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SA seeks to exploit geography in atracting science dollars

Geography has become a fundamental factor in South Africa's science policy.

"We have a philosophy – we should look at our geographical advantages: we have to look at what we are strong at, what we can give the world," says Science and Technology Minister Mosibudi Mangena. This way, the country could attract foreign investments into the national science system.

Today, cutting-edge science is usually big science, big science is very expensive, and the country's ability to fund such science on its own is very limited – hence, the need to attract overseas research agencies and funders.

"We realised that we were a strong environment for astronomy, both optical and radio – in the Karoo we have very clear skies and very little radio interference; hence, the Southern African Large Telescope and the Karoo Array Telescope (Kat) project," he cites.

And South Africa has, along with Australia, been shortlisted to host the giant international Square Kilometre Array (SKA) radio telescope.

Both countries combine geographical and environmental advantages with the ability to supply the modern infrastructure necessary for such a project.

Concerning the Kat radio telescope project, "this is the start of a new era in radio astronomy in our country", he affirms.

Kat is currently planned to comprise 20 dishes, each with a diameter of 15 m.

"We're looking at an era of great things, in which scientists from all over the world will come here and do cutting-edge research which will change how we see the universe," he highlights.

"I'm very satisfied with the pace of our march," he states. Most scientific and tech- nological research and development (R&D) in South Africa is conducted at some nine science councils, many dedicated discipline research institutions, and several universities.

Those science councils which undertake mainly pure or basic science fall under the Department of Science and Technology (DST); although primarily involved in applied scientific and technological R&D, the Council for Scientific and Industrial Research (CSIR) now also falls under the DST.

In all, four science councils and several large research institutions fall under the DST; responsibility for the other five science councils and various discipline-specific research institutions are scattered across other government departments, including the National Department of Agriculture, the Department of Communications, the Department of Environmental Affairs and Tourism, the National Department of Health, the Department of Minerals and Energy, the Depart-ment of Trade and Industry and the Department of Water Affairs and Forestry, as well as the Department of Defence.

"We have been doing some reorganising in terms of how the science councils should be governed," points out Mangena.

"The CSIR, for example, was placed under the DST in April 2005 – it was decided that all those doing cutting-edge research should be under the DST; those doing work in the fields of line departments should remain under those departments, but the DST should have representation on the boards or councils," he explains.

These DST representatives on the boards or councils of non-DST science councils have the function of monitoring the quality and direction of R&D in these institutions.

"They are to make certain that they (the line department science councils) do some basic research and not just department-specific applied research," he elucidates.

Recently, Mangena presided at the groundbreaking ceremony at the Hartebeesthoek Radio Astronomy Observatory for the erection of the prototype dish for Kat.

"This is the first 'new build' of a dish specifi- cally dedicated to the technology that will be essential for a practical SKA telescope," he highlighted in his speech. "South Africa has the engineering and design skills to ensure that this dish is a proudly South African product.

“The KAT project has demonstrated astonishing progress in a short period of time,” he pointed out.

“This progress is attributable to the alignment of priorities between government and the research community.

“Clearly, this is an indication that South Africa is truly alive with possibilities. More importantly, this level and form of innovative thinking proves that we can create a critical mass of people with very high-level expertise who can be competitive in the global knowledge eco-nomy,” he stressed.

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