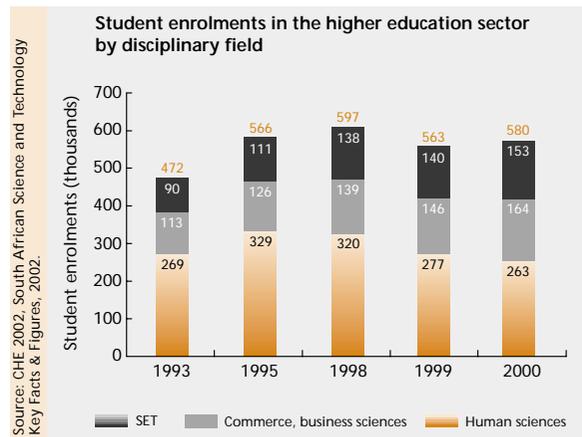


The intellectual framework for science and technology policy is the National System of Innovation (NSI), in which a diverse set of institutions, organisations, individuals and policies interact in the pursuit of a common set of social and economic goals. In 2002, Cabinet approved the National Research and Development Strategy. This development allowed for the enhancement of the NSI.

The Innovation Fund is a major initiative introduced by the 1996 *White Paper on Science and Technology*. It promotes large-scale projects, involving participation from throughout the NSI. It focuses attention on the major themes of government, namely competitiveness, quality of life, environmental sustainability and the harnessing of information technology (IT) to address the needs of society and the economy.

### **Creating a scientific culture**

Getting information about science across to different sections of the population is a particular challenge. The



Department of Science and Technology's efforts to improve appreciation of science include establishing fellowships for science radio journalists and creating an environment in which women contribute to, participate in and share benefits equally with their male counterparts in the science, engineering and technology (SET) fields.

The Department contributed more than R12,86 million in the past three years towards the National SET Week, featuring a host of scientific events and promotions.

The Department has established partnerships with business, parastatals, universities and technikons, non-governmental organisations and community-based organisations in various provinces to implement the SET project.

Creating a science-friendly culture was given a major boost recently when South African Internet tycoon Mark Shuttleworth became the first African in space. On 25 April 2002, Shuttleworth blasted off in a Russian Soyuz shuttle for a 10-day trip to the International Space Station. On his return to South Africa, Shuttleworth went on a roadshow to schools and other public venues across the country as part of the Hip 2b

Square Project. The Project is aimed at encouraging children to take mathematics and science at school.

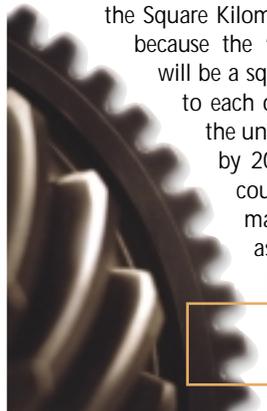
Cultivating a commitment to scientific and technological growth across all government departments is also receiving priority attention. The establishment of the interdepartmental Science and Technology Co-operation Committee, representing all relevant departments, was approved by Cabinet.

International science and technology co-operation is another key focus. Major bilateral and multilateral initiatives include the South African Coelacanth Conservation and Genome Resource Programme launched at Sodwana Bay, involving several Southern African Development Community neighbours, and promoting co-operation in marine biodiversity conservation, environmental education and capacity-building. Countries such as Mozambique, Tanzania and Madagascar will participate.

The Satellite Laser Ranging System at Hartebeesthoek is operated in conjunction with the National Aeronautics and Space Administration in the United States (US).

The South African Large Telescope (SALT) under construction at Sutherland in the Northern Cape is a multimillion Rand project involving Germany, Poland, the US, New Zealand and the United Kingdom. On completion in 2005, SALT will be the largest single optical telescope in the southern hemisphere.

In May 2003, the Department of Science and Technology launched South Africa's bid for the site of the Square Kilometre Array (SKA). The SKA is so named because the 'core' of this astronomical instrument will be a square kilometre of radio detectors linked to each other to observe the radio signals from the universe. The SKA will be funded and built by 2015 by an international consortium of countries and institutions representing all major players in the international astronomy community. The current projected budget is R10 billion.



#### Government funding to science councils\* (R Million)

Institution	2000/01	2001/02	2002/03
ARC	265,3	262,1	261,5
CGS	60,6	66,0	66,4
CSIR	299,9	3 022,9	301,3
HSRC	61,2	65,5	65,1
Mintek	77,7	76,9	76,4
MRC	108,2	127,2	145,5
NRF <sup>1</sup>	271,7	304,5	336,3
SABS	78,7	81,4	85,0
Total	1 223,3	1 286,5	1 337,6

Source: Treasury 2001

### Looking into the future

An exercise called National Research and Technology Foresight has provided the country with a window into the future regarding what can be expected in terms of emerging technologies in the next 20 years.

Now, more detailed 'roadmaps' are being devised to give a more comprehensive mapping of the technological landscape. Roadmaps provide a long-term strategy for attaining industry-wide goals by providing specific and quantifiable performance targets. Three sectors were selected for road-mapping, namely, information and communications technologies, biotechnology and bio-informatics, and advanced manufacturing.

### Godisa Programme

The departments of Science and Technology and of Trade and Industry, supported by the European Union have launched the Godisa National Incubation Programme. This aims to encourage technology transfer and capacity to enable small businesses to compete in the global economy.

Godisa specifically aims to address smaller businesses' use of outdated technology and their low involvement in value-adding exercises.

By mid-2002, five incubator programmes had been established.

## Poverty reduction

The Department has established a Poverty-reduction Programme. This is focused on the agro-processing area, with great potential for achieving sustainable reductions in poverty levels in rural and peri-urban areas. Its mechanism is the establishment of small and micro business ventures within targeted communities once skills transfer has taken place.

## Science councils

Underpinning South Africa's science and technology sector are a variety of institutes and councils engaged in various fields of research and scientific extension work.

The Government's national agency responsible for promoting and supporting basic and applied research is the National Research Foundation (NRF). Just one of the Foundation's responsibilities is the administration of the Innovation Fund which makes available large research grants of between R1 million and R5 million.

Other areas of its core business are to promote research capacity development, to unlock the full creative potential of the research community and to establish equity and redress.

The NRF fosters strategic partnerships and knowledge networks to make South Africa globally relevant and competitive. It provides research information and strategic advice. For 2001, the NRF received 1 188 authorised grant applications, of which 957 were in the natural sciences and engineering, and 231 in social sciences and the humanities.

The NRF also manages South Africa's five national research facilities: the Hartebeesthoek

### DID YOU KNOW?

Construction of the multimillion Rand, 10-m long SALT telescope in Sutherland in the Northern Cape is well under way and will be completed in 2005. The SALT telescope will collect light and infra-red rays with a mirror mosaic of 91 hexagonal segments, each 1m wide, making it the largest single optical telescope in the southern hemisphere.

Radio Astronomy Observatory near Krugersdorp, Gauteng, the South African Institute for Aquatic Biodiversity in Grahamstown, the iThemba Laboratory for Accelerator-based Sciences in Faure, Western Cape, the South African Astronomical Observatory in Cape Town and Sutherland, and the Hermanus Magnetic Observatory in the Western Cape.

Other important research bodies include the Agricultural Research Council, whose network of institutes empower both commercial and resource-poor farmers, and Mintek, a global leader in the field of mineral and metallurgical research and development and technology transfer.

The Council for Scientific and Industrial Research (CSIR) is the largest community and industry-directed scientific and technological research, development and implementation organisation in Africa.

It delivers scientific and technological services in areas where industry, parastatals or government clients require support, as well as innovative leadership in the development of new technologies, which can be further developed and exploited by the private sector.

Approximately 7 000 clients are served every year, and 60% of the CSIR's income is funded externally

Other important research bodies keeping South Africa at the forefront of science include the Medical Research Council, the Council for Geoscience, the National Health Laboratory Service, the South African Bureau of Standards and the National Institute for Tropical Diseases.