

Council for Scientific and Industrial Research (CSIR)

The CSIR is one of the leading scientific and technology research, development and implementation organisations in Africa. It has been mandated by the DST to implement partnerships with organisations that are directly contributing towards ICT research, development and innovation.

The CSIR's ICT operating unit, Meraka, will closely support the partnership.

The Square Kilometre Array (SKA)

The SKA is mega-science multi-national project, backed by the DST, to build a radio telescope up to 50 times more sensitive, and 10 000 times faster survey speed, than today's best radio astronomy facilities. The facility is being constructed, in a phased approach, in South Africa and Australia, and will test the limits of engineering and scientific endeavour over the next decade.

Building the SKA will require the development of cutting-edge technology and innovation, which is where NMMU's new Centre of Broadband Communication comes into play as its researchers seek solutions in providing faster, cheaper next-generation optical communication systems for aggregating tremendous amounts of data gathered from what will be the world's largest radio telescope.

Cisco

Cisco is a worldwide leader in networking whose aim is to help others seize opportunities to connect the previously unconnected. Their core philosophy is that impact multiplies whenever human and technology networks combine to solve a problem.

As a result, Cisco is enabling NMMU to add value to the SKA project by providing equipment valued at R50m, as well as providing the new Centre for Broadband Communication with access to key expert resources within Cisco.

This will allow NMMU to conduct world-class, pioneering research on next-generation optical transport systems with application to SKA and other projects.

Enquiries

► Nelson Mandela Metropolitan University

Prof Tim Gibbon

Tim.Gibbon@nmmu.ac.za

► Department of Science and Technology

Peacemaker Dlamini

Peacemaker.Dlamini@dst.gov.za

► National Research Foundation

Magda Marx

magda@nrf.ac.za

► Council for Scientific and Industrial Research

Farrah Naidoo

FNaidoo@csir.co.za

► Square Kilometre Array

Lorenzo Raynard

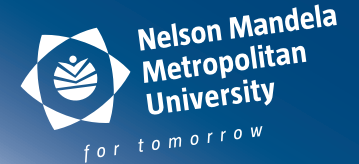
lraynard@ska.ac.za

► Cisco

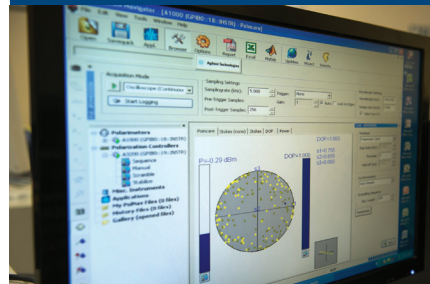
Vernon Thaver

vethaver@cisco.com

BODMONTOWN.CO.ZA 8548



Centre for Broadband Communication



Seeking solutions through partnerships

The Centre for Broadband Communication

The initial four focus areas of the new Centre:

- ▶ Human capacity development
- ▶ MeerKAT and SKA Mega-Science projects
- ▶ Broadband Optical Communication for South Africa
- ▶ Next-generation DWDM Systems research

NMMU has a healthy track record of research in the field, providing education at postgraduate level. It is also recognised for its cross-disciplinary research. The partnership with Cisco and ongoing support of the DST will further enable the development of solutions to address South Africa's particular challenges in the field of telecommunications.

Key players

Department of Science and Technology (DST)

The Department's mission is to develop, co-ordinate and manage a national system of innovation that will bring about maximum human capital, sustainable economic growth and improved quality of life for all.

The DST is investing in the Centre for Broadband Communication via various government subsidiaries (see below) to extend its mission via its objective of growing the country's ICT research capacity and implementation of the ten year ICT R&D and Innovation Implementation Roadmap. Its work also aligns with the National Broadband Policy of the Department of Telecommunications and Postal Services. It has committed R2.2m a year over three years towards human capital development and operational funding for the Centre .

National Research Foundation (NRF)

The NRF is an independent government agency that promotes and supports research through funding, human resource development and facilities to grow knowledge, innovation and development in all fields of science and technology, to improve the quality of life for all South Africans. As a result, the NRF has a vested interest in ensuring that the new Centre is a success.

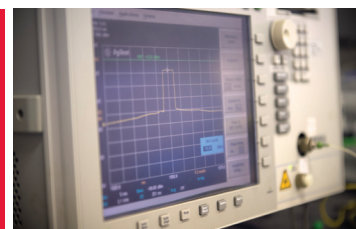
For maximum global economic competitiveness, South Africa needs broadband connectivity.

The launch of the Centre for Broadband Communication represents a key step in developing resources necessary to ensure that all South Africans are connected by 2020.

The partnership behind the Centre aims to develop novel technologies and human capacity committed to probing the universe in what will be the world's largest radio telescope, the Square Kilometre Array (SKA).

The various players each bring a set of skills, resources and networks to a partnership that will have long-term positive implications for all involved, but especially for the people of South Africa.

For a country that is connected using next-generation fibre optical communication systems for better broadband communication can only prosper.



Background

There is a direct correlation between a country's telecommunication infrastructure and its economic and social wellbeing – hence the National Broadband Policy for South Africa to ensure universal access to reliable, affordable and secure broadband infrastructure and services for all by 2020.

Optical fibre technology is the cornerstone of broadband connectivity, the need for next-generation access networks and fibre-to-the-home (FTTH) research.

NMMU has over ten years' experience as the leading broadband optical fibre research group in South Africa, so it is ideally suited to host the new national Centre for Broadband Communication.