

Speech by the Minister of Science and Technology, Naledi Pandor MP, at the launch of World Space Week, Mthatha campus, Walter Sisulu University, 11 October 2014

Mr Makhuphula, MEC for Education;

Leaders in the Space Industry;

Distinguished Guests;

Educators and Learners

Ladies and Gentlemen;

It's a great pleasure to be here this morning.

World Space Week takes place from 4-10 October because of two important dates in space history - the launch of Sputnik on 4 October 1957 and the signing of the Outer Space Treaty on 10 October 1967. World Space Week is an annual global celebration of the contributions of space science and technology to humanity.

Global scientific endeavour requires the contributions of all regions, especially those in the developing world that were excluded in the past.

Last month India became the first nation to send a satellite into orbit around Mars on its first attempt, the second BRICS nation, and the first Asian nation to do so. India now joins an elite club of nations, including the U.S. and Russia, who have successfully carried out interplanetary space missions. That was its first aim. To carry out an interplanetary mission. It was what we call a technology demonstrator. So it's not a science mission, but it is carrying several science instruments.

What are the Indians looking for on the red planet? They're looking for water. They're looking for carbon dioxide. How Mars lost its atmosphere is one of science's biggest mysteries. If they detect the planet's missing methane then the debate about life on Mars will be re-ignited.

Three years ago the thirty-year-old US space-shuttle programme came to an end. After more than 130 missions at a cost of R 1,320 billion, the last shuttle flight took off on 8 July 2011.

It came to an end – its main work on building the International Space Station was complete - and there is now a huge opportunity for future human space flight that we are told will be contracted out to private space concerns while NASA regroups and plans its future.

There are a lot of people who think that the space shuttle cost too much and that it was money badly spent. Yet the space shuttle inspired all of us. It inspired me as a child and it inspires me today three years after its final flight.

Space is inspiring. What humans have done to explore space is inspiring. That giant leap for mankind did not come quickly or lightly. It took decades of planning. It took commitment. And it took focussed political support.

As with the shuttle, we have learned to plan for our future in space and astronomy. For example, we took a decade or more

to put into place our bid to host SKA, which is planned to be the world's largest radio telescope.

We are proud that the SKA project is well positioned - as evidenced by its phenomenal impact on the expansion of radio astronomy in Africa - to play a pathfinder role for a new generation of global science partnerships.

With its strong current footprint of initiatives on the continent, the SKA specifically and radio astronomy more generally, is going to play a dynamic role in harnessing Africa's science and technology capacities to contribute to global growth and development.

World Space Week is about a number of things, but it is primarily about inspiring you at school about our space programme and the social and economic benefits it can bring to Africa.

We launch the space week here on a university campus, because it offers you exposure to the university environment.

Even though it is for a very short time, I believe that could be enough to stimulate your interest to come and study here.

On the one hand, if you are still in grade 8 or 9, the interaction you had today with the laboratory facilities and staff on this campus may be enough to make you think twice about skipping mathematics and science when you enter grade 10 in a year or two from now.

On the other hand, those already in Grades 10 to 12, who have already chosen mathematics and science, you should have been encouraged to study hard to excel in your Grade 12 examinations. That is the only way to pursue your ambition to become a scientist.

I encourage you all to choose mathematics and physical science, but not all of will become space scientists or engineers.

You must always remember that these are demanding careers, which require a high level of perseverance and precision. It is for this reason that one of my Department's responsibilities is to discover pupils with talent and potential for space science, engineering and technology careers.

Mind you, not all of you will study for science-based degrees at universities. However, just passing Grade 12 mathematics and physical science still offers you an opportunity to contribute to the South Africa's space scientific and technological development.

Satellite production is a high-technology, high-skills niche, which the government has earmarked as an area for human capital development and a way to increase international investment.

South Africa's first CubeSat — sometimes called a "student satellite" — was designed and built by postgraduate students of the French South African Institute of Technology (F'SATI) at the

Cape Peninsula University of Technology, funded by the Department of Science and Technology. It cost a fraction what other satellites cost.

Both Stellenbosch University and the Cape Peninsula University of Technology have CubeSat programmes, with a strong focus being human capital development and knowledge exchange between the two universities. They are not alone. Students all over the world are building CubeSats. There's a future here. The South African National Space Agency (Sansa) can't employ all the space engineers our universities produce. But there is always a role for you in the broader tech industry in South Africa.

This year World Space Week highlights the benefits of satellite navigation to humankind. To most of us that means using Global Positioning System (GPS) to determine where we drive in our cars. GPS is made up of 32 satellites that orbit the Earth. If you have a receiver, you can use GPS. All it needs is to be able to “see” four of the satellites. When you turn on your receiver, it may take a minute or so to locate these satellite signals, then to download data from the satellite before positioning can commence.

But it's used not only in cars. It's used to avoid collisions in shipping, and for landings of commercial aircraft. It has revolutionised fishing, allowing fishing boats to keep track of where they have fished before. It's used in applications that allow people to keep track of their children, elderly relatives and pets. By combining GPS with mobile communications, a whole new category of industry has sprung up: location-based services. This can mean finding the nearest Nandos, hooking

up with a date, or keeping track of your running and cycling times.

Thank you.