



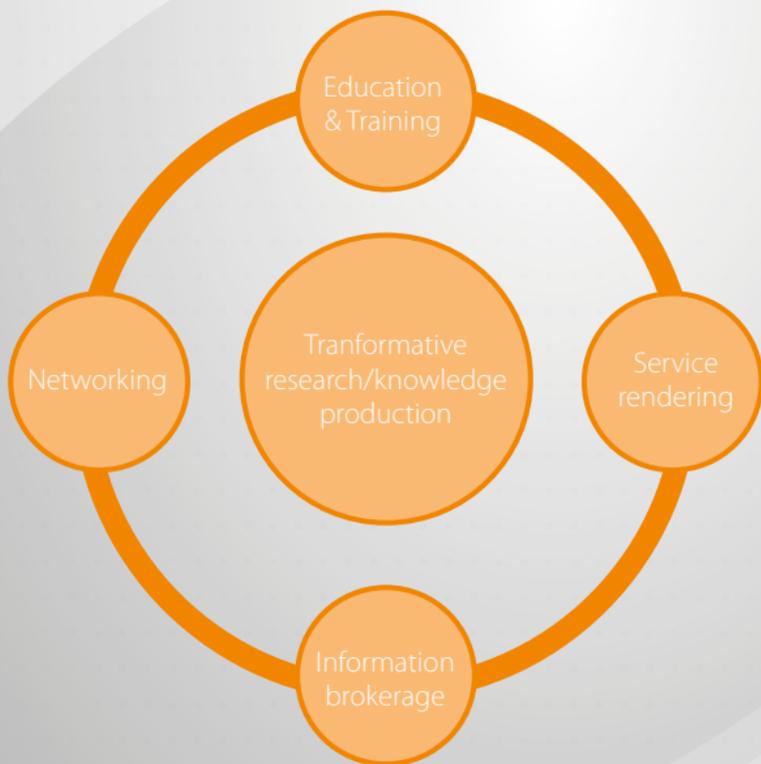
science
& technology
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation

Framework for the Establishment of DST-NRF Centres of Excellence

Managed by the Research Chairs
and Centres of Excellence



The Key Performance Areas of the DST-NRF Centres of Excellence

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1. Executive Summary

Centres of Excellence (CoEs) are physical or virtual Centres of research which concentrate existing capacity and resources to enable researchers to collaborate across disciplines and institutions on long-term projects that are locally relevant and internationally competitive in order to enhance the pursuit of research excellence and capacity development.

2. Strategic Context

The National Research and Development Strategy (NRDS) of 2002 identifies the need to create “Centres and networks of excellence” in science and technology. It is envisaged that such Centres will stimulate sustained distinction in research while simultaneously generating highly qualified human resource capacity in order to impact meaningfully on key national and global areas of knowledge. The CoE programme is envisaged to exploit the competitive advantage vested in outstanding researchers and it focuses on established researchers as reflected in the Human Capacity Excellence Pipeline below (Figure 1).

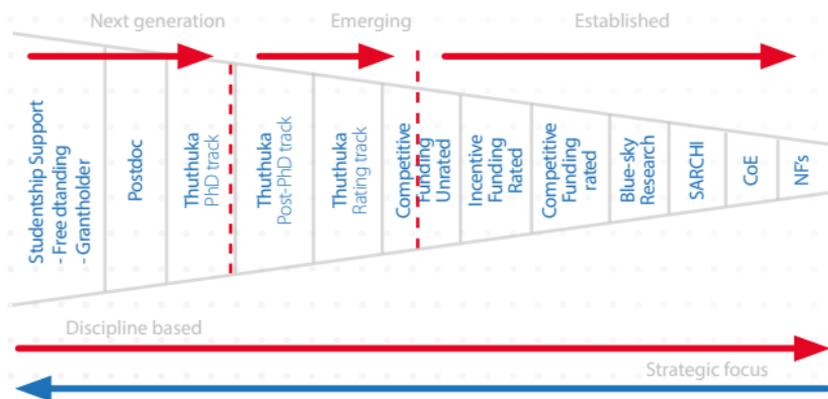


Figure 1: Human capacity development excellence pipeline

3. Programme Title and Description

3.1. Programme Title

Department of Science and Technology-National Research Foundation – Centres of Excellence (DST-NRF Centres of Excellence) Programme

3.2. Description

Centres of Excellence (CoE) are physical or virtual Centres of research which concentrate existing capacity and resources to enable researchers to collaborate across disciplines and institutions on long-term projects that are locally relevant and internationally competitive in order to enhance the pursuit of research excellence and high-level capacity development. As such, they constitute an additional dimension of the funding framework that the NRF provides to researchers and research groups that are at different points of development on the research spectrum.

3.3. Key Activities and Services of CoEs

Each CoE should manage and provide the following activities and services:

3.3.1. Research

The main activity of a CoE is research. The work that is undertaken should be focused on the creation and development of new knowledge and technology. In meeting this responsibility, the gender relevance of all research undertakings should be made explicit. A CoE should focus on niche knowledge area, or field, in which it commands exceptional expertise and comparative advantage over other research institutions/centres.

3.3.2. Education and training

Human capital development will focus on support for Honours, Masters, Doctoral students, post-Doctoral fellows, interns and research staff. This will include support for students to study abroad and joint ventures in student training. The human capital development efforts will target the development of high level scarce skills in the relevant disciplines within specialised fields of knowledge. In creating, broadening and deepening research capacity, a CoE needs to pay particular attention to racial and gender disparities while seeking the inclusion of people living with disabilities.

3.3.3. Information brokerage

CoEs are to provide access to a highly developed pool of knowledge, maintaining data bases, promoting knowledge sharing and knowledge transfer, etc.

3.3.4. Networking

A CoE is expected to actively collaborate with reputable individuals, groups and institutions. Equally, it must negotiate and help realise national, regional, continental and international partnerships, etc.

3.3.5. Service rendering

A CoE is to provide and analyse strategic information for policy development, as well as other services including informed and reliable advice to government, business and civil society.

3.4. Key Conditions for Successful Centres of Excellence

For CoEs to achieve their goals, they must have the following:

3.4.1. Effective governance and management

- i. An outstanding leader (principle investigator) with high international standing as a scientist in the field or discipline related to the focus of the centre;
- ii. A Steering Committee with advisory powers to provide strategic direction to ensure the Centre's alignment with the identified focus of research and human capital development and to take
- iii. A CoE management committee will be a constituted body comprising of the Director, Node Head, Manager and representatives of the collaborating institutions, with responsibility for allocation of CoE finances for Human Capital Development and research activities.

3.4.2. Appropriate staffing and researchers

- i. A high local and international academic profile;
- ii. Capacity to generate high quality work that is acknowledged widely by peers and other users as having a critical impact on the field of study;
- iii. Sufficient staff as well as a diversity of skills;
- iv. Senior researchers with adequate student support expertise;
- v. Multi-disciplinary capacity.

3.4.3. Institutional commitment

- i. The host and Co-host institution is to formally support the CoE initiative from inception and throughout its existence (contract period);
- ii. The host and Co-host institution is to be involved in the oversight and effective integration of the CoE into its broader institutional context;
- iii. The host and Co-host institution is to meet all basic CoE infrastructure and some administrative needs.

3.4.4. Appropriate location

- i. a central physical location that can be networked electronically both locally and internationally;
- ii. Possible use of physical co-location (proximity) of institutions;
- iii. Involvement of established institutions of higher learning;
- iv. Adequate infrastructure; and
- v. Proximity to relevant industry and research organisations to ease the exploitation of knowledge and networking.

3.4.5. Strategic positioning

Centres need to take active measures to position themselves strategically, by inter alia:

- i. Ensuring staff serve on industrial and governmental bodies, management boards, etc.
- ii. Providing services to a wide range of users in public and private sectors.
- iii. Maintaining links with ex-students and staff.

- iv. Developing novel approaches to engage with users e.g. industry clusters, benchmarking groups, etc.; and
- v. Outlining a clear information dissemination strategy.

4. Aims and objectives of CoEs

The aims of the DST-NRF CoEs are:

- Promote knowledge and human capital development in areas of strategic importance to South Africa;
- Promote collaborative research;
- Promote and develop interdisciplinary research;
- Systematically develop a creative research training environment that is internationally competitive;
- Strive for the highest standards of quality, international competitiveness and esteem of their science; and
- Diffuse knowledge to where it is needed.

The objectives of the DST-NRF CoEs are to:

- Ensure the integration of several smaller and related research initiatives into large science programmes.
- Reward, retain, sustain and improve scientific excellence.
- Exploit the competitive advantage vested in outstanding researchers.
- Promote knowledge and human capital in areas of national strategic importance (including indigenous knowledge).
- Promote collaborative research.
- Promote and develop interdisciplinary research.
- Systematically develop a creative research training environments that are internationally competitive.

- Raise the quality, international competitiveness, visibility and esteem of South African science e.g. by an increase in global share of research outputs.
- Promote better diffusion and exploitation of the knowledge produced by tertiary institutions.
- Achieve economies of scale through the optimisation of resources and effort through sharing personnel, equipment, data, ideas etc.
- Ensure secure and stable funding for research and dissemination.
- Allow for planned, strategic, long-term research.
- Reduce micro-management of resources by the funding agency.

5. Modus Operandi

In operationalising the CoE initiative, the NRF will pursue an invitation model that allows for both:

- The recognition of existing research excellence AND the stimulation and support of potential research excellence; and
- Open AND closed calls in order to meet governmental and research community needs and interests.

5.1. Procedure

Closed calls will be extended from time to time to institutions in order to meet specifically identified stakeholder needs. The process to be followed is described below.

With respect to the open call, the NRF will initiate:

- A competitive call for CoEs based on identified themes of national importance.
- Invite pre-proposals for initial selection.

The process will then follow the development and/or recognition route.

5.2. Development Route

- Seed funding for further pre-proposal development where potential exists or strategic importance is identified; and
- Re-submission of pre-proposal after 12 months.

5.3. Recognition Route

- Selection and invitation for full proposals;
- Seed funding for proposal development, where appropriate;
- Funding based on level of maturity, funding leverage, nature of centre, extent of multi-discipline, additional resources, needs of applicant, and other relevant factors.

6. Eligibility

The CoEs will be awarded on a competitive basis through a combination of open and focused calls to publicly funded Higher Education Institutions (HEIs) including Science Councils. Eligibility criteria will be based on the human capacity, infrastructure and institutional commitment to host CoEs.

7. Frequency of Calls

The frequency of calls for new CoEs is entirely dependent on the availability of funds. The calls can be bottom-up or top-down, open or closed as specified by the principal funding government department, parastatal etc.

8. Assessment process

The assessment process is described below and illustrated by the Assessment and Granting flow-diagram (Figure 2):

- Call for pre-proposals: brief proposal outline (10 page maximum);
- Submission of pre-proposal;
- Assessment of pre-proposals according to set evaluation criteria resulting in two short lists, where appropriate:
 - Call for full proposal (maximum 50 pages) detailing plans for 10 years of work by the CoE;
 - Development list -further pre-proposal development or for full proposal development;
 - Submission of full proposal
 - Evaluation of full proposal according to set evaluation criteria.

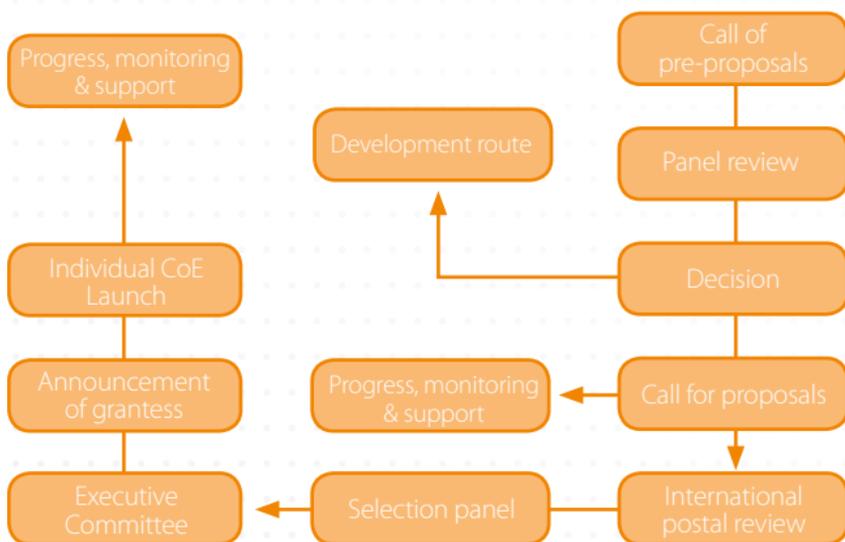


Figure 2: Assessment and granting flow chart

9. Financial Control & Reporting

Each CoE will be expected to provide both management and financial reports to the NRF as stipulated in their individual Memorandum of Agreements (MoAs), Service Level Agreements (SLAs) and conditions laid out in Section 5 and 11 of the Handbook and Framework guide respectively, of the DST-NRF CoEs documents.

10. NRF contact persons

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