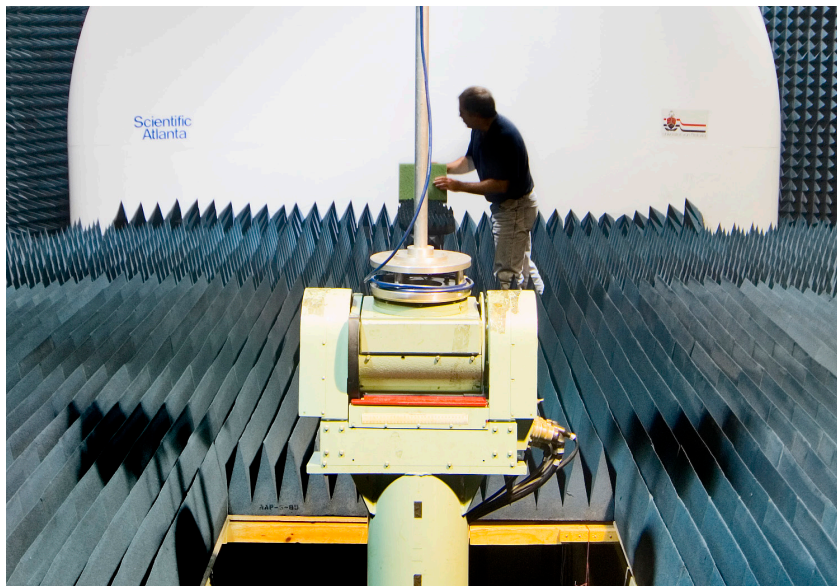


Extending the capabilities of the Centre for Electromagnetism

by Prof Wimpie Odendaal

The Centre for Electromagnetism, which operates in the University of Pretoria's Faculty of Engineering, Built Environment and Information Technology, is working towards replacing the obsolete 18 GHz network analyser in the compact antenna test range. Funds were raised to achieve this goal with the support of Prof Roelf Sandenbergh, Dean of the Faculty of Engineering, Built Environment and Information Technology. From a strategic point of view, extending the frequency range of the facility up to 40 GHz presents an opportunity for further exploration.



→ The compact antenna test range in the Centre for Electromagnetism.

"The high quality of research done by the experts at the centre enables us not only to service industry, but also to train future engineers to ensure the sustainability of the facility. A number of research outputs can be directly attributed to the consultation work performed by members of the centre. This places emphasis on the importance of continuing with collaborative efforts that encompass education, research and service," says Prof Sandenbergh.

The compact antenna test range is primarily a research facility that is used extensively by researchers in the Centre for Electromagnetism. It is used to measure antenna characteristics such as beam width, gain, side lobe levels and the polarisation of various sized antennas or antenna subsystems over a frequency range from 750 MHz to 40 GHz. Due to the facility's unique capabilities, the Centre for Electromagnetism is providing radio frequency and microwave free-field traceability to the local industrial community in partnership with the National Metrology Institute of South Africa. The compact antenna test range is ISO 17025:2005 accredited and it is therefore able to perform

calibrations of power density meters or radiation hazard monitors and antennas.

With a view to industry's continued access to quality research and to the expertise available at the University of Pretoria, the campus company Business Enterprises at University of Pretoria (Pty) Ltd (BE at UP) has contributed financially to the upgrading of a network analyser at the centre to ensure the long-term viability of the facility.

At a ceremony held on 23 March 2010, the CEO of BE at UP, Deon Herbst, officially presented a cheque to the value of R200 000 to the centre for the upgrading of the facility. "The transfer of knowledge to industry remains our top priority and is also one of the main objectives of the University of Pretoria," said Herbst. "The relationship between BE at UP and the Centre for Electromagnetism focuses on high-quality knowledge transfer, which is why BE at UP takes pleasure in making a contribution to the upgrading of the research facility. We are positive that it will further improve the quality of our service delivery to clients," he concluded. 📍