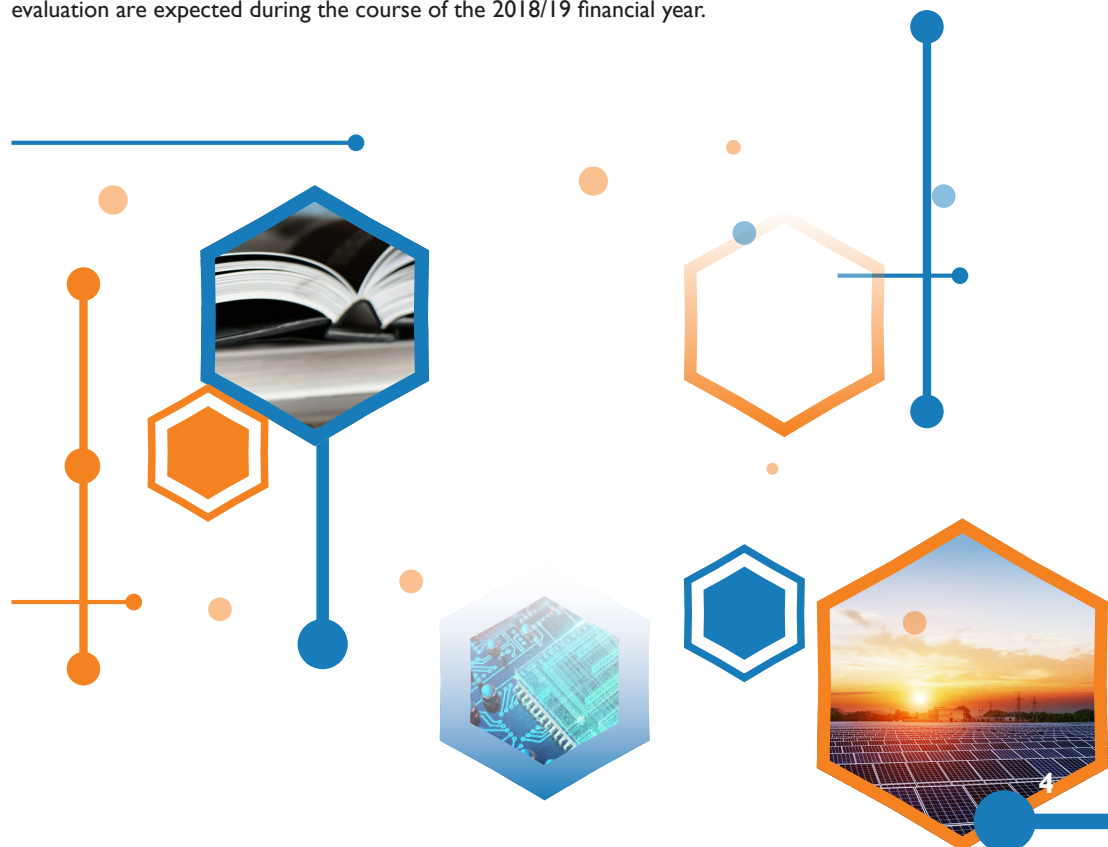
The R&D tax incentive supports the priority focus areas of the current Industrial Policy Action Plan (IPAP). Since November 2006, about 63,3% (456) of the approved applications were in these areas and accounted for 69,6% (an estimated R32 billion) of the approved R&D expenditure. The top six IPAP sectors in terms of cumulative R&D expenditure supported are chemicals, cosmetics, pharmaceuticals and plastics; electro-technical and information communication technologies (ICT); upstream oil and gas; automotive products, components, medium and heavy commercial vehicles; metal fabrication and capital equipment; and aerospace and defence.

Different size categories of firms access the R&D tax incentive. Of the 902 companies that received support, 42,5% were small and medium enterprises (SMEs) (with latest year turnover of R40 million

and below). Very large enterprises (R100 million and above) made up 35,7% of the companies and large enterprises (R41 million to R100 million) 13,2%, while 8,6% did not disclose their turnover size. The latter, whose turnover is unknown, distorts the overall picture of distribution by company size.

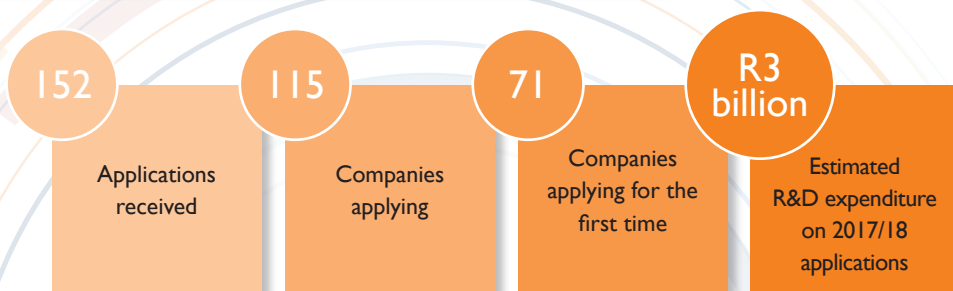
For the activities to be approved, they must meet the definition of R&D in terms of section 11D of the Act, in which R&D means systematic investigative or systematic experimental activities of which the results are uncertain. The onus is on the applicant to demonstrate that the activities qualify. Where there is a likelihood of non-approval, applicants are given another opportunity to submit additional information that supports that their activities are eligible before a final decision is made, in accordance with section 3 of the Promotion of Administrative Justice Act. This procedure is valuable given the absence of an appeal process.

The main purpose of the incentive is to encourage companies to increase their investment in scientific and technological R&D, with the aim of promoting R&D-led innovation and competitiveness in South Africa. By the time that this report was being compiled, the National Treasury had initiated an impact evaluation to determine whether the incentive was meeting its objectives. The results of this evaluation are expected during the course of the 2018/19 financial year.

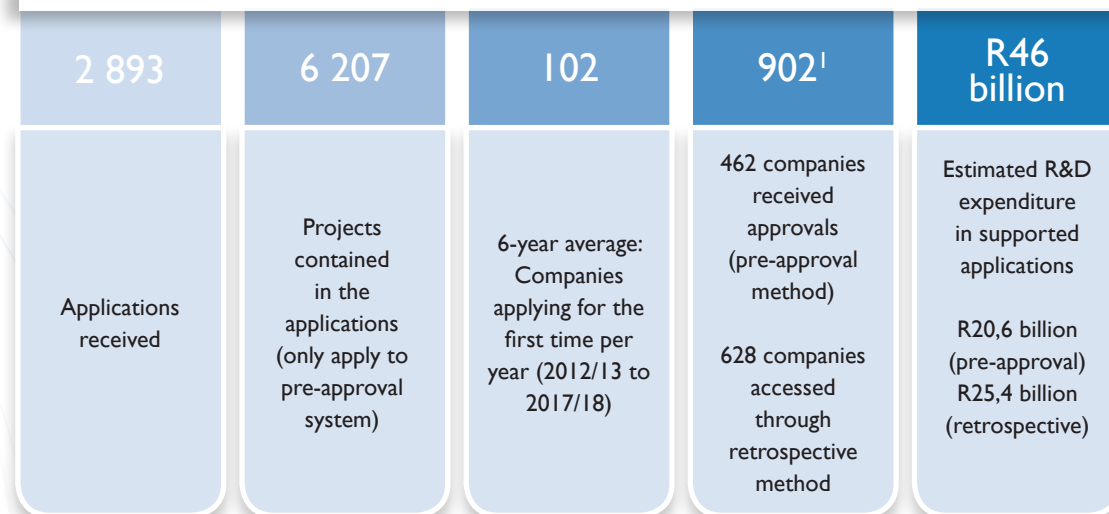


# 2017/18 IN NUMBERS

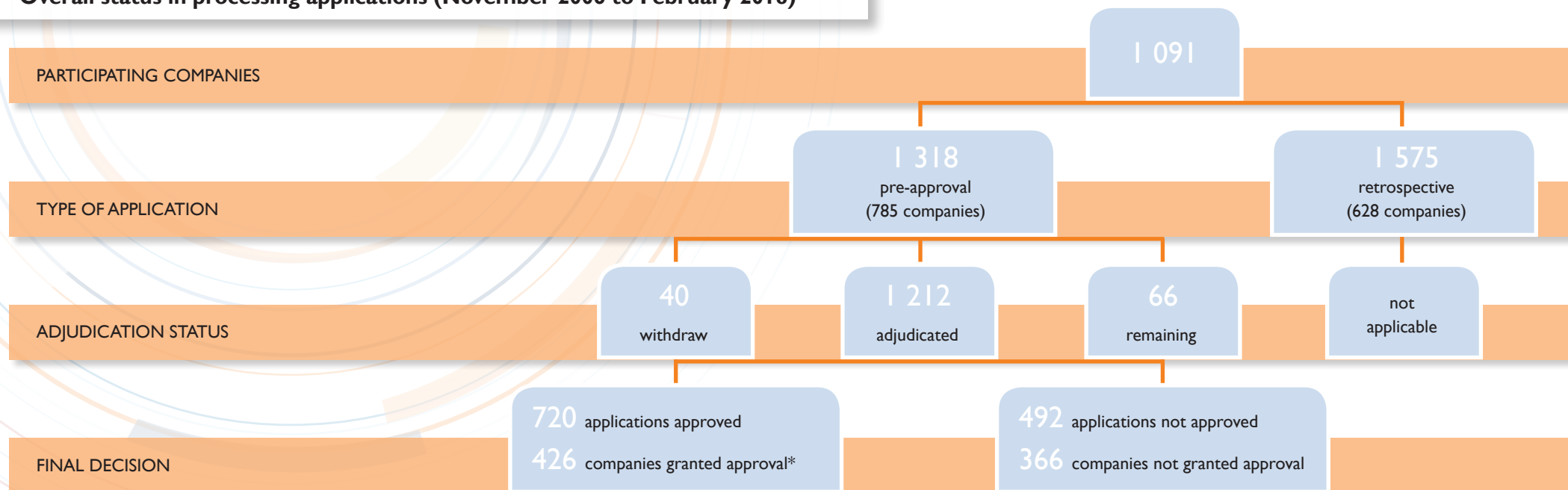
## Contributions for 2017/18



## Cumulative contributions (November 2006 to February 2018)



## Overall status in processing applications (November 2006 to February 2018)



\* This number does not account for the 628 companies that accessed the incentive under the retrospective system

<sup>1</sup> Note that some companies have participated in both the retrospective and the pre-approval system.

# I. INTRODUCTION

## I.1 Legislative mandate

The R&D tax incentive programme was introduced in 2006 to encourage private sector R&D investment in South Africa. It is implemented in terms of section 11D of the Income Tax Act, supported by regulations published in Government Gazettes Nos. 38729, 38730 and 38732 of 23 April 2015, and the relevant amendments to the Act that came into effect from October 2012, January 2014, January 2015 and January 2017 (Table 1).

Table 1: Synopsis of legislative and regulatory changes

2006	The R&D tax incentive was introduced on 1 November 2006, allowing companies to deduct an additional 50% on R&D expenditure incurred. Companies had to submit retrospective R&D tax incentive claims directly to SARS and only report to the DST about their R&D expenditure incurred.
2012	The pre-approval process was introduced on 1 October 2012. Companies are required to obtain approval for R&D activities from the Minister of Science and Technology before claiming a deduction from SARS.
2014	New amendments to section 11D of the Act became effective on 1 January 2014, in terms of the Taxation Laws Amendment Act, 2013 (Act No. 39 of 2013). Refinements to section 11D, including adjustments to the definition of R&D, were made to streamline and simplify the regime and ensure that only genuine R&D is supported.
2015	Refinements were made to section 11D, including amending the definition of R&D in respect of qualifying "innovative" functional designs, and including multisource pharmaceutical products and clinical trials in the definition of R&D. These amendments became effective on 1 January 2015, in terms of the Taxation Laws Amendment Act, 2014 (Act No. 43 of 2014). Regulations on the additional criteria for multisource pharmaceutical products and for clinical trials were published in Government Gazettes Nos. 38729, 38730 and 38732 on 23 April 2015.
2016	New amendments to section 11D, introduced in terms of the Taxation Laws Amendment Bill [No. B 17B-2016] (Act No. 15 of 2016), became effective on 1 January 2017. Subsection (20) was added to allow companies to catch up on their deductions.

## I.2 Objectives of the R&D tax incentive

- To encourage businesses to conduct scientific and technological R&D in South Africa.
- To advance scientific knowledge and achieve technological advancement aimed at creating new or significantly improved materials, devices, products or processes.
- To increase the positive spillover to the rest of society through knowledge transfer and skills development.

## I.3 Benefits of the R&D tax incentive

If an application is approved, the tax incentive allows companies to deduct 150% of R&D expenditure incurred from their income. This deduction reduces companies' tax liability to SARS, which ultimately saves them 14 cents for each rand spent on R&D. It is, therefore, regarded as indirect financial support for private sector R&D and innovation. The aim is to help local companies to build capabilities and innovations by creating new products, processes, devices and techniques, and/or to significantly improve existing ones.

## I.4 Eligibility for the R&D tax incentive

The incentive can be accessed by South African registered companies of all sizes in all sectors of the economy. For a company to benefit from the incentive, its R&D activities must be approved by the Minister of Science and Technology or a person appointed by the Minister.

Approval is granted on the basis of a recommendation by the R&D tax incentive Adjudication and Monitoring Committee (hereinafter called "the Committee"), which evaluates each application according to the definition of R&D in terms of section 11D of the Income Tax Act. The Committee is made up of officials of the Department of Science and Technology (DST), the South African Revenue Service (SARS) and the National Treasury. The Committee members are appointed by the Minister of Science and Technology and the Minister of Finance.

Section 11D(17) of the Income Tax Act requires the Minister of Science and Technology to report to Parliament annually on the direct benefits of the R&D activities through the incentive programme in terms of economic growth, employment, aggregate expenditure and other broader government objectives.

## I.5 Criteria used to determine eligibility

R&D is intrinsically aimed at generating new knowledge and devising new applications of available knowledge. R&D is intended to lead to new technologies or significant improvements to existing

technologies, which can be used to support some form of socio-economic activity. These are some of the basic concepts included in the Frascati Manual<sup>2</sup> as standards for defining R&D.

For the purposes of the tax incentive, R&D means investigative or systematic experimental activities of which the result is uncertain for the purpose of –

- (a) discovering non-obvious scientific or technological knowledge;
- (b) creating or developing –
  - (i) an invention;
  - (ii) a functional design;
  - (iii) a computer program; or
  - (iv) knowledge essential to the use of such invention, functional design or computer program; or
- (c) making a significant and innovative improvement to any invention, functional design, computer program or knowledge for the purpose of –
  - (i) new or improved function;
  - (ii) improvement of performance;
  - (iii) improvement of reliability; or
  - (iv) improvement of quality;
 of that invention, functional design, computer program or knowledge;
- (d) creating or developing a multisource pharmaceutical product; or
- (e) conducting a clinical trial.

## 1.6 Exclusions and limitations

For the purposes of section 11D of the Income Tax Act, the definition of R&D does not include activities conducted for the following purposes:

- (a) Routine testing, analysis, collection of information or quality control in the normal course of business.
- (b) Developing internal business processes, unless those internal business processes are intended for sale, or for granting right of use or permission to use to persons who are not related to whoever is undertaking that R&D.
- (c) Market research, market testing or sales promotion.
- (d) Social science research, including the arts and humanities.
- (e) Oil and gas or mineral exploration or prospecting, except research and development carried out to develop technology used for that exploration or prospecting.
- (f) Creating or developing financial instruments or financial products.
- (g) Creating or enhancing trademarks or goodwill.
- (h) Any expenditure contemplated in section 11 (gB) or (gC).

In respect of multisource pharmaceutical products and clinical trial R&D projects, the following activities are ineligible:

- (a) Phase IV clinical trials, other than a clinical trial conducted for the purpose of developing new indications, new methods of administration or new combinations of pharmaceutical products.

- (b) Post-marketing research.
- (c) Cost-effectiveness research.
- (d) Any activities undertaken for the purpose of compliance with regulatory requirements.
- (e) A product familiarisation programme.
- (f) Research carried out for statistical purposes (meta-analysis).
- (g) Epidemiological research.
- (h) Research activities undertaken in preparation for the registration of a clinical trial.

## 1.7 R&D tax incentive application process



Figure 1: The application process

<sup>2</sup> Frascati Manual is the international guideline for definition and measurement of R&D. This guideline is published by the Organisation for Economic Cooperation and Development (OECD).

## 2. APPLICATIONS FOR THE R&D TAX INCENTIVE

This section provides a summary of the uptake of the R&D tax incentive in terms of the number of applications received and the status in processing those applications. The indicators covered below comprise those from the period under review (2017/18), cumulative estimates since October 2012 (when the pre-approval system was introduced) and, in certain instances, retrospective claims since November 2006 (when the additional 50% deduction was introduced).

### 2.1 Number of applications received by the DST

For the period under review, the DST received a total of 152 R&D tax incentive applications containing 317 projects from 115 companies, of which 71 (61,7%) were first-time applicants (Figure 2). These applications are for an estimated R3 billion in R&D expenditure at the application stage. In 2017/18, 152 applications were received, almost the same as the number for 2016/17.

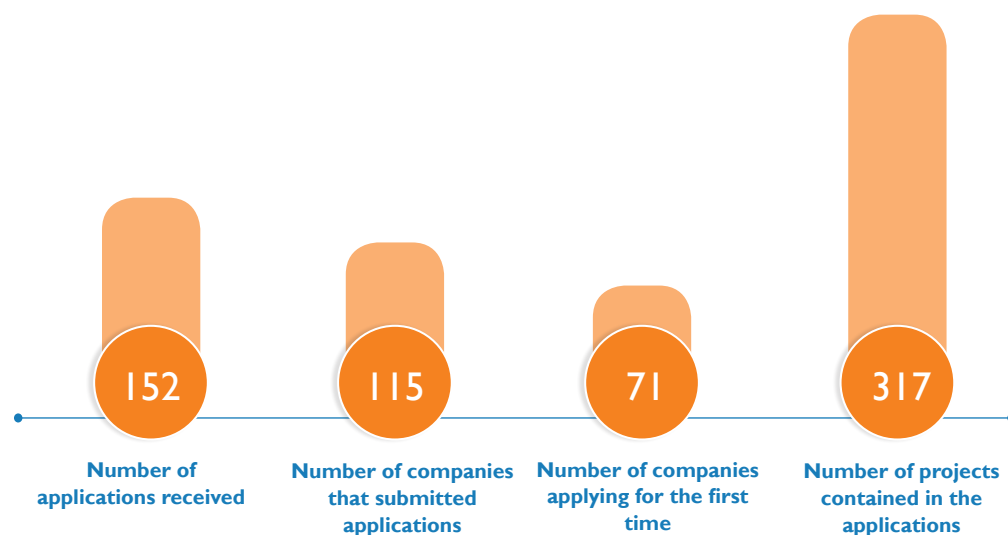


Figure 2: Uptake of applications received by the DST in 2017/18

The incentive has attracted an average of 87 new companies a year since 2012/13 when the pre-approval system was introduced. For the period since November 2006, the programme has received 2 893 applications, with 1 575 from the retrospective submission system (received between November 2006 and 1 October 2012) and 1 318 applications under the pre-approval system (from 1 October 2012 onwards).

Companies from all industry sectors can access the R&D tax incentive application. Figure 3 shows the distribution per industrial sector of the applications received in 2017/18. Figure 4 depicts such information for the period from October 2012 to February 2018.

The programme receives most of its applications (about 80%) from the Manufacturing Sector; followed by the Financial and Business Services Sector. The Manufacturing Sector is dominated by the pharmaceutical industry, with some projects aiming to contribute to the green economy, while the Financial and Business Services Sector is dominated by the information and communication technology (ICT) industry, from which applications are frequently received. The remainder of the applications (less than a quarter of those received), come from the Mining and Quarrying Sector (83), the Transport, Storage and Communication Sector (69), Agriculture, Hunting, Forestry and Fishing (63), Wholesale and Retail Trade (27), Electricity, Gas and Water Supply (23), Construction (13), and Community, Social and Personal Services (5).

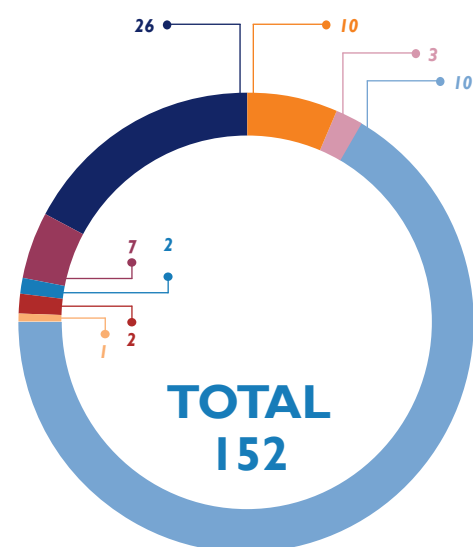


Figure 3: Number of applications per industrial sector (2017/18)

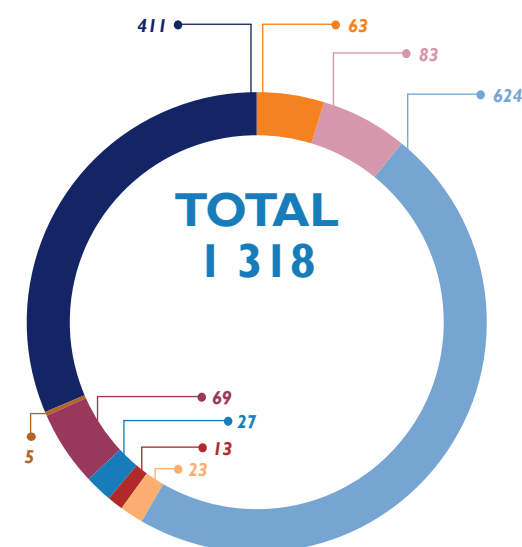


Figure 4: Number of applications per industrial sector (Oct. 2012 to Feb. 2018)



## 2.2 Profile of participating companies

This section provides a profile of participating companies by turnover size and by industry sector. A total of 115 companies participated in the tax incentive programme in 2017/18. The cumulative figure from October 2012 (when the pre-approval system was introduced) is 785, and from November 2006 (including those companies that participated in the retrospective system) is 1 091.

Table 2 shows the distribution of companies submitting applications in 2017/18 per turnover size category and the cumulative numbers since 2012 and 2006. The distribution shows that during the reporting period, the incentive is dominated by very large enterprises, followed by SMEs and large companies. Eight companies did not disclose their turnover.

Table 3 shows the distribution of companies submitting applications in 2017/18 per industry sector as well as the cumulative numbers since 2012 and 2006. A combined 80% of the applications come from two sectors, namely, Manufacturing (58,3%) and Financial and Business Services (21,7%) in 2017/18. The other sectors account for the remaining 20% of the applications. This pattern is similar to that of the other two periods of aggregation, namely from October 2012 and from November 2006.

Similar to the pattern observed since 2012, Figure 5 depicts that of the 1 091 companies that participated in the incentive since November 2006, 46,9% (or 512) of the participating companies are SMEs, more than any other company turnover size category. This is followed by 32,4% (or 353) for very large companies and 12,6% (or 137) for large companies. There were 89 companies (8,2%) that did not indicate their latest annual turnover. There are companies that submit applications frequently.

Table 2: Number of companies participating per company turnover size

TURNOVER	Received in 2017/18		Cumulative (Oct. 2012 to Feb. 2018)		Cumulative (Nov. 2006 to Feb. 2018)	
	Number of companies applying	% of total	Number of companies applying	% of total	Number of companies applying	% of total
Turnover not indicated	8	7,0%	66	8,4%	89	8,2%
10 and below	22	19,1%	189	24,1%	306	28,0%
10 to 15 SMEs	7	6,1%	40	5,1%	64	5,9%
15-20 SMEs	3	2,6%	32	4,1%	47	4,3%
20-30 SMEs	8	7,0%	49	6,2%	62	5,7%
30-40 SMEs	1	0,9%	30	3,8%	33	3,0%
40-50 large	6	5,2%	26	3,3%	38	3,5%
50 – 100 large	13	11,3%	77	9,8%	99	9,1%
100 and above – very large	47	40,9%	276	35,2%	353	32,4%
<b>TOTAL</b>	<b>115</b>	<b>100,0%</b>	<b>785</b>	<b>100,0%</b>	<b>1 091</b>	<b>100,0%</b>

Table 3: Number of participating companies per industry sector

SECTOR	Received in 2017/18		Cumulative (Oct. 2012 to Feb. 2018)		Cumulative (Nov. 2006 to Feb. 2018)	
	Number of companies applying	% of total	Number of companies applying	% of total	Number of companies applying	% of total
<b>10000</b> Agriculture, Hunting, Forestry and Fishing	10	8,7%	44	5,6%	62	5,7%
<b>20000</b> Mining and Quarrying	2	1,7%	49	6,2%	61	5,6%
<b>30000</b> Manufacturing	67	58,3%	347	44,2%	492	45,1%
<b>40000</b> Electricity, Gas and Water Supply	1	0,9%	17	2,2%	22	2,0%
<b>50000</b> Construction	1	0,9%	10	1,3%	15	1,4%
<b>60000</b> Wholesale and Retail Trade	2	1,7%	20	2,5%	19	1,7%
<b>70000</b> Transport, Storage and Communication	7	6,1%	42	5,4%	48	4,4%
<b>80000</b> Financial and Business Services	25	21,7%	252	32,1%	357	32,7%
<b>90000</b> Community and Social Services	0	0,0%	4	0,5%	15	1,4%
<b>TOTAL</b>	<b>115</b>	<b>100,0%</b>	<b>785</b>	<b>100,0%</b>	<b>1 091</b>	<b>100,0%</b>

## 2.3 Measures to increase awareness and impact

The R&D tax is intended to encourage increased private sector R&D investment, which is central to improving South Africa's innovation performance and competitiveness. To achieve this, firms must be aware of the incentive and understand the processes for accessing it. This is seen in the number of new participants that are attracted to the programme each year.

The DST's Private Sector R&D Promotions directorate administers the R&D tax incentive programme. During 2017/18, this directorate held meetings with several companies at the DST and

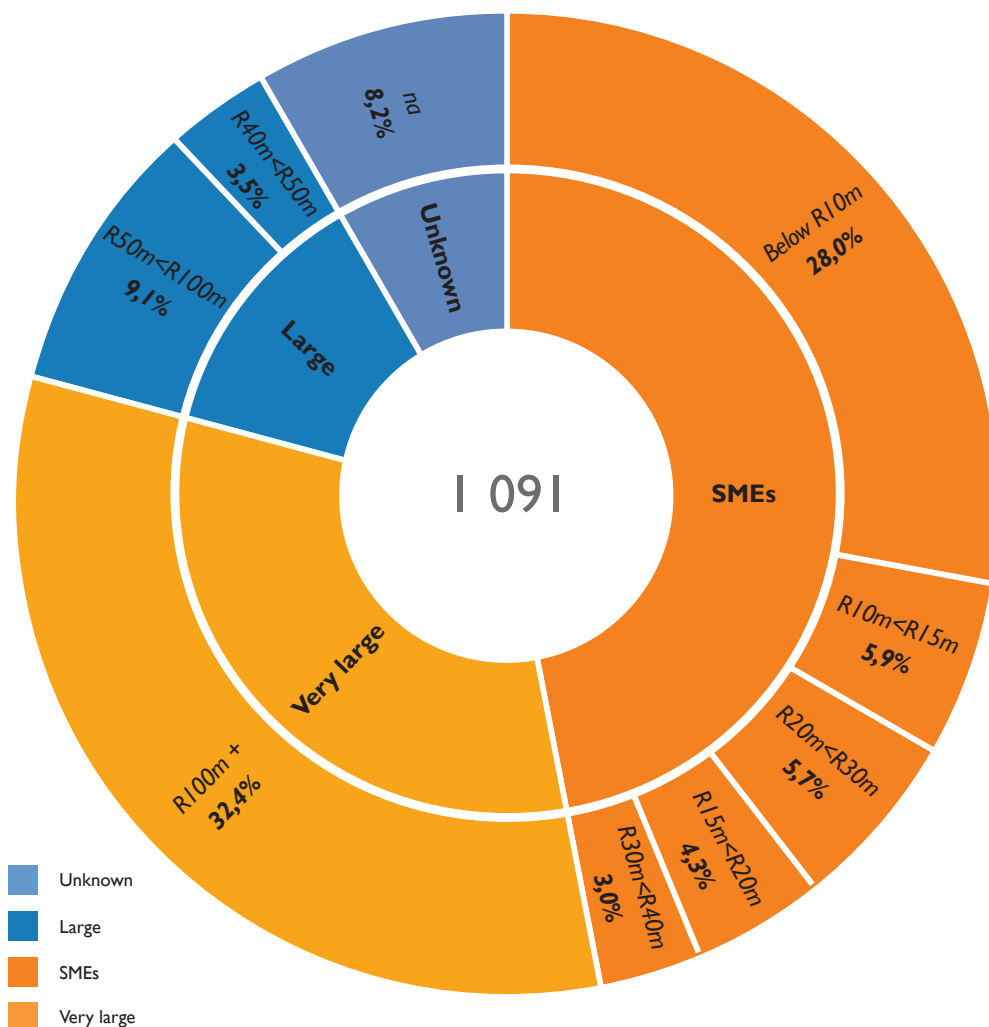


Figure 5: Uptake of companies that submitted applications per turnover size (Nov. 2006 to Feb. 2018)

at company premises. These include companies in the financial technology space, sugar industry and participation in several stakeholder gatherings, including a workshop of the Mining Equipment Manufacturers of South Africa, the Innovation Bridge conference, Science Forum South Africa, the South African Medical Device Industry Association conference and others. In these interactions, the DST gave presentations, distributed incentive guidelines, brochures and other information tools to improve the accessibility of information on the R&D tax incentive programme. Special attention was given to first-time applicants, particularly small enterprises that needed to understand how the programme works.

Annually, for the past three years, the Minister of Science and Technology held meetings with the business sector on the R&D tax incentive. The 2017/18 meeting was held on 02 March 2018, and reviewed the progress in implementing the joint government-industry task team's recommendations for improving the R&D tax incentive,<sup>3</sup> the new developments in the policy environment and the feedback on how companies were using the incentive and how this was advancing the government's aims. This meeting provided clarity on a range of issues that are critical in ensuring policy certainty. For instance, the DST and the National Treasury used the meeting to explain the decisions on the remainder of the task team recommendations. Follow-up actions were taken up between the DST and the National Treasury. At a government level, the DST provided briefings on the R&D tax incentive matters to the Portfolio Committee on Science and Technology on 22 November 2017 and to a joint workshop of national departments in the Economic Sectors, Employment and Infrastructure Development, and Social Protection, Community and Human Development Clusters in April 2018.

Apart from increasing awareness, the DST worked on other critical success factors for the R&D tax incentive, namely, administrative improvements, maintaining a cohort of experts to support programme implementation, and ensuring policy certainty. As a result, the turnaround times for providing decisions on applications has improved. Two key challenges hampered these efforts. Firstly, an online system that was introduced to enable firms to submit applications online could not operate optimally. Lastly, staff capacity could not be expanded despite the increased pressure to improve service delivery. Greater attention was to be devoted to resolving these matters in the 2018/19 financial year.

Four separate studies undertaken during 2017/18 provided external view of the functioning of the R&D tax incentive. Firstly, the study by the Trade and Industry Policy Strategies (TIPS) indicated that many businesses are aware of the existence of the R&D tax incentive, but needed more guidance on how to access it, and more user-friendly application processes. Secondly, the review of business incentives by the Department of Planning, Monitoring and Evaluation (DPME) affirmed the relevance of the government support through the R&D tax incentive and made specific recommendations on how the overall system of incentives in South Africa can be strengthened. Specific recommendation in this regard are consistent with the proposal for harmonising the policy instruments for supporting the business sector R&D and innovation that is contained in the 2018 White Paper on Science, Technology and Innovation. Thirdly, there was a study done for the Davis Tax Committee<sup>4</sup> as part of its work on the tax policy framework. Summary from this study is provided in Box 1. Fourthly, there is a process that started in 2007 at the Organisation for Economic Cooperation and Development (OECD) on the design and measurement of impact of public support for business R&D. Details on the OECD work are provided in section 6.3.

3 The Minister of Science and Technology established the joint government-industry task team in 2016 to make recommendation on the improvement of the R&D tax incentive.

4 The Davis Tax Committee (DTC) was appointed by the Minister of Finance in 2013 to assess South Africa's tax policy framework and its role in supporting the objectives of inclusive growth, employment, development and fiscal sustainability. As input to its work, the DTC commissioned analysis on the efficacy of corporate tax incentives.



## DAVIS TAX COMMITTEE STUDY

A study by James (2017) was done as part of the analysis informing the work of the Davis Tax Committee. Using the anonymised National Treasury dataset covering the period 2008 until 2015, this study established a positive impact of the R&D tax incentive as the goal of the government is to encourage additional R&D spending. This is summarized in three points, as follows:

Firstly, that, on average, companies that spent on R&D were much larger (with average sales nearly 31 times and fixed investments nearly 26 times) than companies that did not invest in R&D. This study also established that companies that invested in R&D and employed nearly nine times as many staff as those that did not.

Secondly, that companies that claimed under the R&D tax incentive spent R3,9 million more on R&D than those that did not, translating into R1,83 of additional spending in R&D for every rand of revenue foregone.

Thirdly, that the section 11D incentive increased R&D spending to the tune of nearly 4 million per company and the impact was positive for most of the sectors.

As caveat, the analysis noted that 3 391 companies claimed R&D expenses under section 11D between 2008 and 2015, a number that is higher than reported by the DST to have participated in the incentive programme. This could be due to some companies not reporting their R&D activities to the DST before October 2012.

Furthermore, claiming for this incentive is a self-selecting mechanism, meaning that it is only companies that have the means to do so that claim.

## 3. PROCESSING OF APPLICATIONS

### 3.1 Turnaround times

The number of applications processed and finalised during the reporting period, and the time taken to inform applicants of decisions, are key indicators of the efficiency in the administration of the R&D tax incentive programme. In 2017/18, the main focus was on achieving the DST's performance target of providing a decision within 90 days of receiving an application.

During the reporting period, progress was made in improving turnaround times in the processing of applications. Of the 1 318 pre-approval applications received between 1 October 2012 and 28 February 2018, 1 212 (92%) were adjudicated and finalised by the Committee, and 1 054 (80%) received final decisions from the Minister. Forty applications were withdrawn by the applicants (Figure 6).

The average turnaround time for processing applications that were received in 2017/18 improved to 115 days (reported on the 49 applications that were provided with decisions), from the average of 132 days reported for applications received in 2016/17.<sup>5</sup> In addition, 327 applications received in previous years were finalised in 2017/18. Although the turnaround time has been reduced, more still needs to be done to ensure that the 90-day target is met in the period ahead.

The turnaround time depends mostly on the quality of information provided in the applications. Applications that have the required information are processed and finalised more quickly. Ways to further simplify the process are continually being explored.

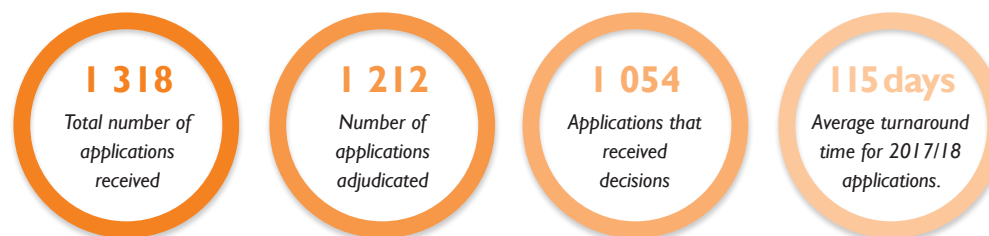


Figure 6: Overall status in processing applications as at Feb. 2018

<sup>5</sup> The average turnaround time of 115 days is reported for the 49 applications received in 2017/18 that were provided with decisions by 28 February 2018. The 132 days is for the 17 applications received in 2016/17 that were provided with decisions by 28 February 2017. The final figure is determined once all the applications have been provided with decisions.

## 3.2 Status of pre-approval applications as at 28 February 2018

Of the 1 212 applications adjudicated, 720 (59,4%) were approved and 492 (40,6%) were not. At the end of the reporting period, 66 (5%) applications were still to be adjudicated. There were high rates of approval (i.e. above 70%) in four sectors, namely the Agriculture, Hunting, Forestry and Fishing Sector; Electricity, Gas and Water Supply Sector; Mining and Quarrying Sector; and Manufacturing Sector. The rest of the industry sectors had approval rates below 60%.

For the activities to be approved, they must meet the definition of R&D in section 11D of the Income Tax Act, in which R&D means systematic investigative or systematic experimental activities of which the results are uncertain. The onus is on the applicant to demonstrate that the activities qualify. Where non-approval is likely, in terms of section 3 of the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000), applicants are given another opportunity to submit additional information that supports that their activities are eligible before a final decision is made.

The Financial and Business Services Sector has the highest number of non-approved applications – 51% of all applications that did not receive approval. Many of these applications are for projects aimed at introducing innovations without necessarily engaging in R&D as defined in section 11D of the Income Tax Act, e.g. the acquisition and integration of off-the-shelf ICT-related solutions. Routine software-related activities that do not involve scientific and/or technological advances or the resolution of technological uncertainties are also not eligible. The government has other incentives and forms of support for such innovation activities through direct funding grants, loans and equity funds, for example, targeting specific industry sectors, SMEs or new companies. More specifically, most funding programmes of the Technology Innovation Agency and the Support Programme for Industrial Innovation require that a project demonstrate potential for technology development and commercialisation.

Other common reasons provided for non-approval decisions under the R&D tax incentive include failure to demonstrate the resolution of scientific and technological uncertainty, particularly where the intended outcomes could be reasonably achieved by a competent professional in the field using existing knowledge. In other such instance, R&D activities were completed before the DST received the application or R&D activities were not undertaken within South Africa.

Figures 7, 8 and 9 show the proportions of approved and non-approved applications per industry sector. Table 4 shows the breakdown of adjudicated applications per industry sector.

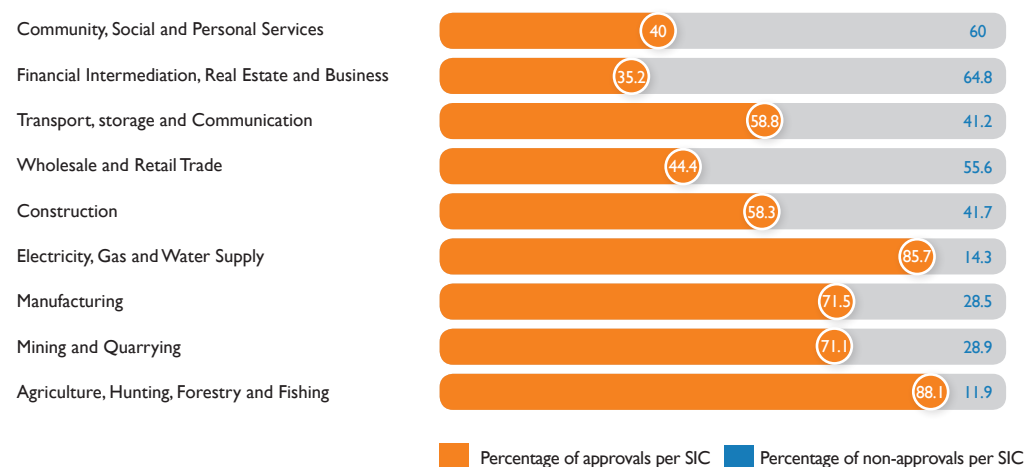


Figure 7: Breakdown of application approvals and non-approvals per industry sector (Oct. 2012 to Feb. 2018)

Table 4: Number of applications adjudicated per industry sector (Oct. 2012 to Feb. 2018)

SECTOR	Number of applications received	Adjudicated and finalised per Standard Industrial Classification (SIC)	Number of approvals per SIC	Number of non-approvals per SIC
10000 Agriculture, Hunting, Forestry and Fishing	63	59	52	7
20000 Mining and Quarrying	83	76	54	22
30000 Manufacturing	624	558	399	159
40000 Electricity, Gas and Water Supply	23	21	18	3
50000 Construction	13	12	7	5
60000 Wholesale and Retail Trade	27	27	12	15
70000 Transport, Storage and Communication	69	68	40	28
80000 Financial and Business Services	411	386	136	250
90000 Community and Social Services	5	5	2	3
<b>TOTAL</b>	<b>1 318</b>	<b>1 212</b>	<b>720</b>	<b>492</b>



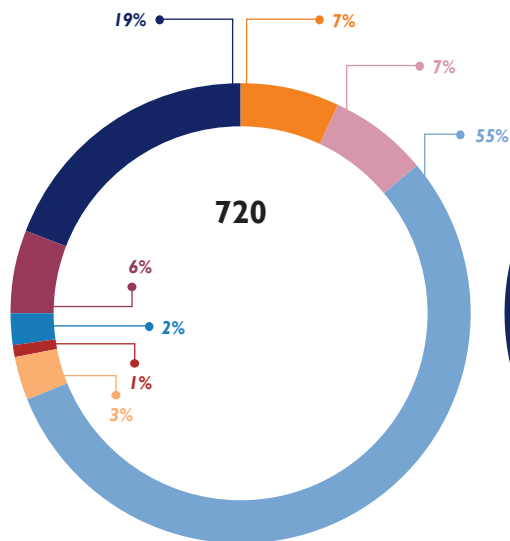


Figure 8: Approvals applications per industry sector (Oct. 2012 to Feb. 2018)

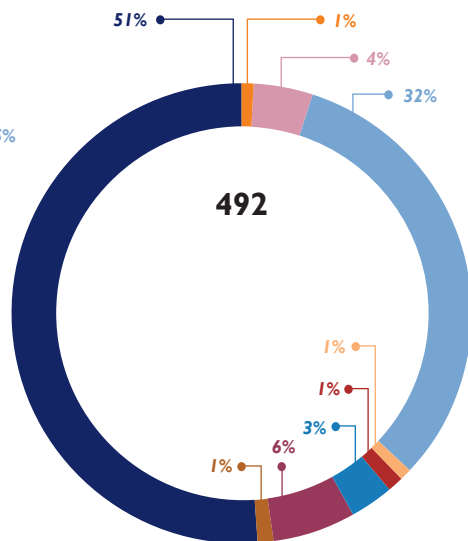


Figure 9: Non-approved applications per industry sector (Oct. 2012 to Feb. 2018)



## 4. PROFILE OF COMPANIES SUPPORTED BY THE INCENTIVE

This section provides a profile of participating companies (by turnover size, industry sector and provincial locations) and estimated amounts of R&D expenditure.

The figures for supported companies include all the companies that have participated in the incentive since its inception, i.e. under the retrospective system and under the pre-approval system. The information presented here does not include data on R&D claims processed at SARS. Such information is reported in aggregated terms in the National Treasury budget review publications and SARS tax statistics.

Figure 10 shows that of the 902 companies that have received support from the incentive since November 2006, the majority (42,5%) were SMEs. Very large enterprises made up 35,7% of the companies, large enterprises made up 13,2%, and 8,6% did not disclose their turnover size. The 902 companies that have received support combines the 462 under the preapproval system and 628 under the retrospective system effective between November 2006 and September 2012. (Some companies have benefited under both systems.)

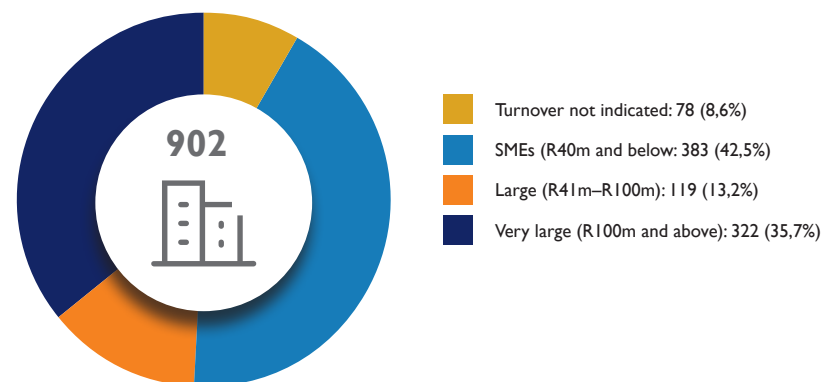


Figure 10: Number of companies supported per turnover size (Nov. 2006 to Feb. 2018)

Although some of the companies that submit applications come from a specific industry sector, they may conduct R&D activities in another sector. For example, companies in the Agriculture, Forestry, Hunting and Fishing Sector could conduct R&D activities in the field of ICT, manufacturing or communication. Similarly, companies in other sectors may conduct R&D aimed at applications in the Agriculture, Forestry, Hunting and Fishing Sector. When deciding how much to invest in R&D, companies take several factors into consideration, such as the availability of a skilled workforce and access to local markets. These are some of the reasons that companies diversify R&D investments.



Support for R&D activities from the Agriculture, Forestry, Hunting and Fishing Sector promotes new technologies, research and production techniques, and enhances productivity and industrialisation (Figure 11). Agricultural R&D also promotes agroprocessing and value-addition to agricultural products. Technologies developed in these areas can be deployed to mitigate food insecurity by improving production and yields.

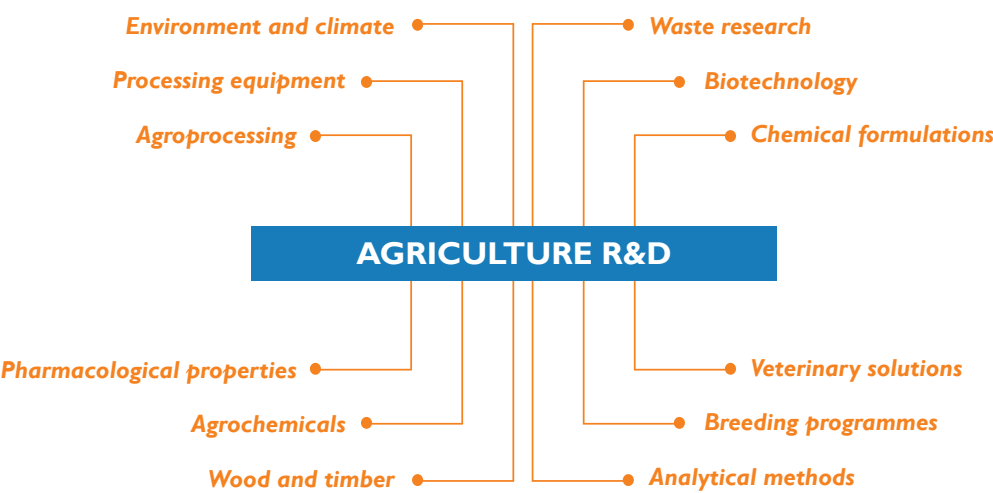


Figure 11: Examples of R&D activities supported in the Agriculture Sector

The companies that have participated in the incentive since 2006 are located in all the provinces. Provincial location in this report refers to the physical address indicated by the applicant on the application form, and not necessarily the location where the R&D activities are performed. For this reason, it is possible that the national headquarters of companies, most of which are located in Gauteng, are the ones that submit the applications for the incentive. Gauteng also has the greatest number of companies supported by the incentive and the highest R&D expenditure reported for supported activities.

Figure 12 shows that companies in Gauteng (631 or 57,8%) submitted the majority of applications, followed by the Western Cape (278 or 25,5%) and KwaZulu-Natal (114 or 10,4%). Companies from these three provinces make up a total of 1 023 or 93,7% of the total. The rest of the companies are from Mpumalanga and the Eastern Cape (both with 22 or 2%), the Free State (14 or 1,3%), the North West (7 or 0,6%), the Northern Cape (2 or 0,2%) and Limpopo (1 or 0,1%).

Generally, the provincial spread shown here resembles the patterns reported in the National Survey of Research and Experimental Development (R&D Survey); both indicate that most of the business sector R&D is performed in three provinces (Gauteng, followed by Western Cape and then KwaZulu-Natal), which are also the regions that dominate the economic activity in the country.

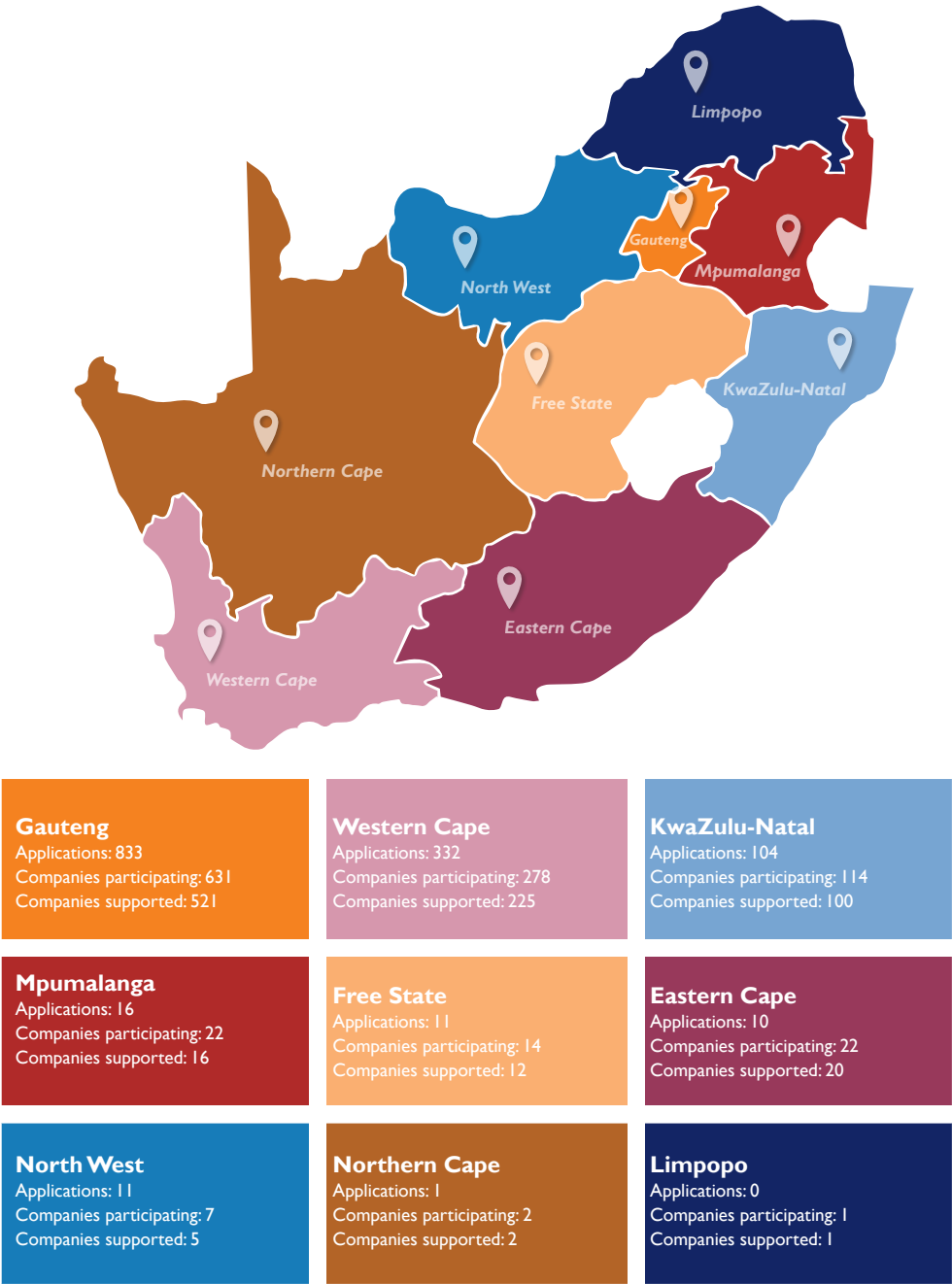


Figure 12: Provincial distribution of supported R&D activities

## 5. R&D EXPENDITURE SUPPORTED BY THE INCENTIVE

Information reported under this section is based on the data declared to the DST by companies on the claims submitted to SARS on retrospective claims, at application stage and at approval stage. The information under this section uses information available at the DST and the published data by the National Treasury. Data on claims processed at SARS was unavailable for this report.

### 5.1 Estimated R&D expenditure on approved applications

Figure 13 indicates that, by the end of the reporting period, an estimated R46 billion in R&D expenditure had been supported by the incentive since November 2006. This amount comprises R20,6 billion in estimated R&D expenditure indicated on approved applications (under the pre-approval system) and R25,4 billion reported under the retrospective system. These figures are revised annually on the basis of the actual value of claims that companies declare to SARS when they claim the deductions.

Table 5 shows a disaggregation of the R20,6 billion, and indicates that about 88,2% of the estimated R&D expenditure for approved applications is from the top three industry sectors, Manufacturing (56,9%), Mining and Quarrying (18,6%) and Financial and Business Services (12,7%). The Manufacturing Sector is dominated by larger companies, and there are applications from a variety of sub-sectors carrying out R&D activities related to software, the green economy and health, among others.

Fifty-four applications from the Mining and Quarrying Sector, with an estimated R&D expenditure of just below R3,8 billion, were approved. The average estimated R&D expenditure for Mining and Quarrying is higher than that for all other sectors, implying that R&D projects in this sector are of a relatively larger scale. The same estimate show that R&D projects in the Electricity, Gas and Water Supply Sector are smaller, averaging around R3,8 million.

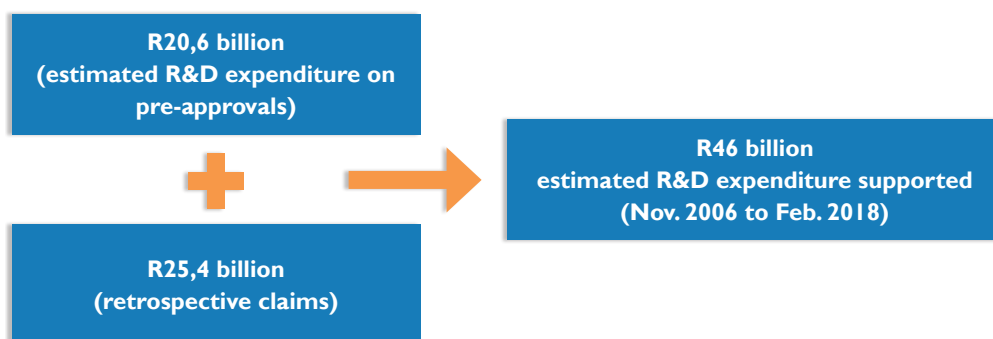


Figure 13: Overall R&D expenditure supported (Nov. 2006 to Feb. 2018)

Table 5: Estimated R&D expenditure on approved applications per industry sector (Oct. 2012 to Feb. 2018)

SECTOR	Number of applications received	Adjudicated and finalised per SIC	Number of approvals per SIC	Estimated R&D expenditure on approved applications
<b>10000</b> <i>Agriculture, Hunting, Forestry and Fishing</i>	63	59	52	698 299 009
<b>20000</b> <i>Mining and Quarrying</i>	83	76	54	3 834 102 525
<b>30000</b> <i>Manufacturing</i>	624	558	399	11 730 611 983
<b>40000</b> <i>Electricity, Gas and Water Supply</i>	23	21	18	85 989 187
<b>50000</b> <i>Construction</i>	13	12	7	73 550 000
<b>60000</b> <i>Wholesale and Retail Trade</i>	27	27	12	161 369 649
<b>70000</b> <i>Transport, Storage and Communication</i>	69	68	40	1 394 483 742
<b>80000</b> <i>Financial and Business Services</i>	411	386	136	2 627 415 101
<b>90000</b> <i>Community and Social Services</i>	5	5	2	12 486 773
<b>TOTAL</b>	<b>1 318</b>	<b>1 212</b>	<b>720</b>	<b>20 618 307 967</b>

### 5.2 Contribution to IPAP priority areas

The Industrial Policy Action Plan (IPAP) identifies priority areas in which policies or programmes should be enhanced to strengthen the ability of manufacturing and other value-adding sectors, with the ultimate aim of creating decent jobs and increasing value-addition and competitiveness in domestic and export markets.

The R&D tax incentive programme supports the priority areas of the IPAP, with about 63,3% (456) of the approved applications and about 69,6% (an estimated R32 billion) of the supported R&D expenditure since November 2006 contributing to these areas. The top six IPAP sectors in terms of cumulative R&D expenditure supported are chemicals, cosmetics, pharmaceuticals and plastics; electro-technical and information communication technologies (ICT); upstream oil and gas; automotive products, components, medium and heavy commercial vehicles; metal fabrication and capital equipment; and aerospace and defence (Table 6).

Table 6: Contribution to IPAP priority areas (Nov. 2006 to Feb. 2018)

IPAP SECTOR DESCRIPTIONS	R&D expenditure under retrospective system (R'000)	R&D expenditure for approved applications under pre-approval system (R'000)	Cumulative (Nov. 2006 to Feb 2018) (R'000)	% total contribution to IPAP sectors
Upstream oil and gas	4 669 185	1 451 800	6 120 985	19,1%
Electrotechnical and ICT	3 873 476	3 021 161	6 894 637	21,5%
Chemicals, Cosmetics, Pharmaceuticals and Plastics	3 909 221	3 779 000	7 688 221	24,0%
Automotive products, components, medium and heavy commercial vehicles	3 321 901	216 220	3 538 121	11,0%
Realising the potential of the metal fabrication, capital and transport equipment sectors, particularly arising from large public investment	1 217 985	1 375 652	2 593 637	8,1%
Business process services	1 172 476	53 789	1 226 265	3,8%
Aerospace, defence	497 888	1 381 879	1 879 767	5,9%
Agroprocessing, linked to food security and food pricing imperatives	384 937	433 376	818 313	2,6%
Forestry, paper, pulp and furniture	256 300	631 942	888 242	2,8%
Advanced materials	243 761	0	243 761	0,8%
Nuclear	62 516	0	62 516	0,2%
'Green' and energy-saving industries	35 057	0	35 057	0,1%
Boat building	0	37 200	37 200	0,1%
Clothing, textiles, footwear and leather	355	2 300	2 655	0,0%
<b>TOTAL</b>	<b>19 645 058</b>	<b>12 384 319</b>	<b>32 029 377</b>	<b>100,0%</b>

### 5.3 Estimates of tax revenue foregone due to the incentive

Tax revenue foregone represents part of the government's financial support for business sector scientific or technological R&D activities.

The National Treasury Budget Review (2018) estimated that the tax revenue foregone due to the R&D tax incentive for the period 2005/06 to 2015/16 was R4,8 billion.<sup>6</sup> The figures presented in Table 7 represent deductions allowed by SARS on claims by companies for each particular tax year and are revised annually, as companies submit their claims. The figures also include claims that have been made under section 11B of the Income Tax Act, which was used before November 2006. These figures show a decline in the yearly R&D tax incentive deductions claimed.<sup>7</sup> The same trend is noted by James (2017) for the period between 2011 and 2014.

Table 7: Tax revenue foregone due to the R&D tax incentive

REPORTING PERIOD	TAX REVENUE FOREGONE (R'000)
2005/06	183 000
2006/07	449 000
2007/08	358 000
2008/09	594 000
2009/10	966 000
2010/11	1 216 000
2011/12	361 000
2012/13	197 000
2013/14	199 000
2014/15	104 000
2015/16	216 000
2016/17 and 2017/18	Information not available
<b>TOTAL</b>	<b>4 843 000</b>

At international level, South Africa has continued its interactions with the expert network of the OECD on the design and measurement of impact of public support for business R&D. A decade long process of this cross-country collaboration has produced a comprehensive dataset that enables estimation of complementary sets of indicators, giving an integrated view of government support for business R&D across more than 30 countries, including South Africa. The first indicator aggregates the direct (grants, loans, etc.) and indirect (tax incentives) government support for R&D; the second

<sup>6</sup> The National Treasury Budget Review (21 February 2018).

<sup>7</sup> The National Treasury Budget Review of February 2017 published the revised figures, which reflected a reduction in amount of tax revenue foregone due to the R&D tax incentive.

indicator estimates the cost of government tax relief for R&D (GTARD); the third indicator, known as B-Index, estimates the implied generosity of the tax system for an additional unit of R&D investment. The B-Index enables the analysis of the relative attractiveness of R&D tax systems in different countries, computed for different firm sizes (i.e. small and large) and profitability (profit making and loss making). Published information show South Africa's government support for business R&D to be below the OECD's average. The B-Index shows South Africa to provide a competitive tax system for R&D, for both the profit-making and loss-making small and large firms. The guidelines to be developed by the OECD for estimation of the abovementioned indicators can be used in South Africa to organise data on tax revenue foregone at a more granular level, for instance industry or by firm size categories. This will greatly improve monitoring of the utilisation of the R&D incentive.

## 6. CONCLUSION

This report has presented the uptake of the incentive in terms of the number of applications received, the profile and number of participating companies, the estimated R&D expenditure, provincial distribution of supported activities and the tax revenue foregone.

The R&D tax incentive programme is aimed at encouraging the private sector to undertake scientific and technological R&D in South Africa. Evidence has shown that incentives of this nature are effective instruments to stimulate private sector investment in R&D and innovation provided the design and implementation is effective. The South Africa R&D tax incentive incorporates some of the best practices in terms of design.<sup>8</sup> For instance, a key principle of neutrality is maintained in that the incentive does not discriminate by size of company; it gives space for companies to determine what type of R&D to engage in; and is made available for a fairly long period (publicly disclosed period of up to the year 2022). Limitations of this approach were well-known at the outset and are addressed as part of the overall policy mix for government support for business R&D and innovation.

The composition and efficiency of the policy mix continues to receive attention in the process of the 2018 White Paper on Science Technology and Innovation. The position taken in this policy process for harmonisation and common standard to enhance the implementation and impact of government incentives for R&D and innovation is an important one. A process in this regard is proposed in the DPME report on the review of government business incentives, whose recommendations have implications for the R&D tax incentive. Much can be achieved through better coordination across various agencies and incentive programmes.

Administrative efficiency is key to the success of the programme. Although the programme has not yet achieved the 90-day turnaround target for providing decisions on applications, turnaround times have been significantly reduced. Several actions are implemented to continually improve the administrative efficiency of the incentive, which includes upgrading the current online system for

submitting applications and updating the information on the DST website. A panel of experts has also been enlisted to complement the programme implementation capacity. These actions are expected to translate into further improvements.

At the time of compiling this report, the National Treasury had initiated an impact evaluation of the R&D tax incentive to generate evidence about the value or benefits of the R&D tax incentive as anticipated under section 11D of the Income Tax Act. The results of this study will inform policy decisions about the incentive going forward, including any possible adjustments and/or its continuation beyond October 2022.

## APPENDIX A: REFERENCES

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## APPENDIX B: SUPPLEMENTARY INFORMATION TABLES

Total number of applications received per company turnover size (Oct. 2012 to Feb. 2018)

SECTOR	R10m and below	Between R10m and R20m	Between R20m and R40m	Between R40m and R50m	Between R50m and R100m	Above R100m	Turnover not indicated	Total
<b>10000</b> Agriculture, Hunting, Forestry and Fishing	17	8	5	3	5	23	2	63
<b>20000</b> Mining and Quarrying	9	5	4	0	6	52	7	83
<b>30000</b> Manufacturing	89	32	41	37	60	303	62	624
<b>60000</b> Wholesale and Retail Trade	9	1	2	2	2	11	0	27
<b>70000</b> Transport, Storage and Communication	14	6	7	2	13	22	5	69
<b>80000</b> Financial Intermediation, Real Estate and Business Services	104	63	48	18	32	117	29	411
<b>40000</b> Electricity, Gas and Water Supply	8	2	1	1	2	4	5	23
<b>50000</b> Construction	2	0	0	1	3	6	1	13
<b>90000</b> Community, Social and Personal Services	0	0	1	0	0	2	2	5
<b>TOTAL</b>	252	117	109	64	123	540	113	1318

Total number of approved applications per company turnover size (Oct. 2012 to Feb. 2018)

SECTOR	R10m and below	Between R10m and R20m	Between R20m and R40m	Between R40m and R50m	Between R50 and R100m	Above R100m	Turnover not indicated	Total
<b>10000</b> Agriculture, Hunting, Forestry and Fishing	14	4	4	2	5	23	0	52
<b>20000</b> Mining and Quarrying	4	4	2	0	3	36	5	54
<b>30000</b> Manufacturing	50	12	26	23	37	213	38	399
<b>60000</b> Wholesale and Retail Trade	2	1	1	0	0	8	0	12
<b>70000</b> Transport, Storage and Communication	6	1	5	1	11	13	3	40
<b>80000</b> Financial Intermediation, Real Estate and Business Services	30	17	9	4	16	49	11	136
<b>40000</b> Electricity, Gas and Water Supply	6	2	1	0	2	4	3	18
<b>50000</b> Construction	1	0	0	0	1	4	1	7
<b>90000</b> Community, Social and Personal Services	0	0	1	0	0	1	0	2
<b>TOTAL</b>	113	41	49	30	75	351	61	720

Total number of participating companies (Oct. 2012 to Feb. 2018)

SECTOR	R10m and below	Between R10m and R20m	Between R20m and R40m	Between R40m and R50m	Between R50m and R100m	Above R100m	Turnover not indicated	Total
<b>10000</b> Agriculture, Hunting, Forestry and Fishing	13	5	3	2	3	17	1	44
<b>20000</b> Mining and Quarrying	8	2	3	0	4	27	5	49
<b>30000</b> Manufacturing	70	21	33	10	39	138	36	347
<b>60000</b> Wholesale and Retail Trade	7	1	1	2	1	8	0	20
<b>70000</b> Transport, Storage and Communication	10	4	5	1	4	15	3	42
<b>80000</b> Financial Intermediation, Real Estate and Business Services	72	38	32	9	23	62	16	252
<b>40000</b> Electricity, Gas and Water Supply	7	1	1	1	1	3	3	17
<b>50000</b> Construction	2	0	0	1	2	4	1	10
<b>90000</b> Community, Social and Personal Services	0	0	1	0	0	2	1	4
<b>TOTAL</b>	189	72	79	26	77	276	66	785

Total number of approved companies per turnover size (Oct. 2012 to Feb. 2018)

SECTOR	R10m and below	Between 10m and 20m	Between R20m and R40m	Between R40m and R50m	Between R50m and R100m	Above R100m	Turnover not indicated	Total
<b>10000</b> Agriculture, Hunting, Forestry and Fishing	10	4	3	2	3	17	0	39
<b>20000</b> Mining and Quarrying	4	2	1	0	2	22	4	35
<b>30000</b> Manufacturing	38	8	20	5	22	91	22	206
<b>60000</b> Wholesale and Retail Trade	2	1	1	0	0	6	0	10
<b>70000</b> Transport, Storage and Communication	4	1	4	1	3	8	2	23
<b>80000</b> Financial Intermediation, Real Estate and Business Services	23	11	8	2	11	29	7	91
<b>40000</b> Electricity, Gas and Water Supply	5	1	1	0	2	3	2	14
<b>50000</b> Construction	1	0	0	0	1	3	1	6
<b>90000</b> Community, Social and Personal Services	0	0	1	0	0	1	0	2
<b>TOTAL</b>	87	28	39	10	44	180	38	426

SECTOR	R10m and below	Between 10m and 20m	Between R20m and R40m	Between R40m and R50m	Between R50m and R100m	Above R100m	Turnover not indicated	Total
<b>10000</b> Agriculture, Hunting, Forestry and Fishing	16 230 040	5 240 000	55 347 429	18 450 000	14 554 500	588 477 039	0	39
<b>20000</b> Mining and Quarrying	33 450 000	103 500 000	52 698 038	0	14 500 000	3 564 254 487	65 700 000	35
<b>30000</b> Manufacturing	237 121 794	68 090 857	150 196 274	620 992 193	518 940 894	9 432 207 788	703 062 182	206
<b>60000</b> Wholesale and Retail Trade	7 970 000	2 000 000	3 650 000	0	0	147 749 649	0	10
<b>70000</b> Transport, Storage and Communication	28 839 710	10 000 000	43 626 543	15 000 000	355 900 000	814 623 269	126 494 220	23
<b>80000</b> Financial Intermediation, Real Estate and Business Services	68 253 101	436 041 223	56 934 273	61 431 043	188 044 304	1 787 177 212	29 533 944	91
<b>40000</b> Electricity, Gas and Water Supply	6 350 000	700 000	1 778 018	0	4 523 439	70 200 000	2 437 730	14
<b>50000</b> Construction	4 100 000	0	0	0	1 250 000	28 200 000	40 000 000	6
<b>90000</b> Community, Social and Personal Services	0	0	2 486 773	0	0	10 000 000	0	2

## APPENDIX C: DEFINITIONS OF SCIENTIFIC FIELDS

**Agricultural science** is a broad multidisciplinary field that encompasses parts of exact, natural, economic and social sciences that are used in the practice and understanding of agriculture.

**Animal science** can be described as a study of the biology of animals that are under the control of humankind.

**Biological science** is a branch of science that is defined as the study of life. It provides the fundamental study for the biotechnology industry. Biological science has a great impact on our lives and stands to have an even bigger impact in the future.

**Chemical science** consists of a diversity of disciplines in pharmaceuticals, polymers, paints and coatings, and household and personal care products, etc.

**Environmental science** is an interdisciplinary academic field that integrates physical and biological sciences (including but not limited to ecology, physics, chemistry, biology, soil science, geology, atmospheric science and geography) into the study of the environment and the solution of environmental problems. Environmental science provides an integrated, quantitative and interdisciplinary approach to the study of environmental systems.

**Food science** is concerned with all the technical aspects of food, beginning with harvesting or slaughtering and ending with cooking and consumption ("from field to fork").

**Forestry science** is the scientific management of forests for the production of lumber and other resources. It is the science of cultivating, maintaining and developing forests.

**Geographical information systems (GIS) science** includes the design of systems to capture, store, manipulate, analyse, manage and present all types of geographically referenced data.

**Geological science** is the science comprising the study of the Earth, the rocks of which it is composed and the processes by which it evolves. It is commercially important for mineral and hydrocarbon exploration and for evaluating water resources.

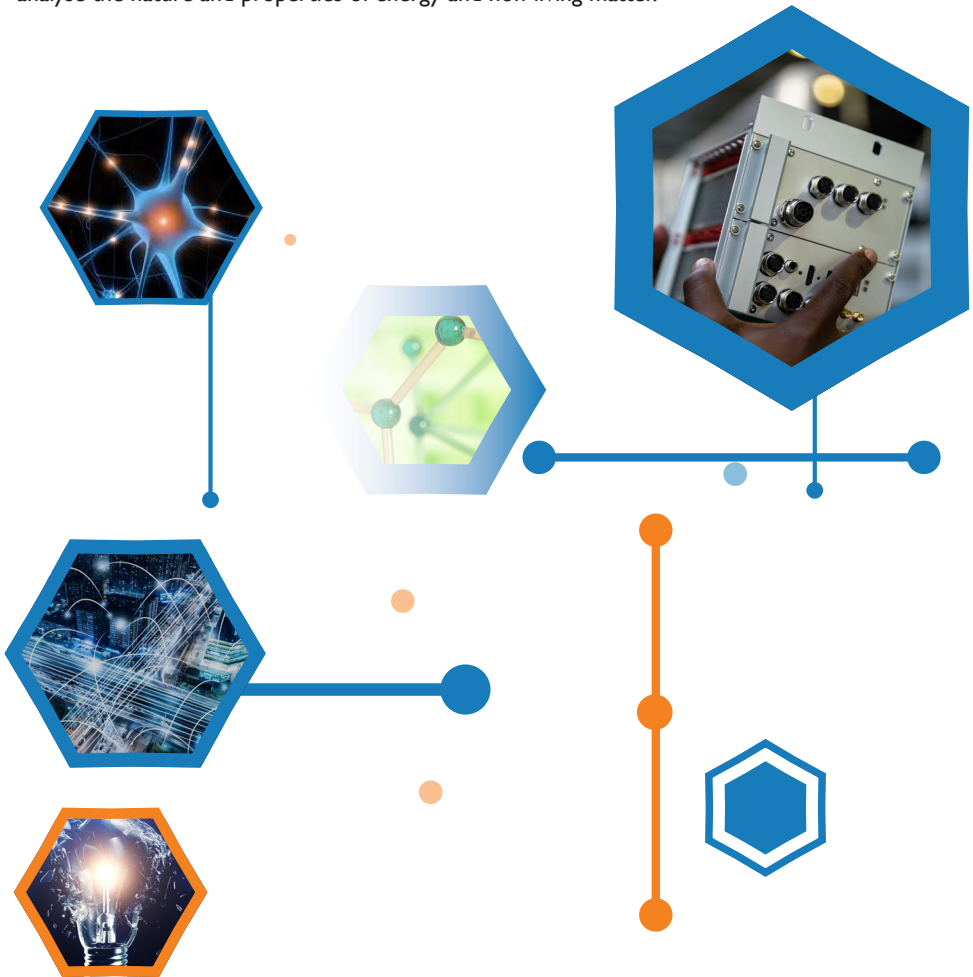
**Industrial science** is made up of multidisciplinary fields, e.g. combining information technology, physical science and the science of machinery to advance industries.

**Materials science** is an interdisciplinary field that applies the properties of matter to various areas of science and engineering. It investigates the relationship between the structure of materials at atomic or molecular scale and their macroscopic properties. It incorporates elements of applied physics and chemistry.

**Mathematical science** refers to disciplines that are mathematical in nature. It includes fields like computer science, computational science, statistics, theoretical physics and actuarial science.

**Metallurgical science** includes disciplines concerned with the science and technology of metals and alloys. It includes fields such as process metallurgy, physical metallurgy and mechanical metallurgy.

**Physical science** is any of the sciences, such as physics, chemistry, astronomy and geology, which analyse the nature and properties of energy and non-living matter.



# APPENDIX D: DESCRIPTION OF STANDARD INDUSTRIAL CLASSIFICATION CODES

SIC for economic activities		Description
Major division	Sub-division	
10 000	10 000	<b>Agriculture, Hunting, Forestry and Fishing</b>
	11 000	Agriculture, Hunting and related services
	12 000	Forestry, logging and related services
	13 000	Fishing, operation of fish hatcheries and fish farms
20 000	20 000	<b>Mining and Quarrying</b>
	21 000	Mining of coal (hard) and lignite (brown coal)
	22 000	Extraction of crude petroleum oils and natural gas; service activities incidental to oil and gas extraction, excluding surveying
	23 000	Mining of gold and uranium ore
30 000	24 000	Mining of metal ores, except gold and uranium ore
	25 000	Other mining and quarrying activities
	29 000	Service activities incidental to the mining of minerals
	30 000	<b>Manufacturing</b>
	30 000	Manufacture of food products, beverages and tobacco products
	31 000	Manufacture of textiles, clothing and leather goods
32 000	32 000	Manufacture of wood and products of wood and cork except (furniture); manufacture of articles of straw and plaiting materials; manufacture of paper and paper products; manufacture of publishing, printing and reproduction of recorded material

SIC for economic activities		Description
Major division	Sub-division	
	33 000	Manufacture of coke, refined petroleum products and nuclear fuel; manufacture of chemicals and chemical products; manufacture of rubber and plastic products
	34 000	Manufacture of non-metallic mineral products
	35 000	Manufacture of basic metals, fabricated metal products, machinery and equipment and of office, accounting and computing machinery
	36 000	Manufacture of electrical machinery and apparatus (not elsewhere classified)
	37 000	Manufacture of radio, television and communication equipment and apparatus for medical application, precision and optical instruments, watches and clocks
	38 000	Manufacture of transport equipment
	39 000	Manufacture of furniture; manufacturing (not elsewhere classified); recycling
40 000	40 000	<b>Electricity, Gas and Water Supply</b>
	41 000	Electricity, gas, steam and hot water supply
	42 000	Collection, purification and distribution of water
50 000	50 000	<b>Construction</b>
	50 000	Construction
60 000	60 000	<b>Wholesale and Retail Trade; Repair of Motor Vehicles, Motor Cycles and Personal and Household Goods; Hotels and Restaurants</b>
	61 000	Wholesale and commission trade, except of motor vehicles and motor cycles
	62 000	Retail trade, except of motor vehicles and motor cycles; repair of personal household goods
	63 000	Sale, maintenance and repair of motor vehicles and motor cycles; retail trade in automotive fuel
	64 000	Hotels and restaurants
70 000	70 000	<b>Transport, Storage and Communication</b>
	71 000	Land transport; transport via pipelines
	72 000	Water transport
	73 000	Air transport
	74 000	Supporting and auxiliary transport activities; activities of travel agencies
	75 000	Post and telecommunications
80 000	80 000	<b>Financial Intermediation, Insurance, Real Estate and Business Services</b>
	81 000	Financial intermediation, except insurance and pension funding
	81 000	Insurance and pension funding, except compulsory social security
	83 000	Activities auxiliary to financial intermediation
	84 000	Real estate activities
	85 000	Renting of machinery and equipment, without operator, and of personal and household goods
	86 000	Computer and related activities
	87 000	Research and experimental development
	88 000	Other business activities
90 000	90 000	<b>Community, Social and Personal Services</b>
	91 000	Public administration, compulsory social security and defence activities
	92 000	Education
	93 000	Health and social work
	94 000	Sewage and refuse disposal, sanitation and similar activities
	95 000	Activities of membership organisations (not elsewhere classified)
	96 000	Recreational, cultural and sporting activities
	99 000	Other service activities

# APPENDIX E: METHODOLOGY

The report presents information on the performance of the R&D tax incentive programme for the period March 2017 to February 2018. It is based on the information submitted to the DST by companies that participated in the programme.

The report relies on information available at the DST and the data published by National Treasury. All the information that companies declared to the DST about the claims they submitted to SARS (as retrospective claims) is taken as relating to R&D supported. For the pre-approval system, data available at the DST at three stages is used, namely application stage, approval stage and progress report stage.

There is no data that was sourced from SARS. Data is collected in accordance with the requirements of section 11D(11) of the Income Tax Act through an application form and progress report form (for approved activities) prescribed by the DST. The taxpayer completes the application form and progress report form manually or electronically and submits it to the DST. Data is captured in the R&D tax incentive programme database at the DST.

For the applications, companies have to report on their annual R&D budget and the estimated R&D planned expenditure, which in many companies span a period of two to three years. Data on tax revenue foregone due to the R&D tax incentive programme is estimated by National Treasury, based on the deductions made against the claims for the R&D tax incentive submitted to SARS.

These figures are updated annually and published in the National Treasury's budget review. Available figures are for the years 2005/06 until 2015/16 and are inclusive of deductions for both section 11D and section 11B of the Income Tax Act. Annual figures are revised from time to time based on retrospective claims.

Annual data stated in the report represent the totals that were available at the time of compiling the report.

Application and progress report forms collect information on the following:

- Particulars of the taxpayer, including the principal industrial activity in which they are involved.
- Summary of projects and R&D activities, i.e. the nature of the R&D, its classification in terms of fields of science, SIC, and supporting information such as R&D documentation and research outputs for the projects.
- R&D expenditure and which components of R&D activities are contracted out.
- Information on sources of funds for R&D activities, the nature of government grants received, and the personnel involved in the R&D projects.

The Income Tax Act requires that the information be presented in an aggregated and anonymous form. The DST makes certain that the tables and figures in the report do not unintentionally reveal the details of individual companies and their R&D activities.



