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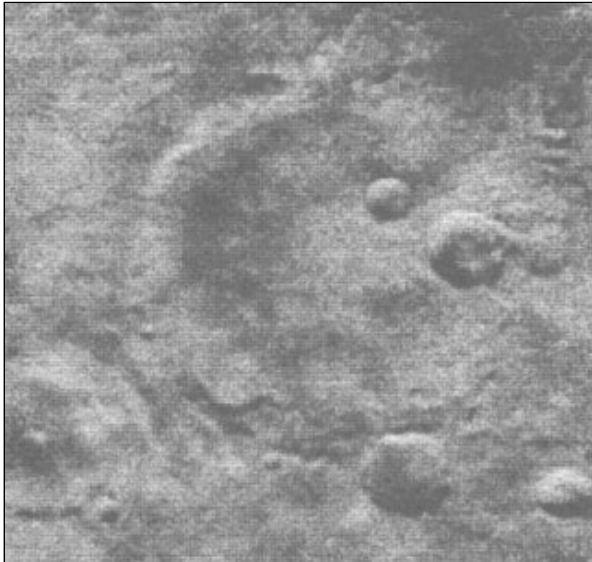
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Why a South African national space agency?

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the Southern African Large Telescope in Sutherland.

When South African President **Kgalema Motlanthe's** signed the Bill that will see the creation of South Africa's own space agency later this year, many were relatively unaware of South Africa's rich involvement in space research over the decades.

The National Space Agency Act is to pull together all the disjointed South African space-related activities under one banner, in an effort to synthesize technology and resources so as to provide for the establishment of a national space agency, which will implement a space programme in South Africa.

South Africa's history of involvement in space-related activities is a rich one, starting with astronomy, which has been practised in South Africa since 1685.

In 1820, a permanent observatory was established outside Cape Town. Astronomy has been practised continuously since then. The next 180 years saw continual scientific astronomical endeavours, culminating in the construction of

When the 'Space Age' dawned, and satellites and men were first sent into space, South Africa was involved. From the 1950s to the 1970s, satellites were tracked from South African facilities to determine the effects of the upper atmosphere on their orbits.

Lunar and interplanetary missions were supported from a tracking station at Hartebeesthoek, near Krugersdorp. This station received the images of the planet Mars taken by the Mariner IV spacecraft. These were the first images of Mars and of another planet to be received on Earth.

In the 1980s, South Africa began work on a launcher and satellite, but this was discontinued in 1994. However, in 1999, South Africa launched its first satellite, Sunsat. The 64-kg microsatellite was built by staff and students at the University of Stellenbosch. The team that built Sunsat is currently planning the launch of a second, more capable South African satellite in March, called Sumbandila.

South Africa has a variety of institutions that play a significant role in the scientific study, exploration and use of space. These institutions, situated in academia, science councils and commercial industry, have broad competencies in satellite applications, satellite engineering and space science, including all the supporting technologies.

The existing infrastructure and skilled workforce, inside these facilities and in the wider industry supporting them, allows South Africa to position itself as a regional hub of space science and technology.

This can be used as a basis for strengthening ties with industry in established space-faring nations, and for developing links with other emerging national space initiatives, particularly in Africa.

South Africa is an active participant in the international space arena. South African space professionals participate in numerous specialist and political forums, such as the United Nations Committee on the Committee on the Peaceful Uses of Outer Space.

Currently, South Africa and Australia are vying for the opportunity to host the Square Kilometre Array (SKA), the largest and most sensitive radio telescope ever to be established.

The SKA will consist of thousands of dishes between 10 m and 15 m in diameter. Special antenna tiles in the core of the array will form a 'radio fish-eye lens' for all sky monitoring at low frequencies. This will allow many independent observations to be performed simultaneously.

A final decision regarding its location is to be given in 2010, while the construction is to begin in 2014. If built in South Africa, the core of the SKA will be in the Karoo region of the Northern Cape Province.

Outer stations will fan out from the core in a spiral pattern, with proposed remote stations in several other African countries and neighbouring islands.

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